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To Study the Effect of Yoga on Blood Sugar Profile in Diabetics Type-2 Patients

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Abstract

Background- Diabetes mellitus is a syndrome complex characterized by impaired carbohydrate, protein and fat metabolism.

Methods-The present study was undertaken among diabetics. Case were recruited from a yoga centre. Control subjects were selected from diabetic patients attending hospital. Total subjects were grouped into 30 for yoga practitioners, and another 30 for controls. The subjects of both the groups were aged between 40 to 60 years. None of them was either alcoholic or smoker and subjects in the case group were practicing yoga for more than two years.

Results- The mean value of blood glucose level of subjects was 130.5mg/dl, and that of controls was 190.80mg/dl. The difference between the mean value of blood glucose level determined by unpaired 't' test was statistically highly significant (p=.0001).

Conclusion-Yoga can be used as an alternate therapy to reduce the blood glucose level along with the drug therapy.

Keywords- Yoga, Diabetics, Drugs.

Introduction

Diabetes mellitus is a syndrome complex characterized by impaired carbohydrate, protein and fat metabolism. It is of two types: (a) insulin-dependent diabetes mellitus (IDDM), also called juvenile onset diabetes mellitus – it is below 20 years of age and is due to decrease in insulin secretion owing to viral infection, atrophy or degeneration of beta-cells of Langerhans of pancreas. (b) non-insulin-dependent diabetes mellitus (NIDDM), also called adult onset diabetes mellitus – it is seen above 30 years of age in middle-age group, characterized by normal secretion of insulin but decrease in sensitivity of peripheral tissue to the insulin.[1]

Yoga is a Sanskrit word meaning union. It is Hindu spiritual and self-discipline method for integrating the body, breath and mind. It is a tradition of health and spirituality that evolved in the Indian peninsula over a period of some 5000 years. History of yoga traditions starts with the yoga sutra written by Patanjali, a renowned yoga teacher and Hindu philosopher.

Yoga has now entered the Western mainstream through the work of Swami Vivekananda, who popularized oriental Hindu philosophy in the late 19th and early 20th centuries.

Materials and Methods

The present study was undertaken among diabetics. Case were recruited from a yoga centre. Control subjects were selected from diabetic patients attending hospital. Total

subjects were grouped into 30 for yoga practitioners, and another 30 for controls. The subjects of both the groups were aged between 40 to 60 years. None of them was either alcoholic or smoker and subjects in the case group were practicing yoga for more than two years.

The eligibility criterion for controls was same as that of subjects but they were not yoga practitioners and did not believe in yoga. The diabetics had complete drug compliance throughout the study period. The experimental subjects were taking 1½ hour session for at least four times a week at a yoga centre. None of the subject engaged in any other out-of-routine physical activity.

The blood sampling was done between 9.00 am to 10.00 am from a forearm vein of all the participants with fasting for more than eight hours.

Results

Table 1: Shows the mean blood sugar levels in and controls.

Fasting blood sugar level	Case	Control
Mean	130.5	190.80
SD	11.20	9.80
p-value	<0.001	

The mean value of blood glucose level of subjects was 130.5mg/dl, and that of controls was 190.80mg/dl. The difference between the mean value of blood glucose level determined by unpaired 't' test was statistically highly significant (p=.0001).

Discussion

In the present study, the mean value of fasting blood glucose was less than that of controls and the difference between the two was statistically highly significant. Our observations were in compliance with the study conducted by Cerranque et al,[2] in 26 subjects. The experimental group consisted of 16 long-term yoga practitioners and 10 healthy ordinary subjects. The results revealed a decrease in the blood glucose level in yoga practitioners, as compared to controls.

Our findings are also in compliance with the study conducted by Hegde et al.[3] on the effect of three month yoga practice on oxidative stress in type-2 diabetics. Yoga practitioners achieved significant improvement in body mass index, fasting blood glucose level, postprandial blood glucose, glycosylated haemoglobin, glutathione and vitamin-C at 3 months compared with the standard care group. Gordon et al.[4] also reported 20% reduction in oxidative stress and decrease in blood glucose level.

Conclusion

Yoga can be used as an alternate therapy to reduce the blood glucose level along with the drug therapy.

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