EFFECT OF YOGIC PRACTICES AND PHYSICAL EXERCISE ON FLEXIBILITY AND BLOOD PRESSURE AMONG WORKING WOMEN

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Abstract

The purpose of the present study was to find the effect of yogic practice and physical exercise on flexibility, blood pressure (both systolic and diastolic). For this purpose, forty-five sedentary working women from various faculties (except from the Department of Physical Education of University of Madras in the age group of 35 — 40 years were selected. They were divided into three equal groups, each group consisted of fifteen subjects, in which group — I underwent yoga practice, group — II underwent physical exercise and group — III 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 eight weeks. Prior to and after the training period the subjects were tested for flexibility and blood pressure (systolic and diastolic). It was concluded after the yoga practice and physical exercise periods, that both the training has improved the flexibility and reduced the blood pressure. However no significant differences existed among both the training groups.

Keyword: Yogic Practices, Physical Exercise, Flexibility, Blood Pressure

Introduction

Yoga is a complete science of life that originated in India many thousands of years ago. It is the oldest system of personal development in the world, encompassing body, mind and spirit. The ancient yoga had a profound understanding of man's essential nature and of what he needs to live in harmony with himself and his environment. They perceived the physical body as a vehicle, with the mind as the driver, the soul as man's true identity, and action, emotion and intelligence as the three forces which pull the body-vehicle. In order for there to be integrated development these three forces must be in balance. Taking into account the inter relationship between body and mind, the yogis formulated a unique method for maintaining the balance — a method that combines all the movement we need for physical health with the breathing and meditation techniques that ensure peace of mind. (Swami Vishnu Devananda, 2000)

Yoga is an ancient system of breathing practices, physical exercises and postures, and meditation intended to integrate the practitioner's body, mind, and spirit. It originated in India several thousand years ago, and it's principles were first written down by a scholar named Patanjali in the second century B.C. The word yoga comes from a Sanskrit word, yukti, and means "union" or "yoke". The various physical and mental disciplines of yoga were seen as a method for individuals to attain union with the divine (www.minddisorders.com). 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.

Physical exercise is a bodily activity that develops and maintains physical fitness and overall health. It is often practiced to strengthen muscles and the cardiovascular system, and to improve athletic skills. Frequent and regular physical exercise boosts the immune system, and helps prevent diseases of affluence such as heart disease, cardiovascular disease. It also improves mental health and helps prevent depression (www.wikipedia.org).

Physical exercise is important for maintaining physical fitness and can contribute positively to maintain health and maintaining healthy bone density, muscle strength, and joint

mobility, promoting physiological well-being, reducing surgical risks, and strengthening the immune system. Frequent and regular aerobic exercise has shown to help prevent or treat serious and life-threatening chronic conditions such as high blood pressure, obesity, heart disease, Type 2 diabetes, insomnia, and depression. Strength training appears to have continuous energy-burning effects that persist for about 24 hours after the training, though they do not offer the same cardiovascular benefits as aerobic exercises do. Exercise can also increase energy and raise one's threshold for pain (www.wikipedia.org).

Methods

This study involved the experimentation of yoga practice and physical exercise on flexibility and blood pressure (systolic and diastolic). Only sedentary working women from various faculties (except from the Department of Physical Education and Sports Sciences) of University of Madras and aged between 35 and 40 years were selected. The selected forty-five subjects were randomly divided into three groups of fifteen each, out of which group - I (n = 15) underwent yogic practice, group - II (n = 15) underwent physical exercise and group — III (n = 15) remained as control. The training programme was carried out for five days per week during morning session only (6 am to 8 am) for eight weeks. Flexibility was measured by sit and reach test and blood pressure was measured by using sphygmomanometer.

Analysis of Data

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

Table - I Analysis of Covariance on Flexibility and Blood Pressure (systolic and diastolic) among Yoga Practice Group, Physical Exercise Group and Control Group.

Variable Name	Group Name	Yoga Practice Group	Physical Exercise Group	Control Group	F-Ratio
Flexibility	Pre-test Mean± S.D	26.20±0.11	6.22±0.21	6.23±0.22	0.451
	Post-test Mean± S.D.	8.11±0.25	7.87±0.51	6.23± 0.21	48.12*
	Adj.Post-test Mean± S.D.	8.02	7.75	6.63	55.21*
Systolic Blood Pressure	Pre-test Mean± S.D	128.31±5.20	128.22± 5.02	127.53± 6.50	0.112
	Post-test Mean ± S.D.	120.11±4.99	122.21±4.10	128.12± 6.56	12.53*
	Adj.Post-test Mean± S.D.	120.18	122.75	128.54	73.94*

Diastolic Blood Pressure	Pre-test Mean± S.D	83.07±3.22	83.17±3.21	83.88± 3.02	0.22
	Post-test Mean± S.D.	80.13±4.11	81.70±4.98	83.6± 4.74	4.22*
	Adj.Post-test Mean±S.D.	80.81	81.26	83.37	12.22*

* Significant at .05 level of confidence.
(The table value required for significance at .05 level of confidence with df 2 and 43 and 2 and 42 were 3.21 and 3.22 respectively).

Further to determine which of the paired means has a source for such a significant improvement on variables used in the study, Scheffe's test was applied as post-hoc test. The results of this are presented in Table - II.

Table-11-Scheffe's Test for the Difference Between the Adjusted Post-Test Mean of Flexibility and Blood Pressure (systolic and diastolic)

Flexibility				
Yoga Practice	PhysicalExercise	Control Group	Mean Difference	C.I Value
8.02		6.63	1.39•	0.899
8.02	7.75		0.27	0.899
	7.75	6.63	1.12•	0.899
Systolic Blood Pressure				
120.18		128.54	8.36•	4.481
120.18	122.75		2.57	4.481
	122.75	128.54	5.79•	4.481
Diastolic Blood Pressure				
80.81		83.37	2.56•	1.189
80.81	81.26		0.45	1.189
	81.26	83.37	2.11•	1.189

Results

Results of analysis of covariance showed that there was a significant mean difference among yoga practice, physical exercise and control groups on the changes in flexibility and blood pressure after eight weeks of training. The criterion variables such as, flexibility improved for both the yoga practice group and physical exercise group and systolic and diastolic blood pressure has significantly decreased after the yoga practice, physical exercise period. Further, comparing the adjusted post-test means of all the criterion variables, such as, flexibility and systolic and diastolic blood pressure, both the training groups significantly increased the performance after the training period, when compared with the control group.

Conclusions

Flexibility has improved for both the experimental groups, such as yogic practice group and physical exercise group, when compared with the control group. The blood pressure has also decreased in yogic practice group and physical exercise group when compared with the control group. No significant differences existed among both the experimental groups.

Reference

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