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Changes on high density lipoprotein and low density lipoprotein due to yogic practices among middle aged hypertensive men

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Abstract

This study was to find out the changes on high density lipoprotein and low density lipoprotein due to yogic practices among middle aged hypertensive men. To achieve the purpose of the study, Only 30 middle aged hypertensive men were selected from different Yoga centers in Karur district, Tamil Nadu, and their age ranged between 35 and 50 years old. The selected thirty subjects were randomly divided into two equal groups of fifteen subjects each, out of which group – I (n = 15) underwent yogic practices and group – II remained as control. The training period for the present study was six days per week for twelve weeks. Prior to and after the training period the subjects were tested for high density lipoprotein and low density lipoprotein. High density lipoprotein and low density lipoprotein was assessed by using CHOD-PAP method. The statistical tool were used for the present study is Analysis of covariance (ANCOVA). The result of the study showed a significant changes on high density lipoprotein and low density lipoprotein after twelve weeks of yogic practices. A significant difference occurred between yogic practices group and control group after twelve weeks of yogic practice.

Keywords: Yogic practices, hypertension, high density lipoprotein and low density lipoprotein

Introduction

Hypertension is a major chronic lifestyle disease and an important public health problem worldwide. Mind-body therapies i.e., the transcendental meditation and Yoga have raised interest as they represent an alternative to medication; also contribute to an increased feeling of empowerment for patients in preventing and treating hypertension. Yoga, as a therapeutic regimen, has been shown to be useful to individuals with cardiovascular diseases and diabetes. Yoga provides one of the best means of self-improvement and gaining full potential of one's body, mind and soul. It has been proved beyond doubt that pranayama and certain Asana's are a very important means for preventing and curing many ailments. 1 Yogasana and Pranayama has beneficial effect on different system of body thereby increasing longevity, bringing equipoise between psychic and somatic aspect of bodily function. Yoga represents a body of practices and is gaining increasing popularity in many countries around the world, consisting of various postures (Asana), breathing and meditation techniques (Pranayama). Obesity, hypertension and dyslipidemia are one of the major risk factor for cardiovascular disease. The characteristic features of Indian dyslipidemia are a high plasma triglyceride concentration, low high-density lipoprotein (HDL) concentration and increased concentration of small dense low-density lipoprotein (LDL) particles. Mahajan (1999) [3] conducted a study on subjects with mild to moderate hypertension and reported that yoga can play an important role in risk modification for cardiovascular diseases. Another study had reported a better lipid profile in long and medium-term mediators when compared to non-meditators. In view of these observations, the present study was undertaken to assess the effect of yoga practice on the selected lipid profile in men with hypertension.

Statement of the problem

The purpose of present study to find out the changes on high density lipoprotein and low density lipoprotein due to yogic practices among middle aged hypertensive men.

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Methodology

To achieve the purpose of the study, Only 30 middle aged hypertensive men were selected from different Yoga centers in Karur district, Tamil Nadu, and their age ranged between 35 and 50 years old. The selected thirty subjects were randomly divided into two equal groups of fifteen subjects each, out of which group – I (n = 15) underwent yogic practices and group – II (n = 15) remained as control. The training period for the present study was six days per week for

twelve weeks. Prior to and after the training period the subjects were tested for high density lipoprotein and low density lipoprotein.

Analysis of Data

The data collected prior to and after the experimental periods in high density lipoprotein and low density lipoprotein in yogic practices group and control group were analyzed and presented in the following table –I and II.

Table-I: Analysis of covariance of yogic practices group and control group on HDL

Variable Name	Group Name	Yogic Practices Group	Control Group	F ratio
High density lipoprotein	Pre-test Mean \pm S.D	36.01 \pm 8 1.33	36.93 \pm 1.37	0.128
	Post-test Mean \pm S.D.	35.96 \pm 1.34	41.04 \pm 0.85	6.322*
	Adj.Post-test Mean	36.08	40.67	35.78*

Significant at 0.05 level of significance. (The table value required for significance at 0.05 level of significance with df 1 and 28 and 1 and 27 were 4.196 and 4.210 respectively).

Table-II Analysis of covariance of yogic practices group and control group on LDL

Variable Name	Group Name	Yogic Practices Group	Control Group	F ratio
Low density lipoprotein	Pre-test Mean \pm S.D	165.01 \pm 1.02	165.60 \pm 0.97	1.359
	Post-test Mean \pm S.D.	165.11 \pm 1.08	163.38 \pm 0.88	11.554*
	Adj.Post-test Mean	165.438	163.189	33.689*

Significant at 0.05 level of significance. (The table value required for significance at 0.05 level of significance with df 1 and 28 and 1 and 27 were 4.196 and 4.210 respectively)

Results

From the Table-I and II it is clear that yogic practices brought changes on high density lipoprotein and low density lipoprotein when compared with control group.

- The result of the study shows that there was significant decrease in high density lipoprotein after yogic practices. Pal *et al.*, (2011) ^[4] has discovered critical improvement on high density lipoprotein after the yogic practice. Madanmohan *et al.* (2012) ^[1] has found that significant improvement on high density lipoprotein after the yoga therapy for diabetic patients.
- Low density lipoprotein was decreased after the yogic practices programme when compared with the control group. Mahesh *et al.*, (2018) ^[2] established that there was critical decrease in low density lipoprotein after the yogic practices programme. Pal *et al.*, (2011) ^[4] found that there was critical decline in low density lipoprotein after the yogic practice. Madanmohan *et al.*, (2012) ^[1] has evaluated from his research work that there was a high improvement in low density lipoprotein after the yoga therapy for diabetic patients.

Conclusions

From the analysis of the data, the conclusions drawn were

- The low density lipoprotein decreased due to yogic practices among hypertensive men.
- The high density lipoprotein increased due to yogic practices among hypertensive men.

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