

## EFFECT OF YOGIC PRACTICES ON GLOMERULAR FILTRATION RATE AMONG TYPE 2 DIABETIC MEN

V.K.Arivazhagan<sup>1</sup> & Dr.S.Selvalakshmi<sup>2</sup>

<sup>1</sup>Ph.D., Research Scholar, Department of Yoga, Tamilnadu Physical Education and Sports University, Chennai.

<sup>2</sup>Associate Professor, Department of Yoga, Tamilnadu Physical Education and Sports University, Chennai.

### Abstract

The purpose of the study was to determine the effect of yogic practices on glomerular filtration rate among type 2 diabetic men. To meet the study's goal, 40 Type 2 diabetic men were chosen at random from Chennai. The subjects were between the ages of 45 and 55. The individuals were placed into two groups of 20 each, experimental group I and control group II. The pre test was conducted on all the subjects on Glomerular Filtration Rate. The experimental group received the training for 16 weeks and the control group received no training and was placed in active rest. Dependent 't' test and analysis of covariance (ANCOVA) were used. There was a significant difference between yogic practices group and control group on Glomerular Filtration Rate

**Keywords:** Yogic Practices, Glomerular Filtration Rate, Diabetes Mellitus.

### Introduction

In recent years meditation has become commonly accepted and widely practiced in the West. It is now taught in churches, recommended by physicians, and widely practiced by athletes. There are meditation chapels in airports, hospitals, and even in Congress. It has been estimated that more than two million people in America practice meditation regularly. It is an ancient art, going back in time to a period long before historical records were kept. Stone seals showing people seated in various yoga postures have been found in the Indus Valley of India and dated by archaeologists to at least 5000 B.C. Yet for all those millenniums, meditation has continued as a living, vital science. Every religion has some branch (often somewhat secret) that seeks mystical union, and a form of meditation to achieve that end. And every age has examples of great men and women who have achieved Self-realization, or union with the Divine. In the East both a science and a tradition of meditation developed. Over the centuries great sages and teachers discovered truths and techniques which they passed on to their disciples, who in turn passed it on to their followers. Thus developed an unbroken tradition of thousands of years. That which proved true and lasting survived, while that which was tainted with ignorance fell by the wayside. Moreover, a society developed in the East which looked to these great ones for examples of how to live. Children still grow up in India being taught through stories and examples from the lives of enlightened souls such as Rama and Krishna, two great saints of ancient India. It has been said that the greatness of a culture can be judged by its heroes. In the East, and particularly in India, the greatest heroes have been those with the highest spiritual attainments. (Malhotra et al.2005)

### Methodology

The purpose of the study was to determine the effect of yogic practices on glomerular filtration rate among type 2 diabetic men. To meet the study's goal, 40 Type 2 diabetic men were chosen at random from Chennai. The subjects were between the ages of 45 and 55. The individuals were placed into two groups of twenty each, experimental group I and control group II. The pre test was conducted on all the subjects on Glomerular Filtration Rate. The

experimental group received the training for 16 weeks and the control group received no training and was placed in active rest. Dependent 't' test and analysis of covariance (ANCOVA) were used.

## Results

The results of the dependent 't'-test on the data obtained for GFR of the subjects in the pre-test and post-test of the experimental and control groups have been analyzed and presented in Table I.

**TABLE – I**  
**THE SUMMARY OF MEAN AND DEPENDENT 't' - TEST FOR THE PRE AND POST TESTS ON GFR OF YOGIC PRACTICES AND CONTROL GROUPS**

	<b>YPG</b>	<b>CG</b>
<b>Pre-test mean</b>	93.50	93.25
<b>Post-test mean</b>	95.70	93.50
<b>'t'-test</b>	4.22*	1.22
<b>Magnitude of Improvement</b>	2.35%	0.26%

\* Significant at .05 level.

(GFR scores in ml/min)

(Table value required for significance at .05 level for 't'-test with df 19 is 2.09)

Table I shows the value of dependent 't' test, on GFR between the pre and post test means of yogic practices group was 4.22. Since the obtained 't'-test value of the experimental group are greater than the table value 2.09 with df 19 at 0.05 level of confidence it is proved that yogic practices group had registered significant improvement on GFR and in case of control group the obtained 't' value 1.22 is failed to reach the significant level.

From the table it is also observed that the magnitude of improvement (MI) of GFR due to the influence of yogic practices group and control group were 2.35% and 0.26% respectively. It indicates that the yogic practices had registered better percentage of improvement in GFR. The analysis of covariance (ANCOVA) on GFR of yogic practices and control group have been analysed and presented in table -II.

**TABLE – II**  
**ANALYSIS OF COVARIANCE ON GFR OF YOGIC PRACTICES AND**  
**CONTROL GROUPS**

	YPG	CG	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	93.50	93.25	BG	0.625	1	0.625	0.05
			WG	442.750	38	11.651	
Post Test Mean	95.70	93.50	BG	48.400	1	48.400	5.06*
			WG	363.200	38	9.558	
Adjusted Post Mean	95.60	93.59	BG	40.185	1	40.185	15.37*
			WG	96.701	37	2.614	

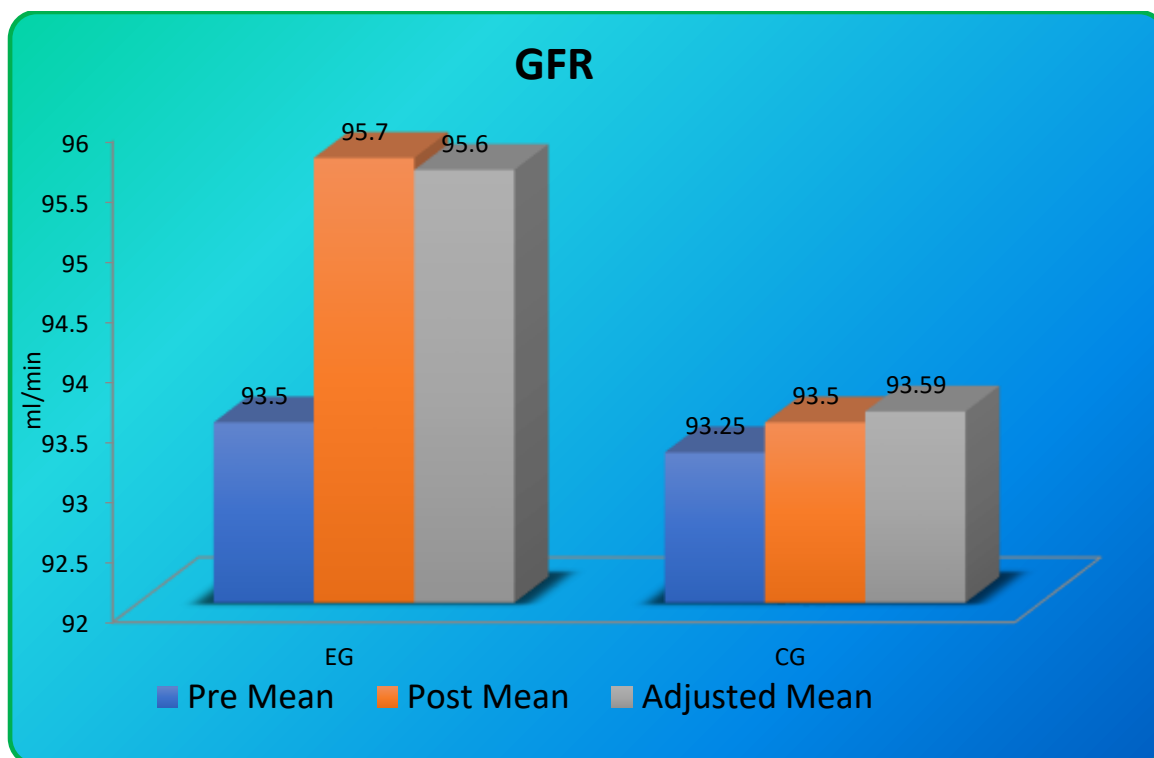
\* Significant at .05 level of confidence

**(The table value required for Significant at .05 level with df 1 and 37 is 4.10)**

Table II shows that the adjusted post test mean value of GFR for yogic practices group and control group were 95.60 and 93.59 respectively. The obtained F-ratio for the pre-test was 0.05 and the table F-ratio was 4.09. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 1 and 38. The obtained F-ratio for the post-test was 5.06 and the table F-ratio was 4.09. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 38. The obtained F-ratio of 15.37 for the adjusted post test mean is more than the table value of 4.10 for df 1 and 37 required for significance at 0.05 level of confidence.

The results of the study indicates that there are significant differences among the adjusted post test means of yogic practices group and control group in the improvement of GFR. The mean values of yogic practices group and control group on GFR are graphically represented in the figure -1.

**FIGURE-1**  
**MEAN VALUES OF YOGIC PRACTICES AND CONTROL GROUPS ON GFR**



### Conclusion

From the table and graph it is concluded that there was a significant difference between yogic practices group and control group on Glomerular Filtration Rate among Type 2 Diabetic men.

### References

1. Cramer, H. (2017). Where and How does Yoga Work? - A Scientific Overview. *Dtsch Med Wochenschr.* 142(25):1925-1929.
2. Ganesan, V. (2013). Effect of yogic practices on physiological and psychological variables among middle aged men in the age group of 40 to 50 years. Unpublished Master's Thesis. Tamilnadu Physical Education and Sports University, Chennai, Tamilnadu.
3. Kannan, M. (2010) "Effect of yogic practices on selected bio-chemical, physiological and psychological variables among diabetic patients". Unpublished M.Phil thesis submitted to Tamilnadu Physical education and sports university.
4. Kim E. I. & Terry, K.S. (2016). Yoga for Adults with Type 2 Diabetes: A Systematic Review of Controlled Trials. *Journal of Diabetes Research*, 23.
5. Malhotra, V., Singh, S., Tandon, O.P. & Sharma, S.B. (2005). The beneficial effect of yoga in diabetes. *Nepal Med Coll J.* 7(2):145-7.
6. Neena Sharma & Neeru Gupta (2014). Effect of yoga on glycemic profile in diabetics. *International Journal of Medical Science and Public Health*, 3,9.

7. Nisha Shantakumari, Shiefa Sequeira & Rasha El Deeb (2013). Effects of a yoga intervention on lipid profiles of diabetes patients with dyslipidemia. *Indian Heart J.* 65(2): 127–131.