

Effect of Shatkarma practices on serum glucose and serum cholesterol level of the Human subjects: an Observation

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Abstract

Yogic practices may aid in the prevention and management of high serum glucose level and high serum cholesterol level of the practitioners and reduce common lifestyle disorders and other complications in the population. The present study has been undertaken to evaluate the effect of yoga practice on both the parameters of the normal and otherwise healthy volunteers.

Seventy volunteers were taken as experimental group from urban area of south Delhi, Gurgaon and Noida region. The subjects were a heterogeneous group having Diabetes, Hypertension, Obesity and joints problem but otherwise healthy and were voluntarily wanted to join Yoga session for general physical mental wellbeing. In this pre- post research study a package of Hatha Yogic Shatkarma technique Dhauti, Neti and Kapalbhathi were introduced to them. The volunteers practiced for 90 days except Sunday and holidays. The impact of the practice of Shatkarma practice showed a significant reduction on their serum glucose level and serum cholesterol level.

Key Words: Dhauti, Neti, Kapalbhathi, serum glucose and serum cholesterol.

Introduction

According to the American Heart Association, substituting carbohydrates for fats may raise triglyceride levels and may decrease HDL ('good') cholesterol in some people. High blood sugar levels, high triglycerides and high cholesterol levels are in fact three of the many symptoms caused by insulin resistance. The use of medical drugs and a low fat diet are not the answer to bringing down cholesterol or triglyceride levels. To further illustrate the point of the difference between an incorrect approach and the right way to handle high serum glucose and cholesterol levels there is a way of lifestyle called Yoga.

The role of yoga in promoting health and preventing and managing psychosomatic disorders has been established by numerous scientific studies. Yogic techniques produce consistent physiological changes and have sound scientific basis. Yogic lifestyle modification produces remarkable improvements and can make an appreciable contribution to primary prevention as well as management of lifestyle diseases.¹

One of the findings indicates that yoga exercise improves adiponectin level, serum lipids, and metabolic syndrome risk factors in obese postmenopausal women.

Consequently, yoga exercise will be effective in preventing cardiovascular disease caused by obesity in obese postmenopausal Korean women.²

Effect of pranayama practices studied on 180 army men, done on three experimental groups were subjected to Ujjayi, Bhastrika and combination of Ujjayi and Bhastrika respectively for 6 and 12 weeks. Fasting blood glucose decreased significantly as a result of 12 weeks practices of Bhastrika and combination of Ujjayi and Bhastrika Serum cholestrol level was also described at 12 week Pranayama practices.³ It has been observed in one of the study that there occurred a significant reduction in total cholesterol. There was a noticeable decrease in triglyceride, LDL and VLDL cholesterol too.⁴

There was significant decrease in the total cholesterol, triglycerides and LDL levels. Similar observations were found by Malhotra⁵, Savita S⁶, Vanish K Upadhyay⁷ and Sahay⁸ and Bijlani,⁹ reported a significant reduction in free fatty acids, LDL, VLDL and an increase in HDL.

Yogic practices may have a role in prevention and management of diabetes and in co-morbid conditions like hypertension and dyslipidemia. Long-term yoga practice is associated with increased insulin sensitivity and attenuation of negative relationship between body weight or waist circumference and insulin sensitivity. With no appreciable side effects and multiple collateral benefits, yoga is safe, is simple to learn and can be practiced by even ill, elderly or disabled individuals. Being safe, simple and economical therapy, it should be

considered as a beneficial adjuvant for DM patients.¹⁰

With the back ground of previous studies an initiative was taken by the researcher having the objective to observe the effect of Shatkarma practices on some physiological variables. The detail methodology of the study is radiated below.

Methodology:

The study is based on the data collected on 70 subjects (35 males and 35 females), age ranging 30 – 50 years. Subjects were randomly selected from the Yoga classes of Delhi, Gurgaon, Noida region. Although 100 subjects were selected for the study, due to various reasons 30 subjects could not complete the study.

The subjects were a heterogeneous group having Diabetes, Hypertension, Obesity and joints problem but otherwise healthy and were voluntarily wanted to join Yoga session for general physical mental wellbeing.

In this pre- post research study a package of Shatkarma techniques (Kapalbhati - daily, Jala Neti - twice in a week and Vaman - once in a week) were introduced to them. They practiced Hatha Yoga regularly for 90 days under the guidance of a Yoga Expert except Sunday and holidays.

The random **Serum Glucose** and **Serum Cholesterol** was observed before and after the 90 days duration, and the results were analyzed through proper statistical methods, which have been radiated below in table 1 & 2.

Result:

Table : 1 Serum Glucose

	<i>Pre</i>	<i>Post</i>
Mean	138.3429	126.3857
Variance	1256.837	876.994
Observations	70	70
Hypothesized Mean Difference	0	
df	134	
t Stat	2.165691	
P(T<=t) one-tail	0.016053	
t Critical one-tail	1.656305	
P(T<=t) two-tail	0.032105	
t Critical two-tail	1.977826	

Table : 2 Serum Cholesterol

	<i>Pre</i>	<i>Post</i>
Mean	225.7143	214.5571
Variance	1682.439	1680.366
Observations	70	70
Hypothesized Mean Difference	0	
df	138	
t Stat	1.609723	
P(T<=t) one-tail	0.054872	
t Critical one-tail	1.65597	
P(T<=t) two-tail	0.109744	
t Critical two-tail	1.977304	

Discussion and Conclusion:

Table 1 and table 2 show a significant reduction in random serum glucose level and cholesterol level of the subjects. It was found that yogic practices are useful in preventing and managing disorders related to the body systems.¹¹ In the present study serum glucose level and cholesterol level significantly decreased after Hatha yogic practices. A controlled trial held in India supports that yogic practices contribute to reduced excessive body fat not only among school students but also in obese

patients.¹² Yoga might have played role as a safety measure. Other study also performed in Toronto, Canada, clearly states that physically active individuals are less likely to develop hypertension than sedentary individuals.¹³

It is well known that yogic practices are beneficial for the health. The level of cholesterol, triglyceride and LDL was significantly reduced in one study after yogic practices.¹⁴ Physical exercises including yogic practices along with dietary modification have been observed to

control lipid content of blood and to treat and prevent CAD. A study was conducted in Tampere, Finland also favor to the present study and mentioned that the practice of yoga was associated with significant decreases in cholesterol among

subjects with cardiovascular disease.¹⁵ At the end it can be concluded that Shatkarma practices significantly reduce the **Serum Glucose** and **Serum Cholesterol** of the practitioners.

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