ISSN 2063-5346

EFFICACY OF YOGIC PRACTICES ON BLOOD SUGAR AMONG MIDDLE-AGED HYPERTENSIVE WOMEN

D.Brindha[1], , Dr.P.Arunachalam[2], Dr.R.Elangovan[3]

Article History: Received: 01.02.2023 Revised: 07.03.2023 Accepted: 10.04.2023

Abstract

The present random group experimental study was designed to find out the effect of Yogic practices on Selected Biochemical variable among middle-aged hypertensive women. To achieve the purpose of the study, 40 hypertensive women were selected from Chennai city randomly by using a random group sampling design. They were in the age group of 40-50 years. They were randomly divided into two groups and each group contained twenty subjects. The Experimental Group was trained in Yogic practices and the Control Group was kept without any intervention. It was hypothesized that the Yogic practices reduced Blood Sugar, among middle-aged hypertensive women. Thus, the hypothesis was accepted at 0.05 level of Confidence. The Experimental Group was trained six days a week for 12 weeks excluding Sunday. After the 12th week, post-test scores were collected from both the Experimental Group and the Control Group and were analysed with ANCOVA. It was concluded that Blood Sugar decreased in the subjects due to the Yogic practices than the Control Group.

KEY WORDS: Yoga, Blood Sugar, Hypertensive women, Middle Age.

[1]Phd Scholar, Faculty of Yoga Sciences and Therapy, Meenakshi Academy of Higher Education and Research, Vembuliamman Koil St, K. K. Nagar, Chennai 600 078, Tamil Nadu, India.

[2]Prof & Head, Department of Cardiology, Meenakshi Medical College Hospital and Research Institute, Enathur, Kanchipuram. Email Id: p.arunachalam@gmail.com.

[3]Professor, Faculty of Yoga Sciences and Therapy, Chennai, Tamil Nadu, India. E-Mail ID: relangovantnpesu@gmail.com.

DOI:10.31838/ecb/2023.12.s1-B.274

INTRODUCTION

Hypertension is a growing public health concern in modern societies. Physical inactivity and an unhealthy diet have been identified as major risk factors for hypertension. Ample research has highlighted the role of blood pressure as a risk factor for a large number of chronic health complications, such as cardiovascular disease, type 2 diabetes, stroke, sleep apnea, and certain types of cancer, as well as in mood change and depression in hypertensive individuals. Hypertension is a metabolic disorder that causes all health issues among middle-aged women.

OBJECTIVES OF THE STUDY

The objective of the study was to find out whether there would be any significant difference in blood sugar due to Yogic practices among middle aged hypertensive women.

HYPOTHESIS

It was hypothesized that there would be significant differences on selected Biochemical variable among middle aged hypertensive women due to Yogic practices than the Control group.

INCLUSION CRITERIA

1. This study was delimited to hypertensive women only.
2. This study was delimited to hypertensive women in Chennai, Tamil Nadu only.
3. The subjects' age was ranging from 40 to 50 years only.
4. Duration of the training program is 12 weeks only.
5. This study was delimited to Blood Sugar only. The intervention was Yogic practices only.

EXCLUSION CRITERIA

1. The subjects' medical treatments were not controlled.
2. The environmental conditions and social-economic status were not considered.
3. More acute cases were not considered.
4. Certain habits, body structure, personal habits, heredity, lifestyle, routine work, and environment which may affect the result of this investigation were not taken into consideration.

METHODOLOGY

To achieve the purpose of the study, 40 hypertensive women were selected from Chennai city at random. They were in the age group of 40-50 years. They were randomly divided into two groups and each group contained twenty subjects. The Experimental Group was trained in Yogic practices and the Control Group were kept in active rest. It was hypothesized that the Yogic practices would reduce Blood Sugar among the middle-aged hypertensive women. Thus the hypothesis was accepted at 0.05 level of Confidence. The Experimental Group was trained six days a week for 12 weeks excluding Sunday.

Yogic practices such as Loosening the Joints, Surya Namaskar followed by Asanas such as Tadasana, Katichakrasana, Hastottanasana, Vajrasana, Ustrasana, Gomukhasana, Shashangasana, Vakrasana, Bhujangasana, Makarasana, Savasana and Pranayama practices such as Nadishodana Pranyama, Brahmari Pranayama followed by OM meditation. After the 12th week, post test scores were collected from both the Experimental Group and the Control Group and the obtained data was subjected to statistical treatment using ANCOVA.

RESULTS AND DISCUSSION

The data pertaining to the variables collected from two groups before and after the training period were statistically

analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

RESULTS ON BLOOD SUGAR

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The Analysis of variance (ANCOVA) on Experimental group and Control group was analysed and presented in Table I.

TABLE I

ANCOVA - EXPERIMENTAL GROUP AND THE CONTROL GROUP BLOOD SUGAR

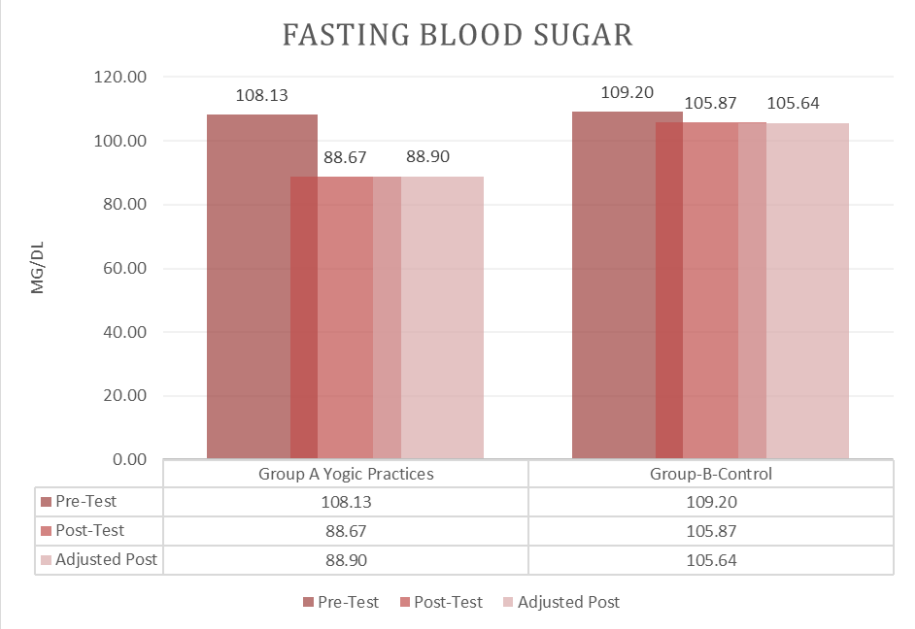
Test	Yogic practices Group	Control Group	Source of Variance	df	F Ratio
Pre test	108.13	109.20	Between	1.00	1.04
			Within	38.00	
Post test	88.67	105.87	Between	1.00	10.35*
			Within	38.00	
Adjusted Mean	88.90	105.40	Between	1	30.86**
			Within	37	

*** Significant at 0.05 level (Table value for df 1 & 38 was 4.20 and for df 1 & 37 was 4.21)**

The results presented in Table I shows that there was no significant differences between pre test means as the obtained 'F' value of 1.04 was less than the required F value to be significant. The differences between post test means was significant at 0.05 level as the obtained 'F' value of 10.35 was greater than the required F value 4.20. Taking into consideration of pre test and post test means**,** adjusted mean f ratio 30.86 which was greater to table value of 4.21. Hence, it was found that there was significant differences in Blood Sugar among the groups experimented with for this research. Comparing the Experimental group and Control group, it was found that Yogic Practices was effective in reducing Blood Sugar. It is represented in the Graph below

FIGURE I

BAR DIAGRAM SHOWING DIFFERENCE AMONG EXPERIMENTAL GROUP AND CONTROL GROUP ON BLOOD SUGAR



*** Significant at 0.05 level (Table value for df 1 & 38 was 4.20 and for df 1 & 37 was 4.21)**

The above findings can also be substantiated by observations made by renowned experts Arkiath Veettil Raveendran et al. (2014)

"yoga originated in India more than 5,000 years ago and is a means of balancing and harmonizing the body, mind, and emotions. Yoga practice is useful in the management of various lifestyle diseases, including type 2 diabetes. Psycho-neuro-endocrine and immune mechanisms are involved in the beneficial effects of yoga on diabetes. Incorporation of yoga practice in daily life helps to attain glycaemic control and reduces the risk of complications in people with diabetes. In this review, we briefly describe the role of various yoga practices in the management of diabetes based on evidence from various clinical studies. yoga therapy is relevant for wellness, as well as for illness. The latest scientific evidence suggests the potential role of yoga-based lifestyle modifications in the management of type 2 diabetes and its associated risk factors. It is suggested that psychoneuro-endocrine and immune mechanisms have holistic effects in diabetes control. Parasympathetic activation and the associated anti-stress mechanisms improve patients' overall metabolic and psychological profiles, increase insulin sensitivity, and improve glucose tolerance and lipid metabolism. Yoga practices such as cleansing processes, asanas, pranayama, mudras, bandha, meditation, mindfulness, and relaxation are known to reduce blood glucose levels and to help in the management of comorbid disease conditions associated with type 2 diabetes mellitus, resulting in significant positive clinical outcomes.

CONCLUSION

Within the limitations and delimitations for the present study and considering the results obtained, the following conclusions were drawn. It was concluded that Blood Sugar, were decreased on the subjects due to Yogic practices than the Control Group. Hence hypothesis was accepted at 0.05 level of confidence.

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