



**a. *Definition of diabetes mellitus***

is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood glucose.

**b. *Types of diabetes mellitus***

**i. *Type 1 diabetes mellitus***

is characterized by deficient insulin production and requires daily administration of insulin.

✓ **Diagnostic criteria of type 1 diabetes Mellitus**

- *Random blood glucose greater or equal to 11.1mmol/L (200mg/dl) plus symptoms*
- *Fasting Blood glucose greater than 7.0 mmol/L (126mg/L)*

**ii. *Type 2 diabetes mellitus***

- Type 2 diabetes affects how your body uses sugar (glucose) for energy. It stops the body from using insulin properly, which can lead to high levels of blood sugar if not treated.
- Over time, type 2 diabetes can cause serious damage to the body, especially nerves and blood vessels.
- Type 2 diabetes is often preventable. Factors that contribute to developing type 2 diabetes include being overweight, not getting enough exercise, and genetics.
- *Early diagnosis is important to prevent the worst effects of type 2 diabetes. The best way to detect diabetes early is to get regular check-ups and blood tests with a healthcare provider.*
- Symptoms of type 2 diabetes can be mild. They may take several years to be noticed. As a result, the disease may be diagnosed several years after onset, after complications have already arisen.

✓ **Diagnostic criteria of type 2 diabetes Mellitus**

- *Random blood glucose greater or equal to 11.1mmol/L (200mg/dl) plus symptoms*
- *Fasting Blood glucose greater than 7.0 mmol/L (126mg/L)*



### iii. *Gestational Diabetes (GDM)*

is the type of diabetes which is diagnosed during the second or third trimester of pregnancy but was not present prior to pregnancy.

Women with gestational diabetes are at an increased risk of complications during pregnancy and at delivery. These women and possibly their children are also at increased risk of type 2 diabetes in the future.

#### ✓ *Diagnosis of gestational diabetes (WHO criteria 2013)*

- *Fasting plasma glucose 5.1–6.9 mmol/L*

### c. *Risk factors for developing Diabetes*

Early diagnosis and good control reduce the risk of costly complications of Diabetes mellitus. therefore, the following are the risk factors for developing Diabetes Mellitus especially the type 2 one.

- Those aged  $\geq 40$  years
- Children and adults  $<40$  years who are overweight or obese and who have two or more additional risk factors for diabetes
- Physical inactivity
- Smoking
- High blood pressure
- Women with a history of diabetes mellitus in previous pregnancies.
- All pregnant women at the first antenatal visit if:
  - ✓ overweight,
  - ✓ have had diabetes in previous pregnancy(ies),
  - ✓ babies with birth weight  $>4$  kg,
  - ✓ previous stillbirths or neonatal deaths.
- Screening should be repeated in the second trimester if negative.

### d. *Symptoms of Diabetes Mellitus*

Symptoms of diabetes may occur suddenly (especially in DM type I). In type 2 diabetes, the symptoms can be mild and may take many years to be noticed.

#### **Symptoms of diabetes include:**

- feeling very thirsty hence drinking fluids frequently
- needing to urinate more often than usual
- blurred vision
- feeling tired
- losing weight unintentionally



- Many people with diabetes develop problems with their feet from nerve damage and poor blood flow. *This can cause foot ulcers and may lead to amputation.*
- Over time, diabetes can damage blood vessels in the heart, eyes, kidneys and nerves.

#### e. Prevention of Diabetes mellitus

*The following are the ways to prevent development of diabetes mellitus*

- **Dietary control**

- Each meal should consist of a variety of foods from the core food groups (vegetables, fruits, whole grains, meat and proteins, dairy products).
- Distribute foods evenly throughout the day with small/light meals in between the three main meals rather than 1 or 2 heavy meals.
- Limit salt to less than 1 teaspoonful/day.
- To those who are already diabetics give more of carbohydrate as complex starches e.g. whole grain cereals, whole grain bread, roots and stem tubers, because they breakdown more slowly to release glucose and avoid simple sugars, sugar-sweetened beverages and honey.

- **Body mass index**

Therapeutic goal is 5–10% weight loss for people who are overweight or obese, but aim for  $BMI < 25 \text{ kg/m}^2$

- **Waist circumference**

<102 cm for men, <88 cm for women

- **Physical activity**

At least 30 minutes of moderate physical activity on most days of the week (total  $\geq 150$  minutes/week)

- **Cigarette consumption** 0 per day
- **Alcohol consumption**

Stop at all or not more than 2 standard unit drinks (20 g) per day for men and 1 unit for women

- **Blood pressure**

Target  $\leq 140/90 \text{ mmHg}$