ISO 9001 - 2015

ISSN 2349 - 4891

Monthly

IJRRAS

IF
4.665

Volume 4,Issue 7, July 2017

International Journal of
Recent Research and Applied Studies

SURRAGH PUBLICATIONS

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Suryanamaskar on Selected Bio-Chemical Variables among Middle Aged Diabetic Patients of School Teachers

K.Tamilchelvan[1] & Dr. C. Robert Alexander[2]

[1]*Ph.D., Research Scholar, A.V.V.M Sri Pushpam College (Autonomous), Poondi, Thanjavur, Tamilnadu, India.*
[2]*Associate Professor and Head, Department of Physical Education, A.V.V.M Sri Pushpam College (Autonomous), Poondi, Thanjavur, Tamilnadu, India.*

Received 24th May 2017, Accepted 1st July 2017

Abstract

The purpose of the study was to find out the effect of suryanamaskar on selected bio-chemical variables among diabetic patients of school teachers. To achieve the purpose of the present study, thirty diabetic school teachers from Thanjavur, Tamilnadu, India was selected as subjects at random and their ages ranged from 30 to 40 years. The subjects were divided into two equal groups of fifteen each. Group I acted as Experimental Group I (Suryanamaskar Training) and Group II acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. The duration of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their bio-chemical variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent 't' test. In all cases 0.05 level of significance was fixed to test hypotheses. The suryanamaskar group produced significant changes in selected bio-chemical variables. The 't' values of the selected variables have reached the significant level.

Keywords: Suryanamaskar, Bio-chemical, Diabetic Patients, School Teachers.

Introduction

Suryanamaskara also known in English as Sun Salutation (lit. "salute to the sun") is a common sequence of asanas. Its origins lie in a worship of Surya, the Hindu solar deity. This sequence of movements and asanas can be practised on varying levels of awareness, ranging from that of physical exercise in various styles, to a complete sadhana which incorporates asana, pranayama, mantra and chakra meditation. It is often the beginning vinyasa within a longer yoga series. Surya Namaskara may also refer to other styles of "Salutations to the Sun". The basic translation of suryanamaskar is salutations to the sun. It is a very ancient tradition which has been in existence since the Vedic age. The physical basis of the practice links together twelve asanas in a dynamically performed series. These asanas are ordered so that they alternately stretch the spine backwards and forwards. When performed in the usual way, each asana is moved into with alternate inhalation and exhalation. A full round of suryanamaskar is considered to be two sets of the twelve poses with a change in the second set to moving the opposite leg first through the series. With increasing scientific research in yoga, its therapeutic aspects are also being explored. Suryanamaskar gives more benefits with less expenditure of time. It is claimed that suryanamaskar practice improves general health and fitness. It Improves pulmonary functions, cardiovascular endurance and strengthens the abdominal muscles. Suryanamaskar is considered as the best exercise as it consists of important yogasanas and Pranayamas. The Pranayama and its advantages are skillfully incorporated in suryanamaskar, so suryanamaskar is an appreciated exercise among all ages from kids to old age people. Suryanamaskar or Sun Salutation is the best way to burn the calories and reduce weight. It is often recommended for obesity. It is recommended by various authors and proved to be effective in children. Regular practice of suryanamaskar significantly show reduction in pulse rate, attributed to increased vagal tone and decreased sympathetic activity. Decreased sympathetic activity in turn reduces catecholamine secretion and also leads to vasodilation leading to improvement in peripheral circulation. It is also observed that regular yogic practices reduce basal metabolic rate and resting oxygen consumption. All these may be responsible for reduction in resting pulse rate Yogic practices alter the hypothalamic discharges leading to decrease in sympathetic tone and peripheral resistance and hence the diastolic blood pressure. Regular yogic practices strengthen the respiratory muscles; increase the excursions of diaphragm and lungs as well as thoracic compliance. Also yoga practices decrease airway resistance. All these factors contribute to improvement in

Correspondence
K.Tamilchelvan
E-mail: ghssmem@gmail.com Ph. +9194438 06676

the various lung function tests after regular practice of suryanamaskar (Swami Sathyananda Saraswathi, 2006).

Diabetes, often referred to by doctors as diabetes mellitus, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both. Patients with high blood sugar will typically experience polyuria (frequent urination), they will become increasingly thirsty (polydipsia) and hungry (polyphagia). Diabetes (diabetes mellitus) is classed as a metabolism disorder. Metabolism refers to the way our bodies use digested food for energy and growth. Most of what we eat is broken down into glucose. Glucose is a form of sugar in the blood - it is the principal source of fuel for our bodies. When our food is digested, the glucose makes its way into our bloodstream. Our cells use the glucose for energy and growth. However, glucose cannot enter our cells without insulin being present - insulin makes it possible for our cells to take in the glucose. Insulin is a hormone that is produced by the pancreas. After eating, the pancreas automatically releases an adequate quantity of insulin to move the glucose present in our blood into the cells, as soon as glucose enters the cells blood-glucose levels drop.

Methodology

The purpose of the study was to find out the effect of suryanamaskar on selected bio-chemical variables among diabetic patients of school teachers. To achieve the purpose of the present study, thirty diabetic school teachers from Thanjavur, Tamilnadu, India was selected as subjects at random and their ages ranged from 30 to 40 years. The subjects were divided into two equal groups of fifteen each. Group I acted as Experimental Group I (Suryanamaskar Training) and Group II acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. The duration of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their bio-chemical variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent 't' test. In all cases 0.05 level of significance was fixed to test hypotheses.

Results

Table 1

Significance of mean gains & losses between pre and post test scores on selected variables of Suryanamaskar group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Total Cholesterol	199.41	188.97	10.44	4.50	1.12	6.85*
2	Low *Density Lipoprotein*	136.61	118.40	18.21	1.77	0.51	13.46*
3	*High Density Lipoprotein*	55.88	64.30	8.42	2.36	0.36	4.23*

* Significant at 0.05 level

An examination of table 1 indicates that the obtained't' ratios were 6.85, 13.46 and 4.23 for total cholesterol, low density lipoprotein and high density lipoprotein respectively. The obtained't' ratios on the selected variables were found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant. The results of this study showed that statistically significant and explained its effects positively.

Figure I
Shows the pre and post mean values of suryanamaskar and control groups on selected variables

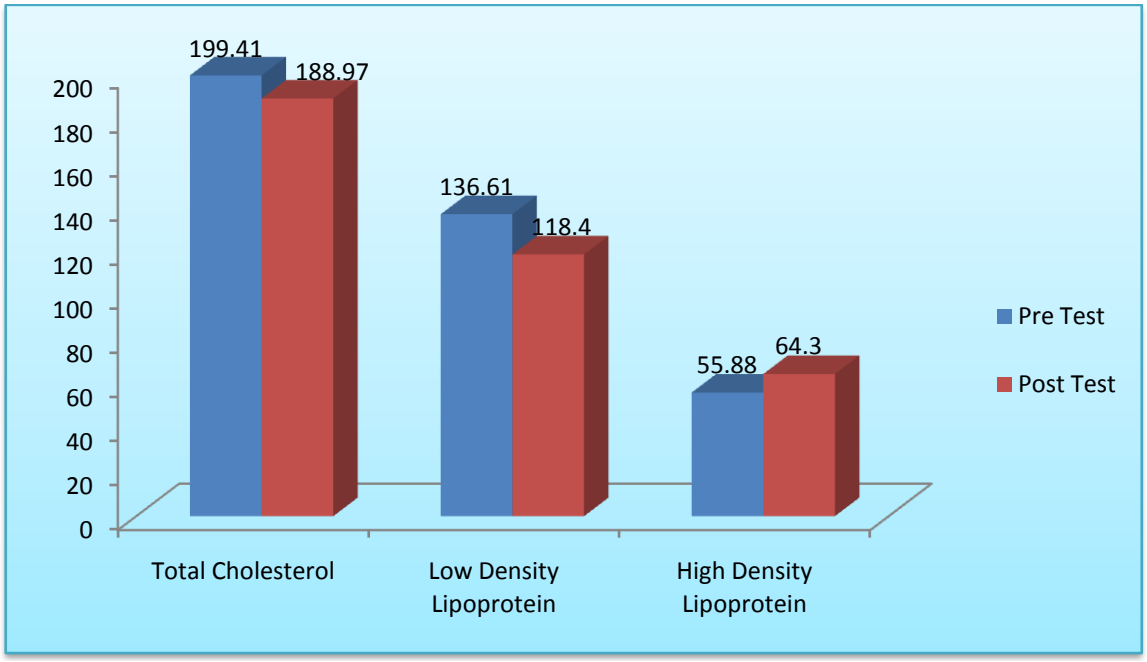


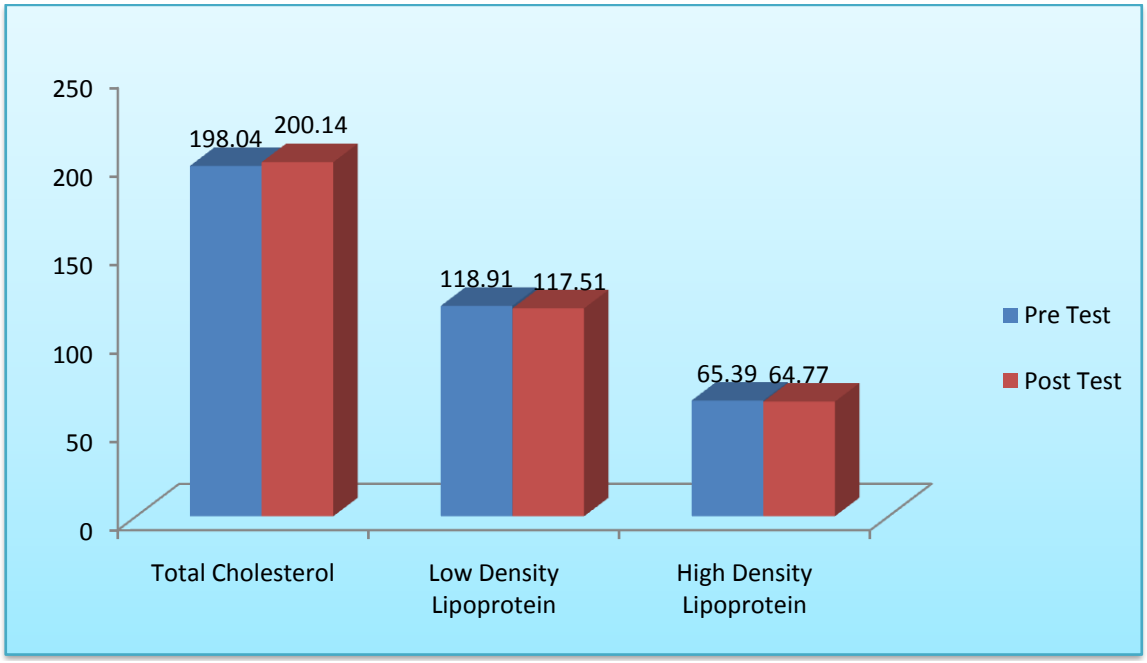
Table 2
Significance of mean gains & losses between pre and post test scores on selected variables of control group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Total Cholesterol	198.04	200.14	2.10	6.86	1.28	0.74
2	Low *Density Lipoprotein*	118.91	117.51	1.40	2.07	0.59	0.71
3	*High Density Lipoprotein*	65.39	64.77	0.62	2.62	0.63	0.51

* Significant at 0.05 level

An examination of table 2 indicates that the obtained't' ratios were 0.74, 0.71 and 0.51 for total cholesterol, low density lipoprotein and high density lipoprotein respectively. The obtained't' ratios on the selected variables were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant.

Figure II
Shows the pre and post mean values of suryanamaskar and control groups on selected variables



Conclusion

1. The suryanamaskar group produced significant changes in selected bio-chemical variables. The 't' values of the selected variables have reached the significant level.

References

1. Elangovan E.R. and S. Babu, (2011). Effect of Yogic Practices on Selected Bio-Chemical Variables of Obese College Man. *Facts of Sports Science*, Krishna Publications, Tirunelveli. pp. 22 – 26.
2. Elangovan E.R. and S. Babu, (2011). Effect of Yogic Practices on Selected Bio-Chemical Variables of Obese College Man. *Facts of Sports Science*, Krishna Publications, Tirunelveli. pp. 22 – 26.
3. Malhotra V, Singh S, Tandon OP, Madhu SV, Prasad A, Sharma SB. (2002). Effect of Yoga asanas on nerve conduction in type 2 diabetes. *Indian J Physiol Pharmacol.* 46(3):298-306.
4. Malhotra V, Singh S, Tandon OP, Madhu SV, Prasad A, Sharma SB. (2002). Effect of Yoga asanas on nerve conduction in type 2 diabetes. *Indian J Physiol Pharmacol.* 46(3):298-306.
5. Saravanan, J. & Kanagasabai P. (2010). Effects of selected yogic practices on selected physiological variables of college men. *Bharathiar National Journal of Physical Education and Exercise Sciences.* Vol.2, N0.2:30-34.
6. Saroja, M. (2012). Effects of Complex Training and the Combined Effects of Complex Training and Yogic Practices on Selected Physical and Physiological Variables among College Boys. *Yoga Mimamsa* Vol.XLIV No.3:206-215
7. Sharma, P.D. (1989). *Yogasana and Pranayama for Health*, Gala Publishers, Ahmedabad.
8. Sharma, P.D. (1989). *Yogasana and Pranayama for Health*, Gala Publishers, Ahmedabad.
9. Sunder, Prem (2009). *Yoga for fitness*, New Delhi: Khel Sahitya Kendra.
10. Sunder, Prem (2009). *Yoga for fitness*, New Delhi: Khel Sahitya Kendra.
11. Swami Gitananda. *Surya Namaskar – A Yoga System of Sun Adoration.* Lawspet: Pondicherry.
12. Swami Gitananda. *Surya Namaskar – A Yoga System of Sun Adoration.* Lawspet: Pondicherry.
13. Swami Satyananda Saraswati. (2006). *Surya Namaskara – A Technique of Solar Visualization.* Munger, Yoga Publication Trust: Munger.
14. Swami Satyananda Saraswati. (2006). *Surya Namaskara – A Technique of Solar Visualization.* Munger, Yoga Publication Trust: Munger.