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Effects of yogic Kriyas on diabetic patients

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Abstract
Introduction- Yoga is one of the oldest forms of exercise. Yogic kriyas are very beneficial for fitness and healthy living.
Purpose - The purpose of this study was to analyze the Effects of Yogic Kriyas on Physiological profile of Diabetic Patients.
Selection of subjects:- Twenty Five patients were selected as a subject for the purpose of the study. The selected Diabetic patients were suffering with the Type-I and Type-II Diabetics. The age of subjects was between 30 and 60 years.
Selection of Variables:- Blood Glucose Estimation (BGE) Fasting, Glucose Tolerance Test (GTT) up to 2 hours after administration of 50gm of glucose orally, Systolic Blood Pressure, Diastolic Blood Pressure, BMI, Resting Pulse Rate and Respiratory Rate were selected as criterion variables.
Collection of data- first the data was taken before implementing the treatment and again data was taken after 16 week of training.
Analysis of data- Mean, S.D. and 't' test was calculated to know the effects of Yogic kriyas on selected physiological variables.
Results- As a result it was found that there is significant effect of Yogic kriyas on Physiological Variables of diabetic patients.
Conclusion-Yogic Kriyas are very effective in controlling diabetes, everyone should make it a part of their life.

Keywords: diabetes, yogic Kriyas, blood glucose estimation, glucose tolerance test, body mass index, and respiratory rate

Introduction

"Yoga allow you to find an inner peace that is not ruffled and riled By the endless Stresses and struggle of life"

- **BKS Lyengar**

In the modern age life of human is very fast. Everyone wants to win the race of progress. This phenomenon of high competition and winning in life has created many health problems in human life. Around the world, diabetes, obesity and cardiovascular diseases are affecting the health and well-being of hundreds of millions of peoples. These diseases are no longer confined to the developed world as millions of people in developing countries are adopting a westernized lifestyle and are being affected by these diseases also.

Many diseases are byproduct of mismanaged lifestyle like obesity, hypertension, and diabetes. The main reason of hypertension and many other diseases may be stress; every living being is probably living under some or the other stress, this stress is due to varied reasons which are endless and only through the consciousness off right and wrong practice can help us to get rid of stress due to our negative thoughts surrounding us day and night.

The population around the world is afraid of the term called diabetes, the terror of this disease is on the whole world With a population of around 61 million diabetics, India ranks next to China in housing the highest number of diabetes patients in the world, near about 35% blindness in America is due to diabetes only whereas the blindness is 30% in the whole world, estimates by the International Diabetics Federation and World Health Organization (WHO) suggest. Even though research is on to find the genetic predisposition of Indians and Asians towards diabetes, the 'silent killer' that affects patients from head to toe, doctors say that diabetes has to do with modern lifestyle changes in more than 50% cases.

Diabetes is a metabolic syndrome where the pancreas fails to secrete an adequate amount of hormone insulin or the insulin secreted may be resistant and cannot bring down the sugar levels in the body. Insulin regulates the uptake of glucose from the blood and helps in converting it to glycogen, which is stored in the liver. It is the most common disorder of the endocrine (hormone) system, occurs when blood sugar levels in the body consistently stay above normal. Diabetes is a disease brought on by either the body's inability to make insulin (type 1 diabetes) or by the body not responding to the effects of insulin (type 2 diabetes). It can also appear during pregnancy. Insulin is one of the main hormones that regulates blood sugar levels and allows the body to use sugar (called glucose) for energy.

Diabetes is a condition in which excessive amount of urine are excreted from the body daily. It may be caused by such problems as a malfunctioning of adrenal and pituitary glands, which is known diabetes insipid us. It is caused due to a hormone known as Antiduratic Hormone (ADH) which is secreted by the posterior pituitary glands, however it's most common from is diabetes mellitus, a disorder in which the body cannot metabolize carbohydrate properly. The main effect is the high level of glucose in the blood. The major problem is associated with insulin, a hormone secreted by the pancreas. Insulin is necessary for blood glucose to enter the body cells. Diabetes may have a decrease pancreatic production of insulin or a deficiency of insulin receptors in the liver, muscles, and fat tissues so that even if it is present in normal amount, may not have effect on tissues.

Yoga is one of the oldest sciences of the world originated from India, which is very useful for both getting and maintaining the physical, mental and moral health. The yoga was started with the development of civilization. According to one of the classical texts of yoga known as Hathayoga-pradipika, Lord Shiva is the first teacher of yoga, whereas Bhagavad-Gita tells Lord Krishna is the first teacher of yoga.

Yoga is the "Union of the individual self with the universal self" (Iyengar, 2001) [7], Yoga means the union or communication or unity with our inner being.

The word yoga is derived from the Sanskrit root "yuj" meaning "to Unite" or "union" or "to combine" or "to join" development of the personality of a human being physical, mental, moral, intellectual and spiritual.

Yoga uses the body to exercise and controls the mind so that at a later stage the body and the mind together may harmonize with the soul. The Yogic practices affect and penetrate every single cell and tissues making them come to life.

Yogic Kriyas are cleansing techniques that cleanse various internal organs of the body. They are also called shatkriyas or shatkarma because they are six in number, commonly known as Neti, Dhauti, Basti, Trataka, Nauli and Kapalbhati.

Yoga helps to tone up the entire body to regularize blood compositions and improve blood circulations, tones up glands and visceral muscles.

Robson states that "yoga develops flexibility and vital capacity". Regular practice of yoga helps to keep our body fit, controls cholesterol level, reduces weight, normalizes blood pressure and improves heart performances. Further, preliminary studies in the United States and India suggest that yoga may be helpful for specific conditions, such as diabetes asthma, epilepsy, anxiety, stress and others.

The benefits of yoga are numerous, including improved physical fitness, stress control, general well-being, mental clarity and greater self-understanding. The poses enhance muscle strength, coordination, flexibility and agility and can help hack feel better. It has been explained in the Niyama of Eight Limbs of Yoga (Ashtanga Yoga) that one has to do the practice of saucha/sauca. The saucha is the other name of yogic kriyas. Kriyas are cleansing techniques used to purify the body and mind which ultimately open the pathways of the body, the nadis, the energy body, the mind, and the heart. Kriyas are more popularly called Shat Karmas. Many people are proud of their external cleanliness, but many who wash their outside every day are rotting from inside, as evidenced by horrible smell from their mouths, grey skin color, and deep wrinkles. Yogic Kriyas are cleansing techniques that cleanse various internal organs of the body. They are also called shatkriyas or shatkarma because they are six in number, commonly known as Neti, Dhauti, Basti, Trataka, Nauli and Kapalbhati.

Joshi regard yoga to be associated with acquisition and exhibition of supernatural powers, requiring complete description of mind and body. He has, further explained the word "Yoga" as the noun derived from the root "Yujur' mean to "Unite" or "to connect". Yoga has it on technology and also scientific basis.

Nagasukeerthi *et al*. conducted a study on Type 2 diabetes mellitus (T2DM) is a major global health problem. Though various studies have reported the beneficial effect of Yoga in patient with T2DM, there is a lack of study in combination with bell pepper and yoga. Hence, the present study aims at evaluating short-term effect of add on bell pepper juice with integrated approach of yoga therapy (IAYT) on blood glucose levels and cardiovascular variables in patients with T2DM. Fifty T2DM subjects with the age varied from 34 to 69-years were recruited and randomly divided into either study group or control group. The study group received 100-ml of bell pepper juice (twice/day) along with IAYT while the control group received only IAYT for 4-consecutive days. Baseline and post-test assessments were taken before and after the intervention. Statistical analysis was performed using statistical package for the social sciences, version-16. Results of this study showed no significant difference in overall (fasting and post prandial) blood glucose level in the study group compared with control group. However, a significant reduction in Post prandial blood glucose (PPBG), systolic blood pressure (SBP), and pulse pressure (PP), rate pressure product (RPP) and Double product (Do-P) was observed in the study group compared with control group. CONCLUSION**:** Results of this study suggest that though an addition of 100-ml of bell pepper juice (twice/day) along with IAYT is not more effective in reducing fasting blood glucose, it may be more effective in reducing PPBG, SBP, PP, RPP and Do-P than IAYT alone.

Methodology- Selection of Subjects

Total 25 subjects were selected for the assessment the effects of Yogic kriyas on diabetic patients. The ages of subjects were between 30 and 55 years.

Selection of Criterion Variables

Physiological variables that is Pre-Prandial BSL, Post-Prandial BSL, Systolic Blood Pressure, Diastolic Blood Pressure, BMI, Resting Pulse Rate and Respiratory Rate

Collection of data and Results of the Study

First the data was collected before starting the training again the data was taken after 16 week of yogic kriyas training and was analyzed according to experimental design of the study.

Table 1: analysis of physiologica variables of diabitic patients After 16 week training of yogic kriyas

Variable	Yoga Group (N=25)			
	Pre Treatment		Post treatment	
	Mean	S.D	Mean	S.D
Pre-Prandial BSL	148.08	9.286	108.8	9.945
Postprandial BSL	185.96	11.032	152.36	11.92
Systolic B.P.	123.08	9.690	105.60	14.20
Diastolic B.P.	93.2	29.785	64.48	5.867
B.M.I.	27.75	1.831	25.70	1.152
Resting Pulse Rate	77.28	5.152	74.04	3.297
Respiratory Rate	17.80	2.719	16.32	1.40

Graphical Representation of Comparative analysis of Yogic kriyas before and after 16 week training of yogic Kriyas

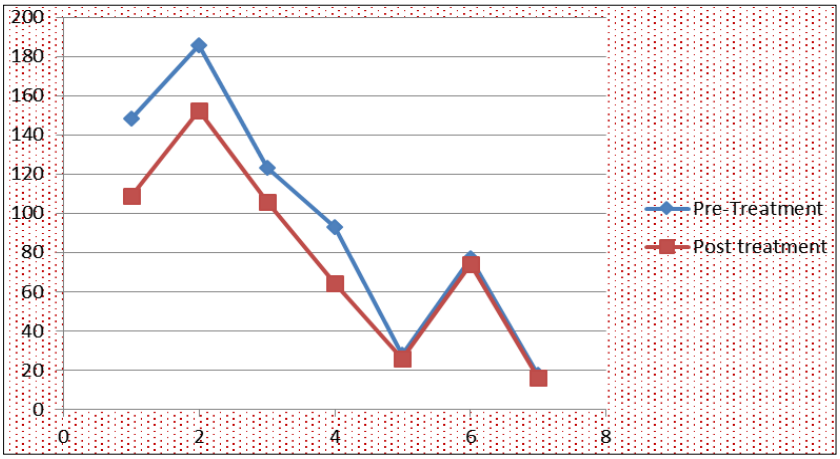

Fig 1: Graphical Representation of Comparative analysis of Yogic kriyas before and after 16 week training of yogic Kriyas

The descriptive analysis of the pre and post test data showing mean, standard deviation and 't' ratio of Selected Physiological Variables of diabetic patients after 16 week of yoga kriyas practices is presented in table 2.

Table 2

Variable		Mean	S.D.	't' test
Pre Prandial BSL	Pre	148.08	9.28	14.43*
	Post	108.80	9.94	
Post Prandial BSL	Pre	185.96	11.32	10.34*
	Post	152.36	11.92	
Systolic Blood Pressure	Pre	123.08	9.96	5.08*
	Post	105.60	14.20	
Diastolic Blood Pressure	Pre	93.20	29.78	4.73*
	Post	64.48	5.86	
BMI	Pre	27.75	1.83	4.74*
	Post	25.70	1.15	
Resting Pulse Rate	Pre	77.28	5.15	2.65*
	Post	74.04	3.29	
Respiratory Rate	Pre	17.80	1.15	5.66*
	Post	16.32	0.62	

The table clearly revels that there is significant difference in Pre and Post treatment of Yogic kriyas on Pre-Prandial BSL, Post prandial BSL, Systolic blood pressure, Diastolic blood pressure, BMI, Resting Pulse Rate, and Respiratory rate of Diabetic Patients as the tabulates value of all these are greater than the table value i.e. 2.01 at. 05 level of confidence.
The graphical representation of data is presented in Fig-2

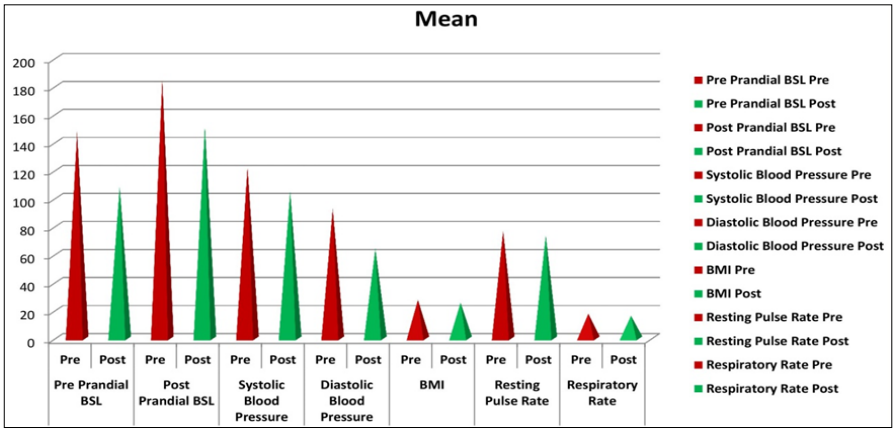

Fig 2: Graphical Representation of Pre and Post treatment value of physiological variables of diabetic patients after 16 week training of yogic Kriyas

Discussion of Findings

The results of the study shows that Yogic kriyas are effective in controlling Diabetes as researcher found the significant changes in selected physiological variables after 16 week of training of yogic kriyas.

Conclusion

This we can conclude that we can not ignore our ancient practices for the sake of valid proofs, rather the above research have helped us to reestablish faith in our ancient system of yoga, along with this the modern version of exercise that is aerobics too found out to be very useful in getting noticeable relief in the disease of diabetes.

In fact this is a very safe and economic way of treatment in comparison to the allopathic or the any other way of treatment.

The scholar would highly recommend the practice of yoga and aerobic for the treatment of diabetes.

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