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Efficacy of Yoga Therapy on Selected Bio-Chemical Variables among Middle Aged Diabetic 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 diabetic 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 Fasting Blood Sugar and Post Prandial Blood Sugar. 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 Fasting Blood Sugar and Post Prandial Blood Sugar more than the control group.

Keywords: Yoga, Bio-chemical, Diabetic Women.

Introduction

Yoga meaning is union in Sanskrit, is a family of ancient spiritual practices, and also a school of spiritual through that originated in India, where it remained a vibrant living tradition and was seen as a means to enlightenment. People believed the origin of yoga was in Ancient India. Between 4000 B.C, and 2000 B.C, artifacts of Indus Valley Civilization showed figures in seated, cross-legged poses, and symbols later associated with yoga (Jones, 2000; Beck, 1996). 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. Yoga is a practical aid, not a religion. Yoga is an ancient art of science based on a harmonizing system of development for the body, mind, and spirit. The continued practice of yoga will lead you to a sense of peace and well-being, and also a feeling of being at one with their environment. This is a simple definition. The practice of yoga makes the body strong and flexible, it also improves the functioning of the respiratory, circulatory, digestive, and hormonal systems. Yoga brings about emotional stability and clarity of mind.

Yoga has a diverse range of things that it can offer. It could be said that a primary goal of yoga is to gain balance and control in one's life. To free one from confusion and distress. To provide a sense of calm that comes from the practice of yogic exercises and the practice of breath control. The practice of yoga exercises aims at overcoming the limitations of the body. Other forms of exercises are good but good is not enough, they strain the muscles, joints, the entire skeletal system and cause free radical damage at a cellular level.Yoga however realigns and rejuvenates the body inside and out, yoga frees the mind from the negative feelings caused by the fast pace of modern life.The practice of yoga installs optimism within you. It helps you to focus better and overcome any obstacles in your way while on your road to perfect health, spiritual contentment, and total well being.Yoga will teach you that the goal of every individual's life should be to take the inner journey inside one's self. When there is perfect harmony between mind and body, we achieve total balance and control.

Diabetes Mellitus (DM) is the most common and possibly one of the oldest metabolic disorders in the world. Diabetes is a life style related condition due to an imbalance in handling a glucose level. The word "diabetes" is borrowed from the Greek word meaning "a siphon." The 2nd-century A.D.Greek Physician, Aretus the Cappadocian, named the condition "diabetes." He explained that patients with it had polyuria and "passed water like a siphon". When "diabetes" is used alone, it refers to diabetes mellitus. The two main types of diabetes mellitus Type I diabetes (insulin requiring) and Type II diabetes (adult-onset) are distinct and different diseases in themselves.

Methodology

The purpose of the study was to find out the

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efficacy of yoga therapy on selected bio-chemical variables among middle aged diabetic 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 Fasting Blood Sugar and Post Prandial Blood Sugar. 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.

Results

Table I. Computation of analysis of covariance of fasting blood sugar (Scores in mg/dl)

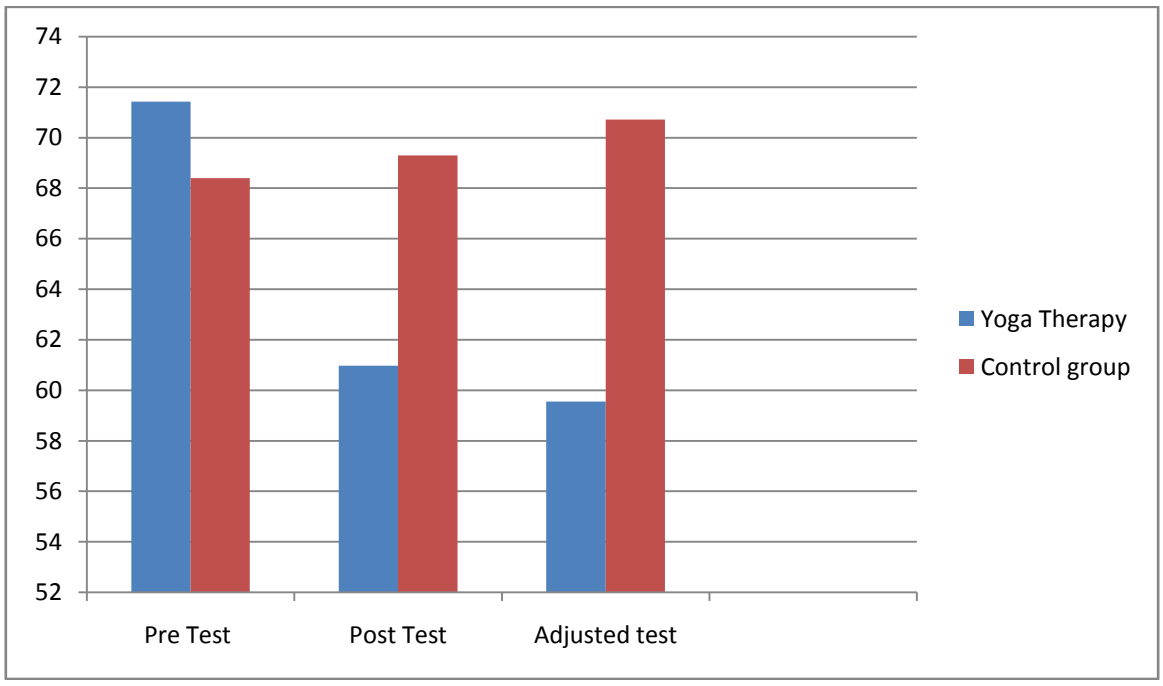
Test	Yoga Therapy	Control Group	SV	SS	Df	MS	F
Pre test Mean	71.43	68.40	B	138.02	1	138.017	**0.03**
			W	304840.57	58	5255.87	
Post test Mean	60.97	69.30	B	1041.67	1	1041.67	**0.22***
			W	269273.27	58	4642.64	
Adjusted Post Test mean	59.55	70.72	B	1868.67	1	1868.67	**27.95***
			W	3811.04	57	66.86	

Table F-ratio at 0.05 level of confidence for 1 and 58 (df) =4.00, 1 and 57 (df) =4.00.

*Significant

As shown in Table I the obtained F value on the scores of the pre test means 0.03 was lesser than the required F value of 4.00, which proved that the random assignment of the subject were successful and their scores in Fasting Blood Sugar before the training were equal and there was no significant differences. The analysis of post test means proved that the obtained F value 0.22 was lesser than the required F value of 4.00 to be significant at 0.05 levels. Taking in to consideration of the pre test and post test means the adjusted post test means were done and the obtained F value of 27.95 was greater than the required F value of 4.00 hence it was accepted that the yoga therapy significantly decreased the Fasting Blood Sugar. 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 fasting blood sugar



The result of the study on Fasting Blood Sugar indicates that all the yoga therapy brought about significant improvement after the training. The results of the study indicate that there was a significant difference on Fasting Blood Sugar between the yoga therapy and control group. However, yoga therapy group was found

to be better in decreasing of Fasting Blood Sugar than control group. The result of this study on Fasting Blood Sugar has in line with the study conducted by (Saravanan, et al. 2010).

Table II. Computation of analysis of covariance of post prandial blood sugar (Scores in mg/dl)

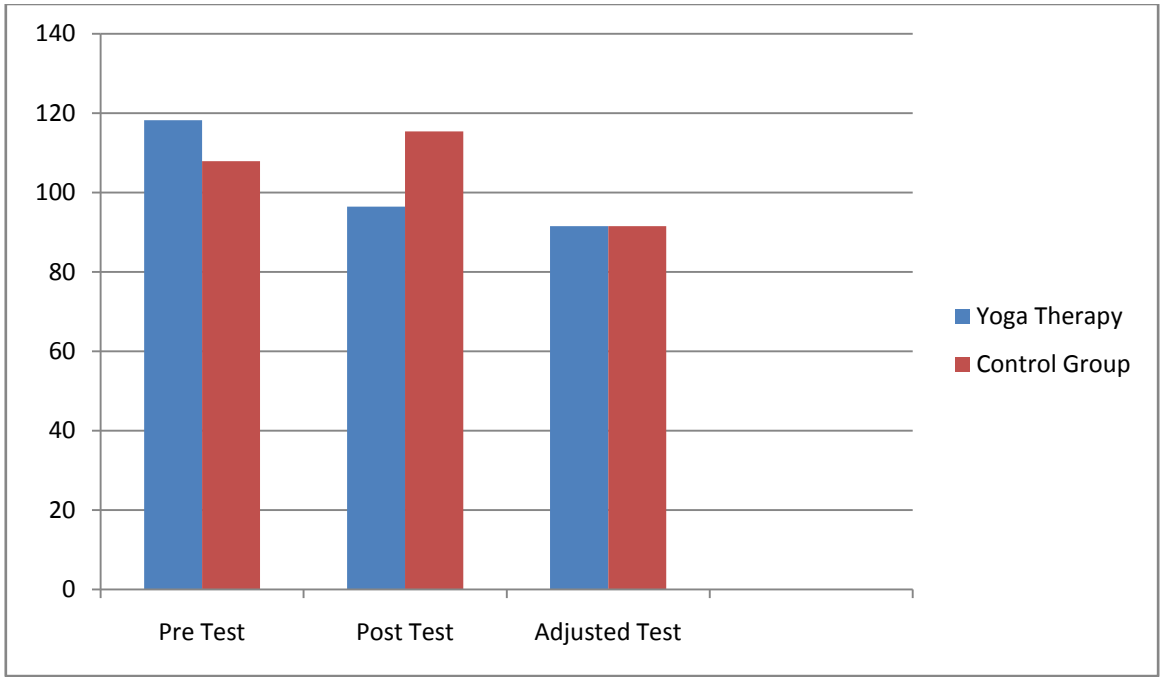
Test	Yoga Therapy	Control Group	SV	SS	Df	MS	F
Pre test Mean	118.20	107.87	B	1601.67	1	1601.667	**0.11**
			W	853092.27	58	14708.49	
Post test Mean	96.43	115.37	B	5377.07	1	5377.07	**0.40***
			W	786636.33	58	13562.70	
Adjusted Post Test mean	91.57	120.23	B	12292.60	1	12292.60	**22.09***
			W	31722.85	57	556.54	

Table F-ratio at 0.05 level of confidence for 1 and 58 (df) =4.00, 1 and 57 (df) =4.00.

*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 4.00, which proved that the random assignment of the subject were successful and their scores in Post Prandial Blood Sugar before the training were equal and there was no significant differences. The analysis of post test means proved that the obtained F value 0.40 was lesser than the required F value of 4.00 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 22.09 was greater than the required F value of 4.00 hence it was accepted that the yoga therapy significantly decreased the Post Prandial Blood Sugar. 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 post prandial blood sugar



The result of the study on Post Prandial Blood Sugar indicates that all the yoga therapy brought about significant improvement after the training. The results of the study indicate that there was a significant difference on Post Prandial Blood Sugar between the yoga therapy and control group. However, yoga therapy group was found to be better in decreasing of Post Prandial Blood Sugar than control group. The result of this study on Post Prandial Blood Sugar has in line with the study conducted by (Saravanan, et al. 2010).

Conclusion

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 Fasting Blood Sugar and Post Prandial Blood Sugar more than the control group.

References

1. Iyengar B.K.S,(1986), Light on yoga (5th ed), London:geoprhe allen and Unwin Publishing Ltd.,P.19-21.
2. Michael S. Cazzaniga, (1980) Psychology Sanfransisco: Harper and Row Publisher, 1980, P.39.
3. Sharma, P.D. (1984), Yogasana and Pranayama for Health Bombay, India: Navneet Publication, PP. 10-11.
4. Srilakshmi, B, (2011), Dietetics, (6th ed), New age International (P) Ltd., publishers, New Delhi: P.307.
5. Strukic, P.J, (1981). Basic Physiology, New York: Spring Ervellong Inc., P.23.
6. Berger, Bonnie, G., Owen R. and Man, Frantiset (1993). "A Brief Review of Literature and Examination of Acute Mood Benefits of Exercise in Czchoslovasian and United States Swimmers". International Journal of Sports Psychology 24: 130-150.
7. Bharshankar JR,et.al. (2003)" Effect of Yoga on Cardiovascular System in Subjects Above 40 Years" Indian J Physiol Pharmacol. 47(2):PP. 202-6
8. Bole, M.V. (1977), "Could Yoga Practices be Desirable for Sportsmen?", Yoga Mimamsa, Vol. XIX No.1, PP.4-48.
9. *Brown RP, and Gerbarg PL.et.al (2005). "Sudarshan Kriya Yogic Breathing in The Treatment of Stress, Anxiety, And Depression. Part II--Clinical Applications And Guidelines." J Altern Complement Med. 11(4):711-7*
10. Chaya MS,et.al. (2006). "The Effect of Long Term Combined Yoga Practice on The Basal Metabolic Rate of Healthy Adults".: BMC Complement Altern Med. 31;PP.6:28.