

Diabetes at a glance

The Saudi Burden of Disease 2010 study showed that high fasting plasma glucose was the third-ranked risk factor for disability-adjusted life years (DALYs) in the Kingdom of Saudi Arabia (KSA) in 2010. High blood pressure accounted for 10.0% and 7.9% of DALYs for males and females, respectively. Diabetes is strongly associated with higher risks of chronic diseases including atherosclerosis and coronary artery disease.

Common symptoms of diabetes: visit a healthcare provider if you are concerned that you have diabetes:

- Frequent urination
- Extreme hunger or thirst
- Weight loss
- Problems with vision
- Tingling or numbness of the extremities.
- Unexplained fatigue
- Dry skin
- Cuts or sores that heal slowly
- High number of infections

Diabetic individuals have elevated glucose levels in their blood. When food is consumed, much of it is converted by the body into glucose, or sugar, which the body in turn uses to fuel our everyday activities and functions. Insulin is a hormone produced in the pancreas that supports the transport of glucose into the cells of the body. Diabetic individuals have a decreased capacity to produce insulin, which causes glucose to accumulate in the blood. Diabetes can cause serious health complications including blindness, kidney failure, and lower-extremity amputations.

Complications of diabetes include:

Cardiovascular disease	Diabetic individuals are at increased risk for coronary artery disease, atherosclerosis, angina, heart attacks, and strokes.
Nerve damage	High blood sugar can damage the capillaries that supply nerves, often in the legs and feet, causing a loss of sensation.
Kidney damage	The body's kidneys are responsible for filtering waste from the blood. Diabetes can inhibit this process and possibly lead to kidney failure.
Eye damage	Diabetes can impact the blood vessels that supply the retina, possibly leading to blindness.
Alzheimer's disease	Evidence suggests that Type 2 diabetes causes increased risk for Alzheimer's disease.
Cancer	Evidence suggests that Type 2 diabetes causes increased risk for some cancers.

Source: Centers for Disease Control, "Complications," found at <http://www.mayoclinic.com/health/diabetes/DS01121>, accessed on December 15, 2013

Risk factors for diabetes include:

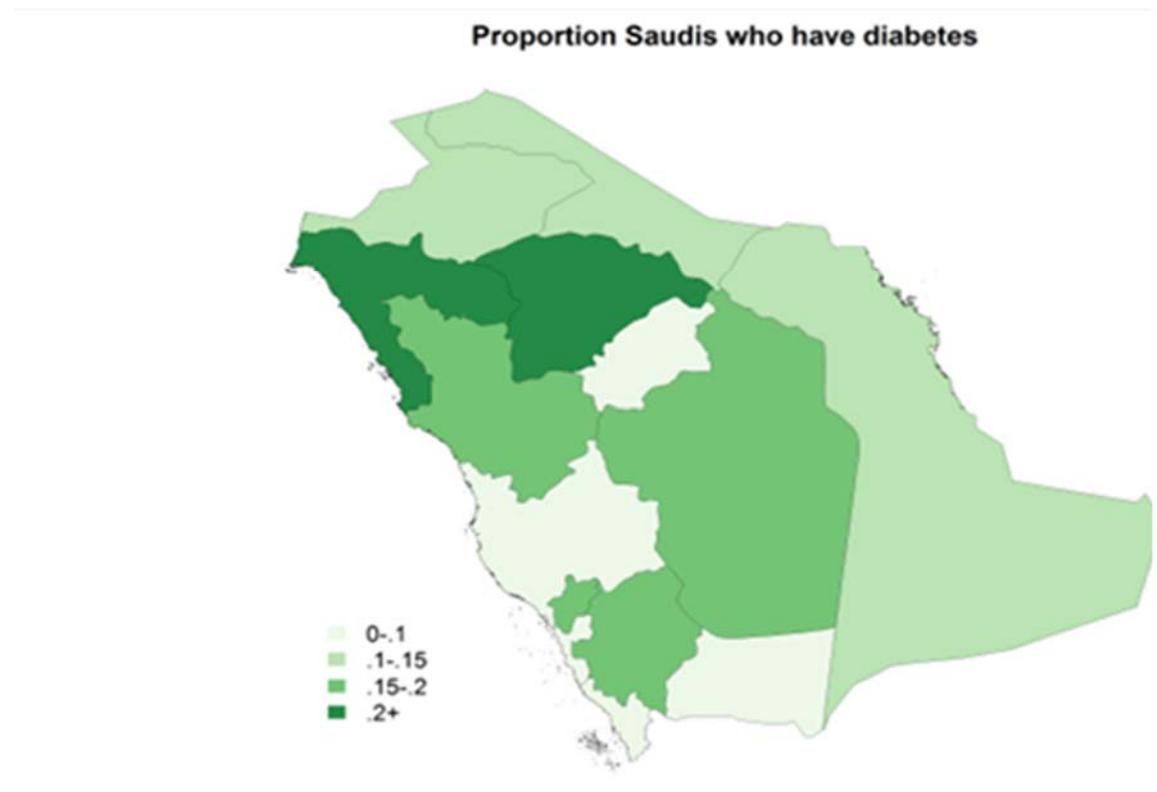
Overweight or obese	Being overweight or obese substantially increases the risk of developing diabetes, by inhibiting the body's ability to produce insulin and raising blood pressure. If you are obese, even slight weight loss can help lower your chance of being diagnosed with diabetes.
Having a diabetic relative	There is a genetic component to diabetes, making it more likely that an individual with a close family member who is diabetic will develop diabetes him or herself.
High blood pressure	A blood pressure of 140/90 or worse substantially increases the risk of developing diabetes.
Non-normal cholesterol	Having an HDL of 35 or lower or triglyceride level of 250 or higher.
Physical inactivity	It is recommended that you exercise at least three times a week to lower your risk of developing diabetes.
History of gestational diabetes	Having previously developed gestational diabetes or given birth to a child of over 9 pounds increases one's risk of developing diabetes.

Source: Centers for Disease Control, "Prevent Diabetes," found at <http://www.cdc.gov/diabetes/consumer/prevent.htm>, accessed on December 15, 2013

Recent data from the Saudi Health Interview Survey (SHIS) show high rates of diabetes in the Kingdom. An individual is considered diabetic if their blood HbA1c level was 6.5% or more, or if they have been diagnosed and are currently treated for diabetes but their blood HbA1c level was less than 6.5%. This large household survey showed that the total prevalence of diabetes was 14.8% for males and 11.7% for females in 2013. The prevalence of diabetes increased with age and ranged from 4.7% among those aged 15-24 to 50.4% among those aged 65 and older. The prevalence of diabetes varied by region, with the highest prevalence occurring in Ha'il and the lowest prevalence occurring in Jazan.

The prevalence of pre-diabetics was very high in Saudi. Borderline diabetes was present in 17% of males and 15.5% of females. Moreover, 40.2% of men and 48.4% of women had diabetes and were not aware of it.

The results from the SHIS indicate that diabetes is associated with obesity and hypertension. Diabetes prevalence was 19.9% among those who were obese compared to 10.7% among those who were not obese. Diabetes prevalence was 33.4% among those who were hypertensive compared to 9.6% among those who were not hypertensive.



The Saudi Arabian Ministry of Health utilizes a public health approach to address the burden of diabetes in the Kingdom. MOH provides free diagnoses and treatment for those with diabetes. The MOH has developed and implemented programs to improve diet and increase physical activity in order to prevent and control diabetes and other chronic diseases. The scope of the Ministry's activities includes leadership, policy and guidelines development, surveillance, epidemiological and behavioral research, intervention development, technical assistance to regions and communities, training and education, communication, and partnership development.

What is pre-diabetes?

- Pre-diabetes is a condition of elevated blood glucose level that has not yet reached a diabetic level.
- Along with insulin resistance, pre-diabetes causes no symptoms. An individual may be pre-diabetic for years without knowing it.
- Pre-diabetes increases your risk of developing Type 2 diabetes and heart disease.
- Weight loss and exercise may halt the onset of diabetes from pre-diabetes by returning blood glucose levels to a normal range.

Source: Centers for Disease Control, "Prevent Diabetes," found at <http://www.cdc.gov/diabetes/consumer/prevent.htm>, accessed on December 15, 2013

Tips for controlling your diabetes:

Eat smart

- Control your portion sizes.
- Limit fat intake, especially saturated and trans fats (including candy, cakes, fatty meat cuts, fried or processed foods, whole milk or cream, and butter)
- Limit consumption of sugary foods such as soda, artificially flavored juices, sweetened tea and coffee.
- Limit consumption of salt, commonly found in canned and packaged soups, pickles, and processed meats.
- Get plenty of whole-grain foods.
- Eat plenty of fruits and vegetables, and 100% juices.

Exercise regularly

- Regular exercise helps to control weight, blood glucose, cholesterol, blood pressure, as well as keeping the heart and nerves healthy (a key concern for diabetics).
- It is recommended that people with diabetes engage in moderate-intensity exercise for at least 30 minutes a day and at least 5 days a week.
- Do some physical activity every day, rather than a lot one day and none the next.
- Discuss your exercise plan and unique health needs with a health care provider. If you have problems with your eyes, feet, or blood pressure, he or she may recommend that you limit your physical activity to certain specific types.

Take responsibility for your health

- Monitor your blood glucose levels
- Take the medications and/or insulin prescription recommended by your health care provider.
- Touch base regularly with your endocrinologist, ophthalmologist, and podiatrist, as well as your primary care physician.

Source: Centers for Disease Control, "Be Active," found at <http://www.cdc.gov/diabetes/consumer/prevent.htm>, accessed on December 15, 2013
Centers for Disease Control, "Eat Right," found at <http://www.cdc.gov/diabetes/consumer/prevent.htm>, accessed on December 15, 2013