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Efficacy of Yoga Therapy on Selected Bio-Chemical Variables among Middle Aged Hypertensive Women

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Abstract

The purpose of the study was to find out the efficacy of yoga therapy on selected bio-chemical variables among middle aged hypertensive women. To facilitate the study, 30 subjects were selected at random from Chennai city only. Their age were ranged between 30-45 years old. They were assigned into two groups as yoga therapy group and control group. All the subjects were tested prior to and immediately after the 6 weeks treatment in progression to bio-chemical variables such as low density lipoprotein (LDL) and cholesterol. The initial and final scores in selected bio-chemical variables were put in-to statistical treatment using Analysis of Covariance (ANCOVA) to find out the significant mean differences. Systematic six weeks of yoga therapy reduced the LDL and cholesterol more than the control group.

Keywords: Yoga Theraphy, LDL, Cholesterol, Hypertension.

Introduction

Yoga is an ancient philosophy of life as well as a system of exercises that encourages the union of mind, body, and spirit. In fact, the word yoga is derived from the Sanskrit word meaning "yoke" or "union." The ultimate goal of yoga is to achieve a state of balance and harmony between mind and body. There is evidence that yoga was practiced as early as 5,000 years ago, although the first written description is found in the Yoga Sutras, a book from the second century B.C. that is partially attributed to the Indian physician and Sanskrit scholar Patanjali. The Yoga Sutras describe a multi-fold path to spiritual enlightenment that includes Hatha yoga, the system of physical exercises, breathing techniques, and meditation that is most often followed by Western yoga practitioners today. (Other forms of yoga include Bhakti, Jnana, Karma, Laya, and Raja.) All types of yoga subscribe to the belief that the body and mind are seamlessly connected, and that, for optimal health, they must be in a state of balance.

The Yoga for health aims at the maintenance of highest physical efficiency, purification and relaxation of all organs, removal of diseases, longevity, moral and mental perfection. Yoga, a Vedic science has been applied in the field of therapeutics in modern times. Yoga has given patients to reduce medication besides slowing the progression of the disease. Yoga employs stable postures or asanas and breath control or pranayama.

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Therapeutic yoga is basically a system of self-treatment. According to yogic view diseases, disorders and aliments are the result of faulty ways of living, bad habits, lack of proper knowledge of things related to individula's life and improper food. There are certain diseases .Which are incurable by medical science but can be cured through yoga. Over 90 percent of the causes of hypertension remain unknown. Certain drugs are known to elevate blood pressure, including most arthritis medications (except acetaminophen and aspirin), many cold remedies, nose sprays, weight-reducing pills, and alcohol. Increased heart rate, anemia, excessive thyroid hormone, or stiff (nondistendible) arteries can increase systolic blood pressure. Blocked arteries to the kidney, kidney failure, and decreased production of thyroid hormone are common causes of hypertension. Other rare causes include tumors of the adrenal gland (Lawrence & Morehouse, 1967).

Methodology

The purpose of the study was to find out the efficacy of yoga therapy on selected bio-chemical variables among middle aged hypertensive women. To facilitate the study, 30 subjects were selected at random from Chennai city only. Their age were ranged between 30-45 years old. They were assigned into two groups as yoga therapy group and control group. All the subjects were tested prior to and immediately after the 6 weeks treatment in progression to bio-chemical variables such as low density lipoprotein (LDL) and cholesterol. The initial and final scores in selected bio-chemical variables were put in-to statistical treatment using Analysis of Covariance (ANCOVA) to find out the significant mean differences.

Table I. Computation of analysis of covariance of low density lipoprotein (ldl) (scores in mg/dl)

Test	Yoga Therapy	Control Group	SV	SS	Df	MS	F
Pre test Mean	140.53	137.53	B	103.60	1	51.80	**1.93**
			W	1128.40	28	26.87	
Post test Mean	132.73	136.20	B	141.51	1	70.76	**5.38***
			W	878.27	28	20.91	
Adjusted Post Test mean	132.03	137.92	B	253.89	1	126.94	**7.15***
			W	143.97	27	3.51	

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.20, 1 and 27 (df) =4.21.

*Significant

As shown in Table I the obtained F value on the scores of the pre test means 1.93 was lesser than the required F value of 4.20, which proved that the random assignment of the subject were successful and their scores in Low Density Lipoprotein (LDL) before the training were equal and there was no significant differences. The analysis of post test means proved that the obtained F value 5.38 was greater than the required F value of 4.20 to be significant at 0.05 levels. Taking in to consideration of the pre test and post test means the adjusted posttest means were done and the obtained F value of 7.15 was greater than the required F value of 4.21 hence it was accepted that the yoga therapy significantly decreased the Low Density Lipoprotein (LDL). The ordered adjusted means are presented through bar diagram for better understanding of the result of this study in Figure I.

Figure I. Bar diagram showing the mean difference of pre and post score in low density lipoprotein

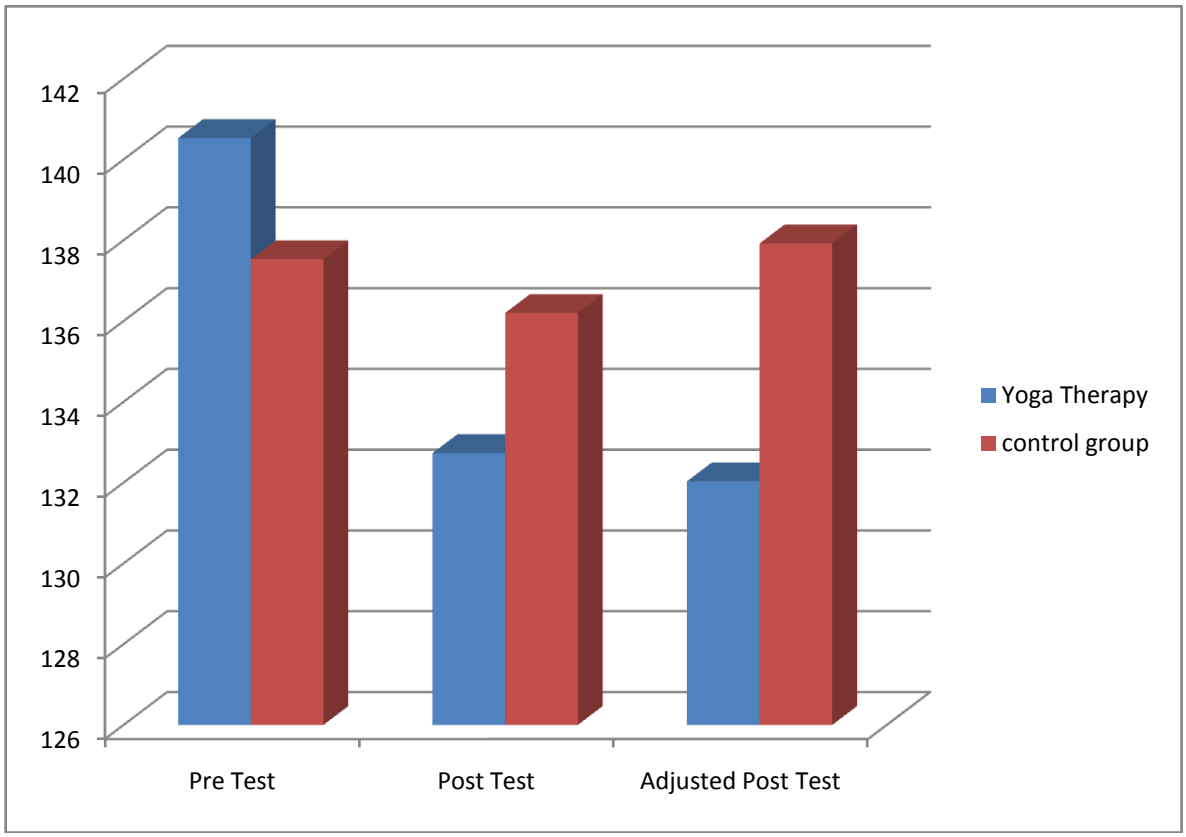


Table II. Computation of analysis of covariance of cholesterol (Scores in mg/dl)

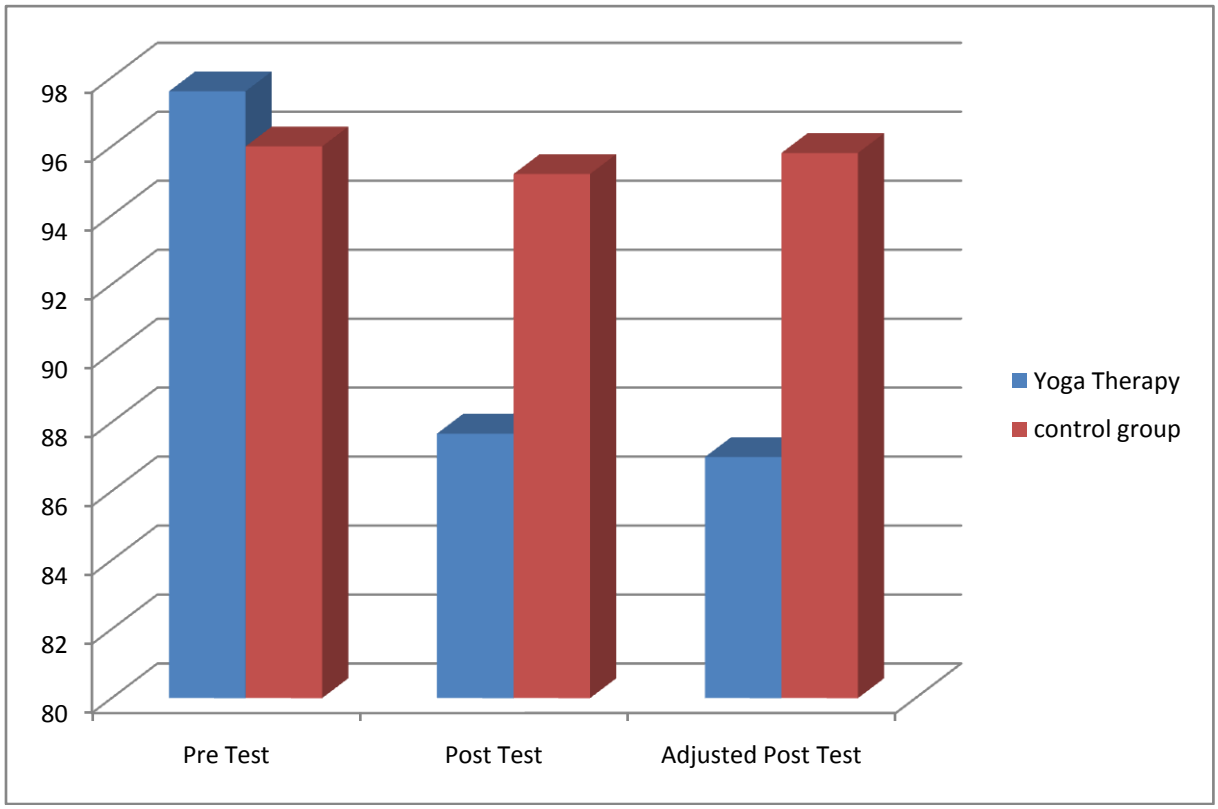
Test	Yoga Therapy	Control Group	SV	SS	Df	MS	F
Pre test Mean	97.60	96.00	B	19.38	1	9.69	**0.11**
			W	3836.93	28	91.36	
Post test Mean	87.67	95.20	B	461.73	1	230.87	**4.65***
			W	2657.47	28	63.27	
Adjusted Post Test mean	86.99	95.81	B	613.41	1	306.70	**5.46***
			W	158.25	27	3.86	

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.20, 1 and 27 (df) =4.21.

*Significant

As shown in Table II the obtained F value on the scores of the pre test means 0.11 was lesser than the required F value of 4.20, which proved that the random assignment of the subject were successful and their scores in cholesterol before the training were equal and there was no significant differences. The analysis of post test means proved that the obtained F value 4.65 was greater than the required F value of 4.20 to be significant at 0.05 levels. Taking in to consideration of the pre test and post test means the adjusted posttest means were done and the obtained F value of 5.46 was greater than the required F value of 4.21 hence it was accepted that the yoga therapy significantly decreased the cholesterol. The ordered adjusted means are presented through bar diagram for better understanding of the result of this study in Figure II.

Figure II. Bar diagram showing the mean difference of pre and post score in cholesterol



Conclusions

Within the limitations and delimitations set for the present study and considering the results obtained, the following conclusions were drawn:

1. Systematic six weeks of yoga therapy reduced the LDL and cholesterol more than the control group.

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