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**Importance of Vyayam (Physical Activity) and Yoga in Management of  
Diabetes Mellitus**

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**ABSTRACT:**

The role of exercise in the control of diabetes has been known since ages. *Prameha* means Diabetes .Our ancient Ayurvedic physicians *Charak (prameha chikitsa 6/50)* and *Sushruta (Chikitsa 11/11 4 -7 )*knew the importance of exercise in the treatment of diabetes. The benefits of exercise as currently identified is, exercise improves glycemc control & prevents cardiovascular disease. Planning of exercise in diabetes I & diabetes II is different. It really promote our therapeutic results. *Yoga* is a system of mental and spiritual development transformation, particularly *Pranayama* have been shown to produce a decline in plasma cortisol levels in patients with type 2 diabetes. *Asana* is one of them having importance in improving health status.

**KEY WORDS** - *Prameha*, glycemc control, *Vyayam*, *Yoga*

## **INTRODUCTION-**

Diabetes is one of health problem which is the biggest challenge now a day

There are two types of diabetes –

Diabetes type I – It is now clear that it is a chronic autoimmune disease resulting from T cell mediated destruction of the beta cells of pancreas.

Diabetes type II – It is a pan metabolic disorder characterized by

1) Impaired insulin action / sensitivity i.e. insulin resistance.

2) Beta cell defect: insulin secretory dysfunction.

The role of exercise in control of diabetes has been known since ages

*Charakacharya* has mentioned the importance of *vyayam* in *prameha chikitsa* (6/50). *Sushrutacharya* has mentioned the *Vyayam* is important in *Pravriddha Prameha*. (*Sushruta Chikitsa Sthana* 11/11)

## **AIMS & OBJECTIVES**

Aim-

To study importance of *vyayam* & *yoga* in the management of diabetes.

Objectives –

1) To study general recommendation for exercise in type I diabetes.

2) To study general recommendation for exercise in type II diabetes.

3) To study benefits of *Yoga* in management of diabetes.

## **Effect of Exercise in Diabetes I -**

Moderate, sustained activity in type I diabetes.

↓

Suppressive effect of insulin on the liver continues (as insulin is exogenously injected)

↓

Hepatic production of glucose remains low. At the same time utilization of Glucose by exercising muscle

So in D.M. type I, There is risk of hypoglycemia during exercise

Also in patients with poor glycemic control, the marked rise in counter regulatory hormones leads to increased fatty acid oxidation & glucose production resulting in hyperglycemia with ketoacidosis

So some precautions must be given to patient of D.M.type I before advising exercise.

## **General recommendation for exercise in type I diabetes**

1) Patient should check their blood glucose and urine for ketones before exercise.

2) In presence of blood glucose levels greater than 250mg/dl, exercise should be avoided.

3) If blood glucose levels are less than 100mg/dl, supplemental carbohydrates should be taken before exercise.

Patients, on short acting insulin with meals ,should lower the insulin dose at the meal before strenuous exercise by

almost 50% of the dose ,while those on only intermediate acting insulin may need to lower the dose on the morning of the exercise by 30-40 %

### EXERCISE

Increases insulin sensitivity and in individuals with D.M .type I, The increase in insulin sensitivity is reflected in the reduced requirement of exogenous insulin. Exercise improves the risk factors for cardiovascular diseases such as, hyperlipidemia, obesity, coagulation abnormalities, and hypertension.

Physical activity is important and should be encouraged in type I diabetes as it improve quality of life, an enhancement of their self-esteem and a sense of wellbeing.

### **Exercise in diabetes type II-**

Exercise in D.M.II –induces- Increase glucose uptake by exercising muscle.



Increase insulin sensitivity in the liver & muscle.



Fall in the hyperglycemia and hyperinsulinemia.



Improvement in glucose disposal.  
Prolonged Glycemic control

### **Exercise Recommendations for patients with type 2 Diabetes Mellitus**

1. Screening of Patients
2. Search for vascular and neurological complications including silent ischemic heart disease.

3. Stress electrocardiogram in patients > 35 yr. age or > 10 yr. of diabetes.

4. Exercise program and type- Aerobic

5. Intensity- 50 to 70 % of maximum

Aerobic capacity

6. Duration – 20 to 60 minutes

7. Frequency-3 to 5 times a week

8. Compliance.

9. Make exercise enjoyable.

10. Convenient location.

When patients of Diabetes Type II have recommended exercise the benefits of exercise -

1) The improvement in insulin sensitivity, resulting in long term glycemic control.

2) The improvement in the lipid profile .Significant decrease in serum triglycerides and increase in HDL cholesterol.

3) Control hypertension.

4) Reduces risk of cardiovascular disease.

5) Improves sense of wellbeing and quality of life.

### **How yoga can help to fight the diabetes-**

Regular *yoga* practice can help reduce the level of sugar in the blood, along with lowering blood pressure, keeping a weight check, reducing the symptoms and slowing the rate of progression of diabetes, as well as lessening the severity of further complications. Let's see how.

Like for most lifestyle diseases, stress is one of the major reasons for diabetes. It

increases the secretion of glucagon hormones in the body, responsible for increasing blood glucose levels. Consistent practice of *yoga asanas* (body postures), *pranayamas* (breathing exercises) can help reduce stress in the mind and body. This, in turn, reduces glucagons and can also help improve insulin action.

- The practice of *yoga* is also proven to reduce weight as well as control increasing weight, which is particularly important to keep diabetes in check. Sun Salutation and *Kapal Bhati pranayama* are one of the best ways to weight loss.

### ***Pranayam-***



*Pranayam*-Breathing in deeply and breathing out helps oxygenate blood, and improves circulation. It also calms the mind and gives rattled nerves some much needed rest. One of the basic preparations for *Pranayama* is *Nadi Shodhan Pranayama* or alternate nostril breathing, this type is found useful in diabetes as Alternate nostril breathing has calming effect on nervous system, which reduces stress levels, helping in diabetes treatment.

### ***Halasan:***



This pose is great for those who sit for long hours and tend to have bad posture. It stimulates the thyroid glands, parathyroid glands, lungs and abdominal organs, therefore helping the blood rush to your head and face, improves digestion and keeps the hormonal levels in check.

### ***Ardha Matsyendrasana-***



***Ardha Matsyendrasana:*** This *asana* is specifically designed to increase the capacity of your lungs so it can inhale and hold more oxygen. It also helps in liver function, which is important in management of Diabetes

**Dhanurasan-**

It improves functioning of of pancreas and intestine and is there by beneficial for Diabetes. The pancreas is fully energized by regular practice of *Dhaurasana*. It improves digestion and relieves constipation and flatulence. It regulates pulse.

**Vajrasan-**

**Vajrasana:** This is a simple pose that is great to relax the mind, improve digestion and massages the *kanda*. According to Ayurvedic principles, *kanda* is a spot about 12 inches above the anus that is the point of convergence for over 72,000 nerves

**CONCLUSION**

Vyayam (physical activity) and *Pranayam* & so *Asana*, when practiced regularly under medical guidance increases insulin

sensitivity, which helps in glycemc control.

**REFERENCES-**

1. Pandit Kashinath Shastri –edition Charak Samhita- Chaukhamba prakashan seventh edition (2002) Part II chapter no-6 page no 197
2. RSSDI editor in chief B.B.Tripathy,HB Chandalia,A.K.Das,P.V.Rao,S.V.Mohan,T ext book of Diabetes Mellitus second edition vol-2 page no 581
3. Vaidya Yadavji Trikamji Acharya-edition-Sushrut Samhita-Chaukhamba prakashan eight edition 2005 chapter 11 page no-453.
4. Dr.V.Seshiah-A Handbook of Diabetes Mellitus edited by Prof V.seshiah& Prof.V.Balaji-All India publishers & distributors,sixth edition chaptrr 5page no 80
5. www.wikipedia.com.