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Effect of yogic intervention on some bio-chemical parameters of diabetic patients

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Abstract

The present study aimed to find the effect of Yogic intervention on some bio-chemical parameters such as hemoglobin and ESR level on diabetic patients. 50 diabetic patients suffering with type II Diabetes mellitus were selected and biochemical investigations were done before and after a comprehensive Yoga training program comprising of a sessions for three months.

There was a significant increase in hemoglobin and significant decrease in ESR levels a result of Yoga practices as the result shows statistically significant "t" value. Changes in these parameters may be due to improved immunity and better endurance capacity in the practitioners. Yoga improved the overall health of the subjects practicing Paschimottanasana and Shavian. A comprehensive yoga therapy program has the potential to enhance the beneficial effects of standard medical management of diabetes mellitus and can be used as an effective complementary or integrative therapy program.

Keywords: Paschimottanasana, shavasana and biochemical parameters

Introduction

Yoga has always been an essential part of life in traditional system of treatment, as it includes physical activities like several postures in the form of Asana and breathing exercises in the form of Pranayama which can play a vital role to prevent such lifestyle related diseases. Rosenthal M *et al.* (1983) physical exercise and regular activities can enhance insulin sensitivity.

In the ensuing decades opponents to exercise therapy would change the irattitudes due to some of the first researching the area of exercise physiology. A group of French researchers led by Chapeau and Kaufman (1887) measured the uptake of glucose by working muscle and found it to be higher than resting muscle. In addition, a reduction in blood glucose levels with muscular exercise was apparent. With this new scientific evidence, the therapeutic benefits of exercise, so long held by Bouchardat, became common practice another clinics for diabetics.

Yogic Interventions as a part of diabetes mellitus prevention and therapy has gained in popularity over the past few decades ashore research has become available. However, its use is definitely not a novel approach in the management of this disease. According to the American College of Sports Medicine (2002), indications of the effectiveness of exercise in reducing glycosuria have been evident since 600 B.C. when an East Indian text, the Shushruta noted the reduction in the sweetness of urine from diabetic patients following exercise.

Diabetes is a deficiency which affects a human being in a middle part of his age. All must ready to avoid this deficiency. For that Yogic practices are very helpful. In that particularly Paschimottanasana protect the people from the diabetes. Already affected people can get the cure. Paschimottanasana is a very simple asana. It is one of the best asana which helps to get recovery from the diabetes.

While going through the review Yoga showed favorable outcomes among patients with diabetes type II. A number of studies have been done in various part of the globe to observe the effect of Yoga on diabetics, more than 250 thesis works were conducted only in India at P.G. and Ph.D. Levels. More or less, either the studies were based on Yoga and complementary therapies or a vast package of Asana, Pranyama, Shatkarma, Mudra- Bandha and meditative techniques in combination. These improvements were mainly among short term or immediate diabetes outcomes and not all of the improvements we statistically significant.

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No study was done over a single practice particularly on Paschimottanasana and Shavasana only.

Methodology

The sample consisted of 50 subjects were selected from Dayan and Ayurvedic College and Hospital, Swan (Bihar). The institutional research ethics-committee approved this study. After signed informed consent by the subjects anthropometrics measurements were taken. Each subject was randomly assigned for this study. Professional not associated with this study generated the randomization scheme.

Fifty patients diagnosed as type 2 Diabetes and who met the following criteria were selected: no history of coronary artery disease, diagnosed stroke, cerebrovascular disease, known neuropsychiatric illness or any other complications (retinopathy, nephropathy) of diabetes; age between 30-60 yrs with duration of DM between 2-7 yr. All the patients were receiving conventional medical therapy. The drugs prescribed most commonly were oral hypoglycaemic drugs. Pre – post research design was used in this study. Each subject was

tested individually. The subjects in this study have given Yogic practices daily for half an hour for 90 days. Yogic intervention plan was as followed:

Table 1: Yogic Intervention program

S. No.	Yogic Practice	Rounds	Duration
1	Preparation and Gayatri Mantra	1	2 minutes
2	Joints loosening	2-5	7 minutes
3	Paschimottanasana	3-5	10 minutes
4	Shavasana	-	10 minutes
5	Shanti patha and Ending	1	1 minutes

The subjects of experimental group used to visit the center for Yoga training for 90 days daily under the supervision of a Yoga expert. The pre and post values were taken at the interval of three months for hemoglobin and ESR level of the patients suffering with diabetes and ‘t’ test was used for comparing the level of significance in present study.

Result

Table 2: Showing the Pre – post mean, SD, SED and t value of HB level

Test	Mean	N	SD	SED	T value	Level of significance
Pre	7.92	50	0.543	0.11	18.76	0.01
Post	10.02	50	0.938			

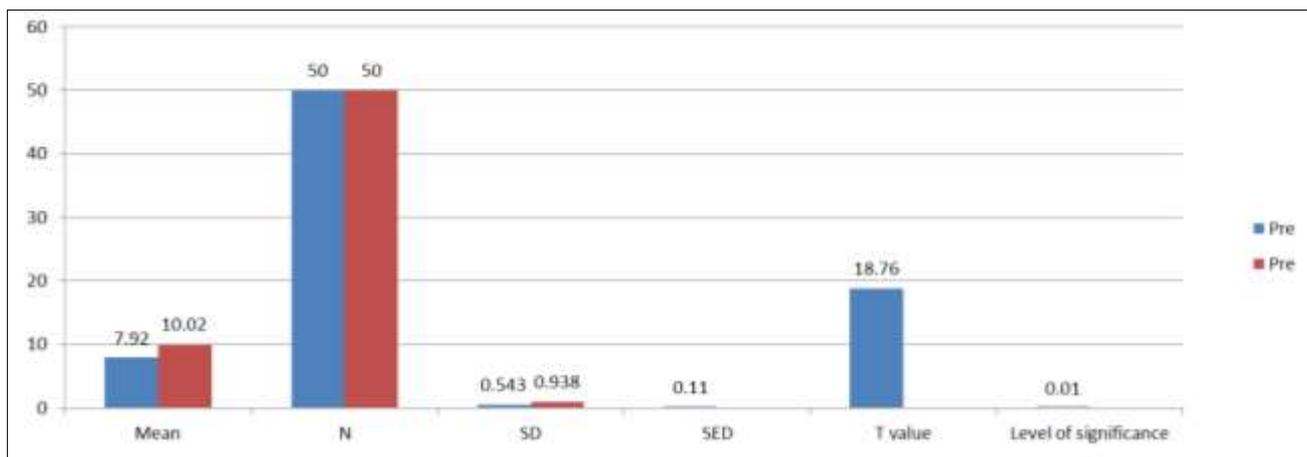
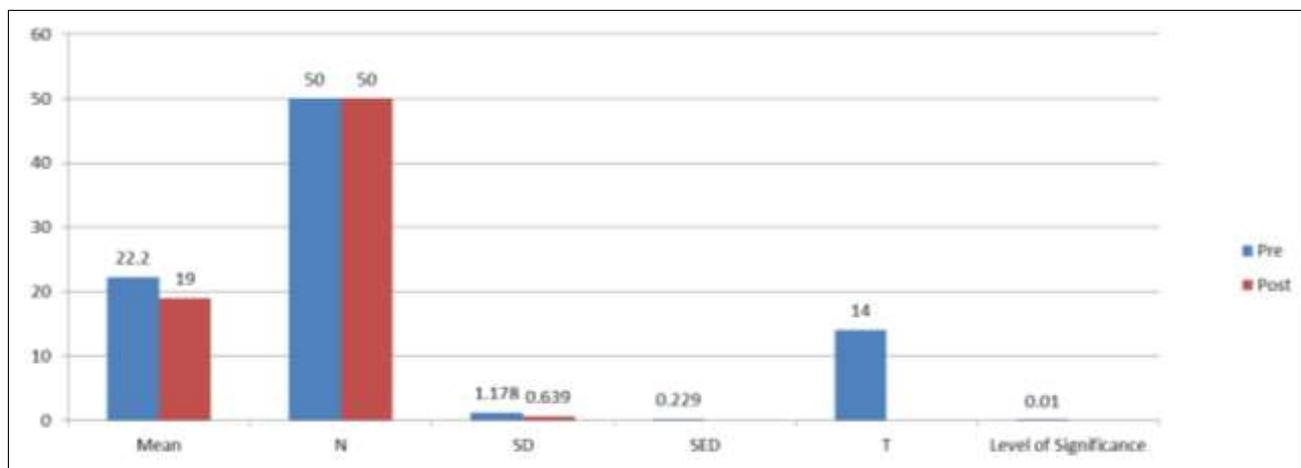


Table 3: Showing the Pre – post mean, SD, SED and t value of ESR

Test	Mean	N	SD	SED	T	Level of Significance
Pre	22.20	50	1.178	0.229	14.00	0.01
Post	19.00	50	0.639			



Conclusion

Yoga is an old, traditional, Indian psychological, physical and spiritual exercise regimen that has been studied for several decades for its role in the management of several chronic diseases including hypertension, asthma, obesity, neuromuscular diseases and psychiatric illnesses.

Additionally yoga has been studied for controlling both the symptoms and the complications associated with diabetes mellitus type II. The results from these studies suggested a statistically significant role for yoga in controlling diabetes. Furthermore, yoga practice showed significant improvement for those diabetic patients with pre-existing complications. These findings suggest that diabetics may benefit from yoga's ability to improve their quality of life.

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