Diabetes

Overview

Diabetes 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. Hyperglycaemia, also called raised blood glucose or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels.

In 2022, 14% of adults aged 18 years and older were living with diabetes, an increase from 7% in 1990. More than half (59%) of adults aged 30 years and over living with diabetes were not taking medication for their diabetes in 2022. Diabetes treatment coverage was lowest in low- and middle-income countries.

In 2021, diabetes was the direct cause of 1.6 million deaths and 47% of all deaths due to diabetes occurred before the age of 70 years. Another 530 000 kidney disease deaths were caused by diabetes, and high blood glucose causes around 11% of cardiovascular deaths *(1)*.

Since 2000, mortality rates from diabetes have been increasing. By contrast, the probability of dying from any one of the four main noncommunicable diseases (cardiovascular diseases, cancer, chronic respiratory diseases or diabetes) between the ages of 30 and 70 decreased by 20% globally between 2000 and 2019.

Symptoms

Symptoms of diabetes may occur suddenly. In type 2 diabetes, the symptoms can be mild and may take many years to be noticed.

Symptoms of diabetes include:

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

Over time, diabetes can damage blood vessels in the heart, eyes, kidneys and nerves.

People with diabetes have a higher risk of health problems including heart attack, stroke and kidney failure.

Diabetes can cause permanent vision loss by damaging blood vessels in the eyes.

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.

Prediabetes

There are no clear symptoms of prediabetes so you may have it and not know it. But before people develop type 2 diabetes, they almost always have prediabetes—where blood glucose levels are higher than normal but not yet high enough to be diagnosed as diabetes. It is possible that you may have some of the symptoms of diabetes or even some of the complications. If you think you may have diabetes or prediabetes, check with your doctor and get tested.

If you discover that you do have prediabetes, remember that it doesn't mean you'll develop type 2, particularly if you follow a treatment plan and make changes to your lifestyle through food choices and physical activity. Even small changes can have a huge impact on delaying or preventing diabetes all together. Work with your health care team to make a plan that works for your lifestyle, or look for a Centers for Disease Control and Prevention (CDC)-recognized lifestyle change program, guided by a lifestyle coach trained to use a CDC-approved curriculum, where you will meet other people who are working to prevent diabetes.

Type 1 diabetes

Type 1 diabetes (previously known as insulin-dependent, juvenile or childhood-onset) is characterized by deficient insulin production and requires daily administration of insulin. In 2017 there were 9 million people with type 1 diabetes; the majority of them live in high-income countries. Neither its cause nor the means to prevent it are known.

Type 2 diabetes

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. Symptoms may be similar to those of type 1 diabetes but are often less marked. As a result, the disease may be diagnosed several years after onset, after complications have already arisen.

More than 95% of people with diabetes have type 2 diabetes. Type 2 diabetes was formerly called non-insulin dependent, or adult onset. Until recently, this type of diabetes was seen only in adults but it is now also occurring increasingly frequently in children.

Gestational diabetes

Gestational diabetes is hyperglycaemia with blood glucose values above normal but below those diagnostic of diabetes. Gestational diabetes occurs during 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.

Gestational diabetes is diagnosed through prenatal screening, rather than through reported symptoms.

Impaired glucose tolerance and impaired fasting glycaemia

Impaired glucose tolerance (IGT) and impaired fasting glycaemia (IFG) are intermediate conditions in the transition between normality and diabetes. People with IGT or IFG are at high risk of progressing to type 2 diabetes, although this is not inevitable.

Prevention

Lifestyle changes are the best way to prevent or delay the onset of type 2 diabetes.

To help prevent type 2 diabetes and its complications, people should:

- reach and keep a health body weight
- stay physically active with at least 150 minutes of moderate exercise each week
- eat a healthy diet and avoid sugar and saturated fat
- not smoke tobacco.

Diagnosis and treatment

Early diagnosis can be accomplished through relatively inexpensive testing of blood glucose. People with type 1 diabetes need insulin injections for survival.

One of the most important ways to treat diabetes is to keep a healthy lifestyle.

Some people with type 2 diabetes will need to take medicines to help manage their blood sugar levels. These can include insulin injections or other medicines. Some examples include:

- metformin
- sulfonylureas
- sodium-glucose co-transporters type 2 (SGLT-2) inhibitors.

Along with medicines to lower blood sugar, people with diabetes often need medications to lower their blood pressure and statins to reduce the risk of complications.

Additional medical care may be needed to treat the effects of diabetes:

- foot care to treat ulcers
- screening and treatment for kidney disease
- eye exams to screen for retinopathy (which causes blindness).

WHO response

WHO aims to stimulate and support the adoption of effective measures for the surveillance, prevention and control of diabetes and its complications, particularly in low- and middle-income countries. To this end, WHO:

- provides scientific guidelines for the prevention of major noncommunicable diseases including diabetes;
- develops norms and standards for diabetes diagnosis and care;
- builds awareness on the global epidemic of diabetes, marking World Diabetes Day (14 November); and
- conducts surveillance of diabetes and its risk factors.

In April 2021 WHO launched the Global Diabetes Compact, a global initiative aiming for sustained improvements in diabetes prevention and care, with a particular focus on supporting low- and middle-income countries.

In May 2021, the World Health Assembly agreed a Resolution on strengthening prevention and control of diabetes. In May 2022 the World Health Assembly endorsed five global diabetes coverage targets to be achieved by 2030.

To learn more about the Global Diabetes Compact, to access diabetes-related technical publications to get involved in upcoming initiatives, visit the Global Diabetes Compact webpage.

References

1. Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2021. Results. Institute for Health Metrics and Evaluation. 2024 (https://vizhub.healthdata.org/gbd-results/).