

# DIETARY MANAGEMENT OF DIABETES MELLITUS



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## Diabetes

Diabetes a chronic degenerative disease that affect the way body was food in normalization body convert sugar starches and other substances into glucose which is carried by the blood to Every cell in the body the glucose is used with the help of insulin to produce insulin every and H<sub>2</sub>O every action on the body. Unable to produce are unable to use it.

Diabetes are unable to produce insulin, makes too are unable to use it.

It can only be in control only by the patient with the help of nutritional assisted by physician.

If not control number of complications occur, these include:

Loss of sensation peripheral nerves, resulting in injury and infection.

Eye disorder leading to blindness

thickening of arteries

kidney dysfunction

Control of diabetes rest on three factors diet, exercise, insulin.

## **Symptoms**

Patient complains problem of excessive thirst (**polydipsia**), increase amount and frequency of urine and feels very hungry patient will lose weight, while older patient may be overweight.

The presence of sugar in urine is above the normal blood sugar level are clinical symptoms

A fasting blood sugar level of 120mg/dl are higher two different days indicate that person suffers from Diabetes.

## **Types**

There are three types of diabetes mellitus.

### **Type 1**

#### **Insulin dependent Diabetes mellitus**

About 10 to 20% cases of diabetes are type 1.

There is no insulin and insufficient insulin to regulate because Beta cells are destroyed or are very few. The reason for the destruction of Beta cells can be viral infection, genetic aberration and stress

It may occur at any Age but large number of patient are young. Mostly Type 1 Diabetes according to the age of 20 years.

### **Type 2**

#### **Non-insulin dependent Diabetes mellitus**

About 80% - 90% of known cases are of type 2, in this insulin receptor response is decreased while insulin production may be normal, increased or decreased.

Sudden shock, trauma and tragic events in the family, heredity and excess bodyweight are factors. Most patients are obese; most cases occur during mid-thirties or mid-forties.

If the diet is suitably modified and the exercises is done, these persons do not need insulin expect stressful days.

### **Type 3**

#### **Other types of diabetes mellitus**

It occurs in association with certain conditions. These include Chronic pancreatic or as corollary to take some medication such as glucocorticoid and anti-hypertensive, etc. In this type of Plasma Glucose level are higher than normal, and lower than to the indicative of diabetes.

### **Gestational diabetes**

It occurs in some pregnant women that modification as in type 2 diabetes. Helps to correct to glucose intolerance during pregnancy.

The blood glucose returns normal after delivery; but many of these women develop diabetes later years.

## **Controls**

### **Control of Type 1 Diabetes**

In chemical control the blood glucose is kept normal and urine sugar free by taking proper diet and insulin it is believed that it will prevent or postpone further complications

### **Insulin**

Insulin is a protein it has to be injected to ensure its been used as a regulator in the body it taken orally it would be digested like any food for dinner protein and would not be able to regulate the use of blood glucose the amount is depends of patient's requirement it can be reduced by exercise while and infection or other stress may result in increased need

### **Exercise**

Exercise is an important part of treatment it should be selected to fit in with person's capacity and requirements it helps to maintain that hurt function control of blood lipid and reduce adverse changes to the person with IDDM needs to reduce their insulin dosage before and during exercise or take cups containers facts to prevent hypoglycemia due to exercise

## Control of type 2 diabetes

Decide diet control inflation and hypoglycemic Agents may have to metabolize excess glucose.

### Oral hypoglycemic agent (OHA)

When NIDDM is not controlled with diet and exercise oral agents are sometimes used these agents required to presence of endogenous insulin receptors side does improving glucose use

### **illness**

illness should be reported to the health care provided in 7th a should be continued if these are being human food should be taken usually with change to stop a liquid diet as needed a sufficient amount of fluid should be taken

### **Monitoring control**

Check blood glucose to keep day-to-day control.

Check hemoglobin to check long term index of control

check urine glucose main value of this step is to detect

hypoglycemia is the degree of hypoglycemia some substances given false negative result these are Mega doses of ascorbic acid salicylates and levodopa.

# Complications

## **Acute complications**

Hypoglycemia: blood glucose levels than 50 mg/dl.

When a diabetic takes an overdose of insulin or a and does not eat at schedule time there is deprives supply of glucose which result in fall of blood glucose level when Glucose level falls down 50mg/dl hypoglycemia occurs when diabetic has diarrhea or vomit as they struggled in decreased blood sugar level

hypoglycemia accompanied by a feeling of weakness dizziness and fainting

if the person is conscious should decide Sugar Hard Candy fruit juice sugar containing syrup or carbonated beverages which give quick relief of the person is unconscious intravenous glucose should be injected immediately.

Acidosis and coma: type 1 diabetic are in danger of suffering from acidosis.

It is caused by a severe lack of insulin and stress liver oxidizes fatty acid to make energy need in the diabetic state liver oxidizes fatty acid and produces acetone acid to Acetate and beta hydroxybutyrate this tend to spill over into the urine causing ketonuria

Prevention is very essential and involves ensuring that carbohydrate is distributed in Daily meal to fit in which type of insulin its dosage and type of injection

Thus by treating early symptoms from early, can be prevented.

## Long term complications

Poorly controlled diabetes increases risk of long-term diabetic complications

- Neuropathy

These changes in the nerves in malnutrition injury and disease in the peripheral nervous system especially in the legs and feet it results in sensory loss and causes numbness in feet inadequate blood supply leaves the foot susceptible to injury and infection

- Retinopathy

The changes in the eye include thickening of capillaries can eventually cause blindness.

retinopathy is a blurry vision is due to the increased glucose concentration in eye fluid which bring changes in light refracting surface of the eye.

- Atherosclerosis

Another complication is the development of fibrous plaque on inside of the lining of major blood vessels, which we can gradually, wearing the interior part of the blood vessels and restrict blood flow.

- Nephropathy

The thickening of capillaries in kidney leads to nephropathy later to renal failure, which is the leading cause of death among IDDM patient.

## Diet plan

**6:30 AM:** Methi seeds – 2 tsp (soaked)  
Water – 1 glass

**8:30 AM:** Millet VegetableCheela/Dosa2  
Green chutney – 1 tsp

**11:00 AM:** Buttermilk – 1 glass, Apple 1

**1:30 PM:**Mixed Vegetable Salad – 1 cup  
Multigrain chapati – 2

**OR**

Chapati – 1 & Brown rice – ½ katori  
Methi Dal – 1 katori  
Bhindi sabji – 1 katori

**4:30 PM:** Lemon green tea without sugar/honey – 1 cup  
Roasted Chana – 0.25 cup

**7:30 PM:** Sprouts salad – 1 katori

**8:30 PM:** Mixed vegetable Daliya – 1 cup  
Mint curd chutney – 2 tsp

**OR**

Chapati – 1  
Palak sabji – 2 katori

**10:00 PM:** Milk without Sugar – 1/2 cup