

The diabetes epidemic in the industrialised world

Diabetes is a disease in which the body is unable to regulate the amount of glucose in the blood. Glucose regulation is normally carried out by the hormone insulin, which is produced by the pancreas. Insulin allows glucose to move from the blood into liver, muscle, and fat cells, where it is used for energy. In people with diabetes the body either cannot produce enough insulin or is unable to use the available insulin.

Diabetes due to the inability to produce insulin is referred to as type 1 diabetes and was previously known as juvenile-onset or insulin-dependent diabetes because it usually starts early in life and patients require daily insulin therapy to survive.

The inability to use available insulin is the most common form of diabetes and is referred to as type 2 diabetes. The cells become increasingly resistant to insulin and the body tries to overcome this resistance by producing more and more insulin. Ultimately the pancreas can no longer compensate for insulin resistance and stops producing insulin.¹ As a result, many patients with type 2 diabetes will eventually require insulin therapy (i.e., insulin injections).

How common is diabetes?


Currently, nearly 250 million people worldwide are estimated to have diabetes,² a prevalence that is expected to increase to 380 million by 2025.² Over 90% of all diabetic patients have type 2 diabetes, and this form of the disease is responsible for the current diabetes epidemic.²

In Europe, the prevalence of diabetes has been estimated at approximately 8.4 % and is projected to increase to 9.1% by 2025.³ Among the five largest countries in Europe, the International Diabetes Federation has estimated the prevalence of diabetes to be 4 in the UK, 8.4 % in France, 8.7 % in Italy, 7.5 % in Spain and 11.8 % in Germany.⁴ These prevalences are projected to continue increasing.

Diabetes appears in similar proportions of the population in the Eastern Mediterranean and Middle East (7.0%) and North America (7.9%). In comparison, the average prevalence is 2.4% in Africa, 3.1% in the Western Pacific and 5.6% in South-East Asia and South and Central America.⁴

Who is at risk of developing diabetes?

Susceptibility to type 2 diabetes is influenced by age, genetics and lifestyle. The prevalence rises steadily with age, from less than 10% in people under 60 years, to 20% in people over 60 years.³ Genetic factors predispose some individuals; for example, people with a first-degree relative with diabetes are more likely to develop the disease, and people of African, Caribbean or Asian origin are more likely to develop type 2 diabetes.



However, the most important risk factor for developing diabetes is the combination of a sedentary lifestyle and a high-fat diet, a combination of factors that is becoming increasingly common in people of all ages.

Why is the prevalence of diabetes increasing?

Fifty years ago, the number of people with diabetes was only around 55 million worldwide, which is a quarter of the current level.⁵ Although the ageing population has contributed to the ongoing diabetes epidemic, the dramatic increase in the number of people who are overweight (with a body mass index [BMI] of 25–30 kg/m²) or clinically obese (BMI > 30 kg/m²) is a key contributor.

Obesity leads to insulin resistance, which in turn leads to progression of type 2 diabetes. The risk of developing type 2 diabetes increases as more weight is gained, with a 10-fold increase in people with a BMI of more than 30.⁶ In particular, fat that is concentrated in the upper body (abdominal obesity) renders the person more susceptible to diabetes than if it is concentrated below the waist. Abdominal obesity not only predicts the development of type 2 diabetes, but is also a risk factor for developing cardiovascular disease.⁶

Data from the World Health Organization indicate that obesity rates in the UK are among the highest in the world.⁷ Currently, around two in five men (42–44%) and one third of women (31–35%) in the UK are overweight and one in four adults are obese.⁸ In the major European countries, the prevalence of obesity is approximately 10–15% in men and 15–20% in women aged between 25 and 55 years.⁹ In addition, as countries throughout the world adopt a Western diet and lifestyle, it is likely that obesity and type 2 diabetes epidemic will continue to increase.

Why are people with diabetes a health concern?

Diabetes is a chronic and progressively worsening condition; long-term complications include damage to small and large blood vessels, resulting in blindness, kidney disease, cardiovascular, cerebrovascular and peripheral vascular disease and limb amputations.


People with diabetes are highly likely to have a range of associated metabolic disorders (termed the metabolic syndrome), which include raised cholesterol levels, high blood pressure and central obesity. As a result they are at increased risk of cardiovascular disease and premature death.³ In particular, coronary artery disease is the most common cause of death among European adults with diabetes.³

How is diabetes treated?

Patients with type 1 diabetes require daily treatment with insulin. For those with type 2 diabetes, there are a number of different oral medications available to reduce blood glucose levels. Patients with diabetes often have high blood pressure and abnormal cholesterol levels, which worsen diabetes and increase their risk of developing cardiovascular disease. As a result, many diabetic patients are also treated with medications to help normalise blood pressure and cholesterol levels. In addition, moderate weight loss of 5–10% and increased physical activity can prevent or delay the development of type 2 diabetes.¹⁰

References

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