

[Prevalence of DM in Al-Rawthah PHC visitor in Hafr- Al Batin governate - Eastern province – KSA]

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Introduction

Diabetes mellitus refers to a group of diseases that affect how the body uses blood sugar (glucose). Glucose is an important source of energy for the cells that make up the muscles and tissues. It's also the brain's main source of fuel.

The main cause of diabetes varies by type. But no matter what type of diabetes you have, it can lead to excess sugar in the blood. Too much sugar in the blood can lead to serious health problems.

Chronic diabetes conditions include type 1 diabetes and type 2 diabetes. Potentially reversible diabetes conditions include prediabetes and gestational diabetes. Prediabetes happens when blood sugar levels are higher than normal. But the blood sugar levels aren't high enough to be called diabetes. And prediabetes can lead to diabetes unless steps are taken to prevent it. Gestational diabetes happens during pregnancy. But it may go away after the baby is born.

Type 1 diabetes can start at any age. But it often starts during childhood or teen years. Type 2 diabetes, the more common type, can develop at any age. Type 2 diabetes is more common in people older than 40. It is essential to understand the epidemiology of diabetes in order to identify public health priorities, to generate policy initiatives and evaluate the effect of services in reducing the individual and social burden of diabetes. Although prevalence estimates by countries and regions are provided by the International Diabetes Federation, there are substantial variations in time trends as these estimates are based on imputation. Considering the major socio-economic changes that have occurred in this country during the past few decades, and their marked impact on the lifestyles, eating habits and physical activities of the people of this region, along with the aging of the population, this is an important omission (1)

In Saudi Arabia, DM is quickly reaching disturbing proportions and becoming a significant cause of medical complications and even death. However, when compared with the developed countries, the research work conducted, focusing particularly on prevalence and socio-demographic properties of DM is woefully inadequate. The health burden due to DM in Saudi Arabia is predicted to rise to catastrophic levels, unless a wide-ranging epidemic control program is incorporated, with great emphasis laid on advocating a healthy diet, including exercise and active lifestyles, and weight control. To properly manage the DM in Saudi Arabia, a multidisciplinary approach is required.

Symptoms

Diabetes symptoms depend on how high your blood sugar is. Some people, especially if they have prediabetes or type 2 diabetes, may not have symptoms. In type 1 diabetes, symptoms tend to come on quickly and be more severe.

Some of the symptoms of type 1 diabetes and type 2 diabetes are:

Feeling more thirsty than usual.

Urinating often.

Losing weight without trying.

Presence of ketones in the urine. Ketones are a byproduct of the breakdown of muscle and fat that happens when there's not enough available insulin.

Feeling tired and weak.

Feeling irritable or having other mood changes.

Having blurry vision.

Having slow-healing sores.

Getting a lot of infections, such as gum, skin and vaginal infections.

Risk factors

Risk factors for diabetes depend on the type of diabetes. Family history may play a part in all types. Environmental factors and geography can add to the risk of type 1 diabetes.

Sometimes family members of people with type 1 diabetes are tested for the presence of diabetes immune system cells (autoantibodies). If you have these autoantibodies, you have an increased risk of developing type 1 diabetes. But not everyone who has these autoantibodies develops diabetes.

Race or ethnicity also may raise your risk of developing type 2 diabetes. Although it's unclear why, certain people — including Black, Hispanic, American Indian and Asian American people — are at higher risk.

Diagnosis

Prediabetes, type 2 diabetes and gestational diabetes are more common in people who are overweight or obese.

type 1 diabetes symptoms often start suddenly and are often the reason for checking blood sugar levels. Because symptoms of other types of diabetes and prediabetes come on more gradually or may not be easy to see, the American Diabetes Association (ADA) has developed screening guidelines. The ADA recommends that the following people be screened for diabetes:

Anyone with a body mass index higher than 25 (23 for Asian Americans), regardless of age, who has additional risk factors. These factors include high blood pressure, non-typical cholesterol levels, an inactive lifestyle, a history of polycystic ovary syndrome or heart disease, and having a close relative with diabetes.

Anyone older than age 35 is advised to get an initial blood sugar screening. If the results are normal, they should be screened every three years after that.

Women who have had gestational diabetes are advised to be screened for diabetes every three years.

Anyone who has been diagnosed with prediabetes is advised to be tested every year.

Anyone who has HIV is advised to be tested.

Tests for type 1 and type 2 diabetes and prediabetes

The A1C test is a common blood test used to diagnose type 1 and type 2 diabetes. If you're living with diabetes, the test is also used to monitor how well you're managing blood sugar levels. The A1C test is also called the glycated hemoglobin, glycosylated hemoglobin, hemoglobin A1C or HbA1c test.

An A1C test result reflects your average blood sugar level for the past two to three months. Specifically, the A1C test measures what percentage of hemoglobin proteins in your blood are coated with sugar (glycated). Hemoglobin proteins in red blood cells transport oxygen.

The higher your A1C level is, the poorer your blood sugar control and the higher your risk of diabetes complications.

Diagnose prediabetes. If you have prediabetes, you have a higher risk of developing diabetes and cardiovascular disease.

Diagnose type 1 and type 2 diabetes. To confirm a diabetes diagnosis, your doctor will likely look at the results of two blood tests given on different days — either two A1C tests or the A1C test plus another test, such as a fasting or random blood sugar test.

Monitor your diabetes treatment plan. The result of an initial A1C test also helps establish your baseline A1C level. The test is then repeated regularly to monitor your diabetes treatment plan.

Glycated hemoglobin (A1C) test. This blood test, which doesn't require not eating for a period of time (fasting), shows your average blood sugar level for the past 2 to 3 months. It measures the percentage of blood sugar attached to hemoglobin, the oxygen-carrying protein in red blood cells.

The higher your blood sugar levels, the more hemoglobin you'll have with sugar attached. An A1C level of 6.5% or higher on two separate tests means that you have diabetes. An A1C between 5.7% and 6.4% means that you have prediabetes. Below 5.7% is considered normal.

Random blood sugar test. A blood sample will be taken at a random time. No matter when you last ate, a blood sugar level of 200 milligrams per deciliter (mg/dL) — 11.1 millimoles per liter (mmol/L) — or higher suggests diabetes.

Fasting blood sugar test. A blood sample will be taken after you haven't eaten anything the night before (fast). A fasting blood sugar level less than 100 mg/dL (5.6 mmol/L) is normal. A fasting blood sugar level from 100 to 125 mg/dL (5.6 to 6.9 mmol/L) is considered prediabetes. If it's 126 mg/dL (7 mmol/L) or higher on two separate tests, you have diabetes.

Oral glucose tolerance test. For this test, you fast overnight. Then, the fasting blood sugar level is measured. Then you drink a sugary liquid, and blood sugar levels are tested regularly for the next two hours.

A blood sugar level less than 140 mg/dL (7.8 mmol/L) is normal. A reading of more than 200 mg/dL (11.1 mmol/L) after two hours means you have diabetes. A reading between 140 and 199 mg/dL (7.8 mmol/L and 11.0 mmol/L) means you have prediabetes.

Complications

Long-term complications of diabetes develop gradually. The longer you have diabetes — and the less controlled your blood sugar — the higher the risk of complications. Eventually, diabetes complications may be disabling or even life-threatening. In fact, prediabetes can lead to type 2 diabetes. Possible complications include:

Heart and blood vessel (cardiovascular) disease. Diabetes majorly increases the risk of many heart problems. These can include coronary artery disease with chest pain (angina), heart attack, stroke and narrowing of arteries (atherosclerosis). If you have diabetes, you're more likely to have heart disease or stroke.

Nerve damage (neuropathy). Too much sugar can injure the walls of the tiny blood vessels (capillaries) that nourish the nerves, especially in the legs. This can cause tingling, numbness, burning or pain that usually begins at the tips of the toes or fingers and gradually spreads upward.

Damage to the nerves related to digestion can cause problems with nausea, vomiting, diarrhea or constipation. For men, it may lead to erectile dysfunction.

Kidney damage (nephropathy). The kidneys hold millions of tiny blood vessel clusters (glomeruli) that filter waste from the blood. Diabetes can damage this delicate filtering system.

Eye damage (retinopathy). Diabetes can damage the blood vessels of the eye (diabetic retinopathy). This could lead to blindness.

Foot damage. Nerve damage in the feet or poor blood flow to the feet increases the risk of many foot complications.

Skin and mouth conditions. Diabetes may leave you more prone to skin problems, including bacterial and fungal infections.

Hearing impairment. Hearing problems are more common in people with diabetes.

Alzheimer's disease. Type 2 diabetes may increase the risk of dementia, such as Alzheimer's disease.

Depression. Depression symptoms are common in people with type 1 and type 2 diabetes.

Prevention

Type 1 diabetes can't be prevented. But the healthy lifestyle choices that help treat prediabetes, type 2 diabetes and gestational diabetes can also help prevent them:

Eat healthy foods. Choose foods lower in fat and calories and higher in fiber. Focus on fruits, vegetables and whole grains. Eat a variety to keep from feeling bored.

Get more physical activity. Try to get about 30 minutes of moderate aerobic activity on most days of the week. Or aim to get at least 150 minutes of moderate aerobic activity a week. For example, take a brisk daily walk. If you can't fit in a long workout, break it up into smaller sessions throughout the day.

Lose excess pounds. If you're overweight, losing even 7% of your body weight can lower the risk of diabetes. For example, if you weigh 200 pounds (90.7 kilograms), losing 14 pounds (6.4 kilograms) can lower the risk of diabetes.

But don't try to lose weight during pregnancy. Talk to your provider about how much weight is healthy for you to gain during pregnancy.

To keep your weight in a healthy range, work on long-term changes to your eating and exercise habits. Remember the benefits of losing weight, such as a healthier heart, more energy and higher self-esteem. Sometimes drugs are an option. Oral diabetes drugs such as metformin (Glumetza, Fortamet, others) may lower the risk of type 2 diabetes. But healthy lifestyle choices are important. If you have prediabetes, have your blood sugar checked at least once a year to make sure you haven't developed type 2 diabetes.

Objective

To study the prevalence of DM in Al-Rawthah PHC visitor in Hafr- Al Batin governate - Eastern province – KSA and correlate results with the socioeconomic and demographic data for those individuals

Methodology

The previous studies conducted for prevalence of DM in Saudi Arabia were Four studies nationwide (2)(3)(4)(5) one study was conducted in Dhahran (Eastern region) (6) one recruited across the entire Eastern province (7) , and one each were conducted in Riyadh (Central region) (8) , Jeddah (Western region) (9) and Al-Madina (Western region) (10) . The research settings of three studies were tertiary hospitals ; two were set in primary health centres , three in households and one was conducted in a range of settings including governmental public hospitals and primary health centres .The reported prevalence and incidence rates of diabetes varied widely across different geographical areas .

On this study we are planning to do simple random sampling for patients visiting Alrawthah PHC during the interval 14 of December 2022 for 5 days

Results

The proportion of DM was 9 % among the Saudi Arabia population (≥ 14 years) and was higher in male (10 %) than female (9 %). The prevalence of DM among the age group ≥ 60 years was the highest (48.5%), followed by the age group 45–64 years (37.69%) while the lowest prevalence was found among the younger group < 40 years (14.2%)

the increasing pattern of diabetes noted in Saudi Arabia in the recent past. In fact, diabetes has approximately registered an increase in the past years in Saudi Arabia

.Children aged 5 to 10 and 11 to 14years had higher prevalence of T1DM than children aged 0 to 4 years prevalence was higher among females than male .

.Other differences noted included the mean age of diagnosis of the disease, reported as 52 years for females and 58 years for males

the prevalence of T2DM was higher in individuals who were widowed (38%),

Discussion

We should take care about increasing incidence of DM in Saudi Arabia due to change in life style and decrease activity since we are facing high cost of diabetic complication
Female should be encouraged to do more healthy activities and exercise

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