

Diabetes mellitus: Essential knowledge for effective management and prevention of metabolic disease

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Description

Diabetes mellitus, a chronic metabolic condition characterised by consistently high blood sugar levels, is caused by deficiencies in insulin secretion, production, or both. This illness affects millions of people worldwide and presents serious social, health, and economic difficulties.

■ Types of diabetes

Diabetes can be classified into below types.

Type 1 diabetes: Children and young people are usually diagnosed with this kind of diabetes. It is an autoimmune condition where the body's immune system attacks and destroys beta cells in the pancreas that produce insulin. For their survival, people with Type 1 diabetes need to take insulin for the rest of their lives.

Type 2 diabetes: Type 2, the most prevalent kind of diabetes, mainly affects adults, but because obesity rates are rising, more and more younger people are receiving diagnoses for the condition. Insulin resistance and relative insulin insufficiency are its defining characteristics. Lifestyle choices like eating poorly and not exercising greatly contribute to its growth.

Gestational diabetes: Pregnancy causes this kind, which normally goes away after delivery. On the other hand, Type 2 diabetes is more likely to strike women who have gestational diabetes in the future.

Other specific types: These include diabetes resulting from genetic defects, diseases of the pancreas, or drug- or chemical-induced diabetes.

In a healthy individual, the pancreas secretes insulin in response to elevated blood glucose levels, facilitating the uptake of glucose by cells for energy production. In diabetes mellitus, this process is disrupted. Type 1 diabetes involves an absolute deficiency of insulin, while Type 2 diabetes involves a combination of insulin resistance and an inadequate compensatory insulin secretory response.

■ Risk factors

Several factors increase the risk of developing diabetes mellitus.

Genetic predisposition: A family history of diabetes increases the likelihood of developing the condition.

Obesity: Excess body fat, particularly central adiposity, is a major risk factor.

Sedentary lifestyle: Physical inactivity contributes to the development of insulin resistance.

Diet: Poor dietary habits, including high intake of processed and sugary foods, increase the risk.

Age: Age increases the risk, especially for Type 2 diabetes.

Ethnicity: Certain ethnic groups, such as African Americans, Hispanics, and Native Americans, have a higher prevalence of diabetes.

■ Symptoms

Common symptoms of diabetes mellitus include are given below:

- Polyuria (frequent urination)

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- Polydipsia (excessive thirst)
- Polyphagia (increased hunger)
- Unexplained weight loss
- Fatigue
- Blurred vision
- Slow-healing sores or frequent infections

■ Complications

Diabetes can cause serious problems if it is not adequately treated.

Cardiovascular disease: Enhanced risk of stroke and heart disease.

Neuropathy: Nerve damage that can cause tingling, discomfort, or loss of feeling.

Nephropathy: Kidney damage that can lead to renal failure.

Retinopathy: Damage to the retinal blood vessels, which can result in blindness.

Foot damage: Poor circulation and neuropathy can lead to serious foot problems, including infections and amputations.

■ Management

Effective management of diabetes involves a combination of lifestyle modifications, monitoring, and medication.

Lifestyle modifications: A healthy diet, regular physical activity, and weight management are important.

Monitoring: Regular blood glucose monitoring helps in managing and adjusting treatment plans.

Medications: Depending on the type and severity of diabetes, treatment may include insulin, oral hypoglycemic agents, or other medications.

■ Prevention

Preventing diabetes, particularly Type 2, involves addressing modifiable risk factors.

Healthy eating: Emphasizing a balanced diet rich in fruits, vegetables, whole grains, and lean proteins.

Physical activity: Engaging in regular physical exercise.

Weight management: Maintaining a healthy weight through diet and exercise.

Regular screening: Regular screening for high-risk individuals can enable early detection and timely intervention.

Diabetes Mellitus is a complex and challenging condition that requires a multifaceted approach to management and prevention. With rising prevalence globally, it is imperative to enhance public awareness, promote healthy lifestyles, and improve healthcare systems to address this growing epidemic. Early diagnosis, effective management, and preventive strategies are key to reducing the burden of diabetes and improving the quality of life for those affected.