

# DIABETES: THE FACTS

## Key facts

- More than 220 million people worldwide have diabetes
- In 2005, an estimated 1.1 million people died from diabetes
- Almost 80% of diabetes deaths occur in low- and middle-income countries
- Almost half of diabetes deaths occur in people under the age of 70 years; 55% of diabetes deaths are in women
- WHO projects that diabetes deaths will double between 2005 and 2030
- Healthy diet, regular physical activity, maintaining a normal body weight and avoiding tobacco use can prevent or delay the onset of diabetes

## What is diabetes?

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 sugar. Hyperglycaemia, 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.

- **Type 1 diabetes** (previously known as insulin-dependent, juvenile or childhood-onset) is characterised by deficient insulin production and requires daily administration of insulin.
  - Symptoms include excessive excretion of urine (polyuria), thirst (polydipsia), constant hunger, weight loss, vision changes and fatigue. These symptoms may occur suddenly.
- **Type 2 diabetes** (formerly called non-insulin-dependent or adult-onset) results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world, and is largely the result of excess body weight and physical inactivity.
  - 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, once complications have already arisen.
  - Until recently, this type of diabetes was seen only in adults but it is now also occurring in children.
- **Gestational diabetes** is hyperglycaemia with onset or first recognition during pregnancy.
  - Symptoms of gestational diabetes are similar to Type 2 diabetes. Gestational diabetes is most often diagnosed through prenatal screening, rather than reported symptoms.

**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.**

## What are common consequences of diabetes?

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

- Diabetes increases the risk of heart disease and stroke. 50% of people with diabetes die of cardiovascular disease (primarily heart disease and stroke)
- Combined with reduced blood flow, neuropathy in the feet increases the chance of foot ulcers and eventual limb amputation

- Diabetic retinopathy is a major cause of blindness, and occurs as a result of long-term accumulated damage to the small blood vessels in the retina. After 15 years of diabetes, approximately 2% of people become blind, and about 10% develop severe visual impairment
- Diabetes is among the leading causes of kidney failure. 10-20% of people with diabetes die of kidney failure
- Diabetic neuropathy is damage to the nerves as a result of diabetes, and affects up to 50% of people with diabetes. Although many different problems can occur as a result of diabetic neuropathy, common symptoms are tingling, pain, numbness or weakness in the feet and hands
- The overall risk of dying among people with diabetes is at least double the risk of their peers without diabetes

### **What is the economic impact of diabetes?**

Diabetes and its complications have a significant economic impact on individuals, families, health systems and countries. For example, WHO estimates that in the period 2006-2015, China will lose \$558 billion in foregone national income due to heart disease, stroke and diabetes alone.

### **How can the burden of diabetes be reduced?**

#### **Prevention**

Simple lifestyle measures have been shown to be effective in preventing or delaying the onset of Type 2 diabetes. To help prevent Type 2 diabetes and its complications, people should:

- Achieve and maintain healthy body weight
- Be physically active – at least 30 minutes of regular, moderate-intensity activity on most days. More activity is required for weight control
- Eat a healthy diet of between three and five servings of fruit and vegetables a day and reduce sugar and saturated fats intake
- Avoid tobacco use – smoking increases the risk of cardiovascular diseases

#### **Diagnosis and treatment**

Early diagnosis can be made through relatively inexpensive blood testing.

Treatment of diabetes involves lowering blood glucose and the levels of other known risk factors that damage blood vessels. Stopping smoking is also important to avoid complications.

#### **Interventions that are both cost saving and feasible in developing countries include:**

- Moderate blood glucose control. People with Type 1 diabetes require insulin; people with Type 2 diabetes can be treated with oral medication, but may also require insulin
- Blood pressure control
- Foot care

#### **Other cost saving interventions include:**

- Screening for retinopathy (which causes blindness)
- Blood lipid control (to regulate cholesterol levels)
- Screening for early signs of diabetes-related kidney disease

These measures should be supported by a healthy diet, regular physical activity, maintaining a normal body weight and avoiding tobacco use.

### **WHO activities to prevent and control diabetes**

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 diabetes prevention
- Develops norms and standards for diabetes care
- Builds awareness on the global epidemic of diabetes; including partnership with the International Diabetes Federation in the celebration of World Diabetes Day (14 November)
- Conducts surveillance of diabetes and its risk factors

The WHO Global Strategy on Diet, Physical Activity and Health complements WHO's diabetes work by focusing on population-wide approaches to promote healthy diet and regular physical activity, thereby reducing the growing global problem of obesity.

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