

ANTI DYSLIPIDAEMIA EFFECT OF KRIPALAVANANDJI YOGA IN TYPE 2 DIABETES PATIENT – A CASE STUDY

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Abstract

India has the highest rate of type 2 diabetes in the world, with an estimated 31 million diabetics in 2000 and 79 million by the year 2030 (1). As a leading cause of death and disability today, DM2 also dramatically raises the risk of microvascular consequences including retinitis, diabetic neuropathy, and renal failure as well as macrovascular problems like atherosclerosis (2). Patients with type 2 diabetes and those with pre-diabetes can effectively lower their fasting plasma glucose levels with a short-term yoga-based lifestyle intervention.(3) We present the case of diabetes mellitus patient, which was treated for 6 months with kripalavanandji module which consists of asana, mudra, pranayama and diet. This intervention was directed towards the patient alleviating symptoms and to reduce the lipid profiles. The case shows that diabetes and anti Dyslipidaemia may be successfully managed with kripalavanandji yoga techniques.

Keywords: kripalavanandji, yoga, diabetes mellitus 2, FBS, PBBS, Dyslipidaemia

INTRODUCTION

Around 425 million people worldwide had diabetes in 2017, with that number expected to rise to 629 million by 2045, according to the International Diabetes Federation's diabetes atlas (eighth edition, 2017) (4). Their blood glucose levels are higher than usual but lower than the accepted threshold for T2DM itself, placing more than 77 million Indians at high risk of developing the disease.(5). Type 2 diabetes mellitus is a lifestyle condition that is frequently observed. It is brought on by insulin resistance and an absolute or relative insulin shortage. Numerous cardiovascular problems as well as chronic hyperglycaemia may emerge from this. Sedentary behaviour and unhealthy eating habits are known to increase the chance of developing lifestyle illnesses like diabetes (6). There are numerous cutting-edge pharmacological treatments for diabetes. However, prolonged drug use has some negative side effects and consequences, such as drug dependence.(7) Additionally, widespread drug use by the population is bad for any nation's economy, but especially so for emerging nations like Sri Lanka.(7,8). Yoga therapies are generally successful for lowering body weight, blood pressure, glucose levels, and high cholesterol, according to a systematic evaluation of 32 publications published between 1980 and 2007 (9). Adults with DM 2 may have improved risk profiles, and yoga may hold promise for preventing and managing cardiovascular problems in this population (10).

Presenting Complaint

A 67 year old Indian male with no history of smoking or alcohol was diagnosed with type 2 diabetes from past 15 years and dyslipidaemia for 10 years. Since then he was on medication for both conditions.

Therapeutic Focus And Assessment:

Swami Kripalavanandji yoga intervention module for the Diabetes patient. They were given various asana and Pranayama practice for 1 hour in 6 days a week for 6 months. Kripalavanandji has given the classical yoga Practices for various diseases and also diet is given to the patient. They follow the diet upto their capacity. The Yoga practice and diet module are given below

Yoga-asanas and postures for the patients with diabetes module is given in table 1

Diet :

Pathya:

Dietary bread, wheat bran bread and bhakri, barley bread and bhakri, , chana, chana dal, mug, peas - all these can be eaten in small quantities. Butter Extracted Buttermilk or its Curry, Eggplant, Onion, Garlic, Radish, Tomato, Parval, Carrot, Kankoda, Cabbage, Curry, Dodi, Fenugreek Vegetable, palak, tanderja leaves vegetables,

Red Rice, Salt and Suva Vegetable, Milk There is a diet. Limit the use of green vegetables. Rye, falsa, jambu, apple, pineapple, pomegranate, amla, grape, citrus, orange, ripe banana, raw papaya etc. can also be taken in the diet. Use fruits essentially and prudently. Drink a decoction of neem juice, karela juice or bili juice.

Apathy: Do not eat fried or soaked food, do not eat rice dishes. Also do not eat ghee, milk, yogurt, butter and other nutrients.

Follow Up And Outcomes:

The report suggests that he has 278 mg/dl post glucose in 2020. And after giving yoga it was 139.96. And other test are given below

| Variable | Pre result | Post result | Difference in % |
|-----------------|------------|-------------|-----------------|
| Post glucose | 278 | 139.96 | 66.05 |
| Cholesterol | 154.02 | 125 | 20.92 |
| Triglyceride | 108 | 75 | 36.07 |
| HDL | 44 | 55 | 22.22 |
| LDL | 93 | 55.20 | 51.01 |
| VLDL | 17.2 | 15 | 13.67 |
| CHO/HDL CHO | 3.5 | 2.27 | 42.63 |
| LDL CHO/HDL CHO | 2.1 | 1 | 70.97 |

Table 2 Post Glucose of pre and post yoga effect

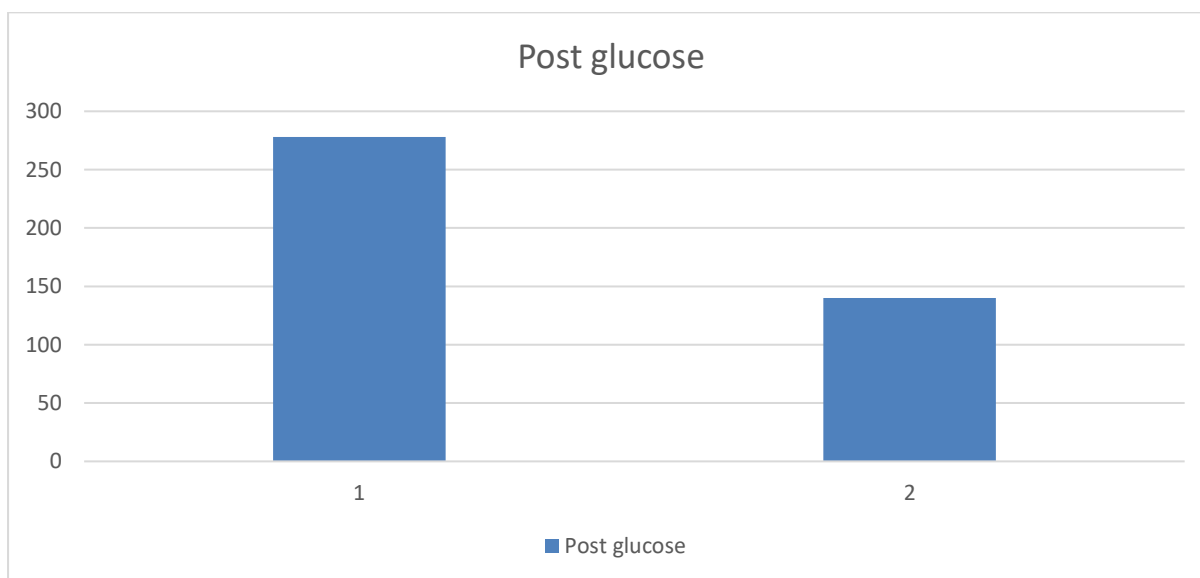
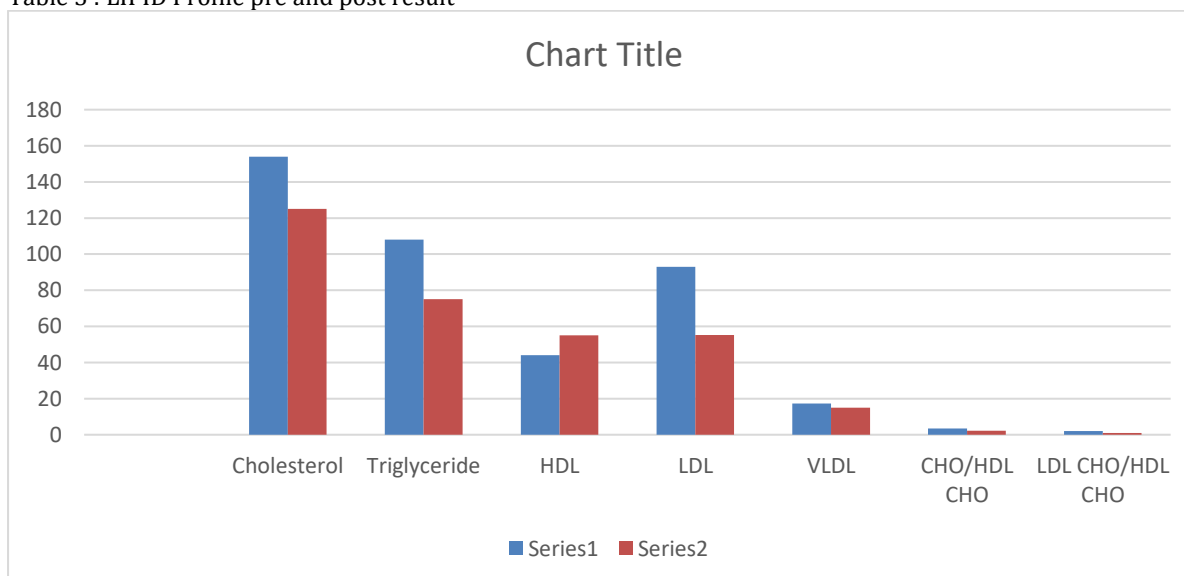


Table 3 : LIPID Profile pre and post result



DISCUSSION

Yoga, which has historically been a mind-body practice with spiritual enlightenment as its ultimate objective, is a science of health management rather than a cure for treating particular diseases (12). It was proposed that as little as 10 minutes of the yoga intervention in addition to conventional medical care could greatly enhance metabolic health (13). Similar to this, T2DM patients on OHA have shown a significant drop in FBS and PPBS following yoga training (14). Yoga may be able to restore or renew pancreatic beta cells, according to one theory (15). Yogic practices may have a role in prevention and management of diabetes and in co-morbid conditions like hypertension and dyslipidaemia (11). Another study on T2DM-afflicted women discovered that yoga exercise is comparable to other physical training exercises in lowering blood sugar, HbA1c, triglycerides, total cholesterol, and VLDL. However, they found that yoga exercise is superior to other forms of physical activity in lowering the need for oral hypoglycaemic medications, raising HDL, and lowering LDL in T2DM (16). In a trial that involved a 12-week home continuation of a 6-week residential yoga programme, researchers discovered a significant decline in TC and TG levels and a non-significant decline in LDL, VLDL, and HDL concentrations.(17).

These patients' BMI, body weight, W/H ratio, total cholesterol, triglycerides, and LDL cholesterol all decreased when they started practising yoga, while their HDL levels rose.(18). Hepatic lipase and lipoprotein lipase may have increased with yoga practise, which would explain the improvement in lipid profile. This would impact the metabolism of lipoproteins and enhance the absorption of triglycerides by adipose tissue(19). Stress-induced production of growth hormone and endorphins can also result in decreased glucose absorption and insulin secretion (20). Yoga may help treat cardiometabolic risk factors like blood pressure, cholesterol and glucose levels, as well as body weight, by reducing physiological stress.(21). Another study found that both men and women who practised yoga had significantly higher levels of S.HDL cholesterol and lower levels of S. total cholesterol, TGs, LDL, and VLDL cholesterol (22). Yoga asanas, which include dynamic stretching of the body, are thought to improve insulin secretion in people with chronic diabetes by regenerating pancreas cells (11).

CONCLUSION

Kripalavanandji swami yoga appeared to be feasible intervention and beneficial effects on several physical, glucose Levels and dyslipidaemia were reported. This practice was helpful in treating the patient of diabetes. And also helpful in controlling cholesterol, triglyceride, VLDL, LDL and there was increase in the level of HDL. Hence the focus in this area is very important this approach can be taken into consideration. For further treatment and research work for diabetes.

PATIENT PROSPECTIVE


The patient was satisfied with the improvements and wish to continue yoga in day to day life.

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Appendix




SUBURBAN
DIAGNOSTICS
PRECISE TESTING • HEALTHIER LIVING

| | | |
|--|---|--|
| <p>CID : 1934300109 Name : MR. JYOTIKUMAR JANI Age / Gender : 64 Years / Male Dr. : - Reg. Location : Borivali</p> | <p>SID : 177801292504 Registered : 09-Dec-2019 / 07:48 Collected : 09-Dec-2019 / 07:55 Reported : 09-Dec-2019 / 12:44 Printed : 10-Dec-2019 / 14:26</p> | <p>R E P O R T</p> |
|--|---|--|


RELIGARE SET 2 - SILVER
LIPID PROFILE

| PARAMETER | RESULTS | BIOLOGICAL REF RANGE | METHOD |
|----------------------------------|---------|--|--------------|
| CHOLESTEROL, Serum | 154.2 | Desirable: <200 mg/dl Borderline High: 200-239mg/dl High: >=240 mg/dl | Enzymatic |
| TRIGLYCERIDES, Serum | 108.5 | Normal: <150 mg/dl Borderline-high: 150 - 199 mg/dl High: 200 - 499 mg/dl Very high:>=500 mg/dl | Enzymatic |
| HDL CHOLESTEROL, Serum | 44.0 | Desirable: >60 mg/dl Borderline: 40 - 60 mg/dl Low (High risk): <40 mg/dl | Enzymatic |
| NON HDL CHOLESTEROL, Serum | 110.2 | Desirable: <130 mg/dl Borderline-high: 130 - 159 mg/dl High: 160 - 189 mg/dl Very high: >=190 mg/dl | Calculated |
| LDL CHOLESTEROL, Serum | 93.0 | Optimal: <100 mg/dl Near Optimal: 100 - 129 mg/dl Borderline High: 130 - 159 mg/dl High: 160 - 189 mg/dl Very High: >= 190 mg/dl | Colorimetric |
| VLDL CHOLESTEROL, Serum | 17.2 | < / = 30 mg/dl | Calculated |
| CHOL / HDL CHOL RATIO, Serum | 3.5 | 0-4.5 Ratio | Calculated |
| LDL CHOL / HDL CHOL RATIO, Serum | 2.1 | 0-3.5 Ratio | Calculated |

*Sample processed at SUBURBAN DIAGNOSTICS (INDIA) PVT. LTD Borivali Lab
*** End Of Report ***



MC-2111



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Central Processing Lab: Aston, 2nd floor, Sundervan Complex, Opp. Union Bank, Above Mercedes Showroom, Andheri West, Mumbai - 400053
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| | | | |
|------------------|--------------------------------|----------------------|----------------------|
| Lab No. : | 7 707- Jun- 2022 | Collected Sample | Passport No : |
| Patient's Name : | MR JYOTIKUMAR JANI | Reg. Date & Time : | 07-Jun-2022 7:42 am |
| Sex / Age : | MALE / 67 Years | Coll Date & Time : | 07-Jun-2022 8:06 am |
| Referred By Dr : | DR AMI SANGHVI | Report Date & Time : | 07-Jun-2022 12:28 pm |
| Collected At : | M M MEDICAL CENTER (DAHISAR) | Print Date & Time : | 07-Jun-2022 2:55 pm |

LIPID PROFILE

| TEST | RESULT | REFERENCE RANGE |
|---|---------|------------------|
| Sr. Triglycerides (Method - GPO-PAP) | 75 | 30 - 150 mg/dl |
| Sr. Cholesterol Total (Method- CHOD PAP) | 125.5 * | 130 - 200 mg/dl |
| Sr. Cholesterol - HDL Direct (Method- Immuno-FS) | 55.3 | 35 - 80 mg/dl |
| Cholesterol VLDL | 15.00 | 6.0 - 30.0 mg/dl |
| Cholesterol LDL | 55.20 | 50 - 130 mg/dl |
| CHOL / HDL Ratio | 2.27 | Less Than 4.5 |
| LDL / HDL Ratio | 1.00 | Less Than 3.5 |



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Table 1

| Intervention Practice | Duration |
|---|----------|
| Prayer | 5 min |
| Surya namaskar | 5 min |
| Trikonasana | 2 min |
| Vimukt trikonasana | 2 min |
| Prushthasana | 2 min |
| Prasaritasana | 2 min |
| Vampad Pavanmuktasana, | 2 min |
| Dakshinapadapavanmuktasana | 2 min |
| Ubhayapadapavanmuktasana | 2 min |
| Mahamudra | 2 min |
| Paschimottanasana | 2 min |
| Pravinasana | 2 min |
| Bhunamanpadmasana 1-2-3, | 2 min |
| Baddhahastapadmasana | 2 min |
| Matsyasana | 2 min |
| Ardhsalbhasana | 2 min |
| Bhujangasan | 2 min |
| Savasana | 5 min |
| Anulom vilom pranayama And chandrabhedan | 15 min |