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and is intended to be used as a companion to the
IT ALL ADDS UP:
DIABETES PREVENTION & MANAGEMENT
video series produced by the
Angelina County & Cities Health District (ACCHD).

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MODULE I: AN INTRODUCTION TO DIABETES

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MODULE I: AN INTRODUCTION TO DIABETES

SECTION I

DIABETES AND PREDIABETES DEFINED

Objectives

1. To define and explain the types of diabetes and what causes them.
2. To define prediabetes and explain the importance of getting it diagnosed and reversed to prevent the onset of type II diabetes.

At the end of this section, you should be able to:

1. Say what diabetes is
2. Tell the differences between Type 1 and Type 2 diabetes
3. Say what gestational diabetes is
4. Say what causes each type of diabetes
5. Say what prediabetes is and how it can be reversed (prevented from developing into diabetes)

I. What is diabetes?

Diabetes is a chronic (long term) health condition in which the sugar from the food we eat remains in the blood because the hormone (insulin) that is responsible for its removal from the blood is either absent (as in type 1 diabetes) or unable to function (Type 2)[1] (CDC, 2023).

II. Types of Diabetes

There are three types of diabetes. Type 1, type 2, and gestational diabetes[1].

Type 1

In type 1 diabetes the body stops making insulin, requiring treatment with insulin for the survival of the patient[2] (Wu et al, 2021).

What causes type 1 diabetes?

It is believed that type 1 diabetes is caused by an autoimmune reaction in which the body attacks and destroys insulin-producing cells. About 5-10 % of people that have diabetes have type 1 diabetes[1] (CDC, 2023).

Type 2

In type 2 diabetes the body is not able to keep blood sugar within normal range because it does not use insulin well[3] (Galicia-García et al, 2020).

What causes type 2 diabetes[3]?

Type 2 diabetes is caused by:

1. The pancreas not producing enough insulin[2]
2. Inability of the body to respond to insulin appropriately[2]

Gestational diabetes

Gestational diabetes is diabetes that develops and is diagnosed during pregnancy. It usually goes away after the baby is born[1] (CDC, 2023).

What causes Gestational Diabetes?

Changes that occur in the body during pregnancy, such as an increase in hormone production and weight gain, result in a decrease in its ability to respond to insulin, causing gestational diabetes[4] (CDC, 2019).

Prediabetes[5,12]

A person is prediabetic when their blood glucose levels (measured with the A1c test) are higher than normal but are lower than the range for a diagnosis of type 2 diabetes[5] (Lawa et al, 2020). Prediabetes may be the result of insulin resistance or a pancreas that is not making enough insulin. Either way, extra glucose stays in the blood and does not enter your cells like it is supposed to[12]. Without intervention, prediabetes can progress to diabetes[5]. Interventions such as adopting a healthy diet, getting exercise on a consistent basis, taking prescribed medications, and surgery (bariatric surgery) where necessary can reverse prediabetes[5] (Lawa et al, 2020).

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MODULE I: AN INTRODUCTION TO DIABETES

SECTION II

DIABETES — RISK FACTORS AND MISCONCEPTIONS

Objectives

1. To increase awareness of the risk factors for diabetes
2. To highlight some of the misconceptions people have about diabetes that make it difficult for them to manage the disease.

At the end of this section, you should be able to:

1. Say what increases your risk (risk factors) of getting type 2 diabetes
2. Say what some of the common myths about diabetes are
3. Differentiate between facts and common myths about diabetes

I. Risk Factors for diabetes

What factors increase your risk for Type 2 diabetes.

Risk factors for type 2 diabetes include[6,7] (Wu et al, 2014), (CDC, 2022a):

1. Having a first-degree relative (a parent, sibling – brother or sister) that has diabetes
2. Sedentary lifestyle (inactive – exercise less than three times per week)
3. Overweight
4. Obesity
5. Diets (high in sugar, refined carbohydrates, saturated fats)
6. High alcohol intake
7. Frequent consumption of processed meat
8. Age (45 years or older)
9. Had gestational diabetes
10. Race/ethnicity (African American, Hispanic or Latino, American Indian, or Alaska Native person, some Pacific Islanders and Asian American)
11. Having a diagnosis of non-alcoholic fatty liver disease.
12. Having a diagnosis of prediabetes

II. Misconceptions about Diabetes[8,9] (Things people believe about diabetes that are not true.)

1. You will always know if your blood glucose is high because you will feel ill.
2. Being treated with insulin will cause kidney damage resulting in the need for dialysis.
3. To improve blood glucose levels, you cannot eat anything sweet as only sweets affect your blood glucose.
4. If you are taking insulin, you can overeat and drink as much as you want.
5. Regarding foot care – people who have diabetes should soak feet in warm water to improve circulation.
6. You can only eat certain foods if you have diabetes.
7. If you have diabetes, you cannot eat fruit.
8. People get diabetes because they eat too much sweet food.
9. People with diabetes cannot eat sweet foods
10. People who have diabetes cannot drink alcohol
11. Type 1 diabetes is only diagnosed in children and young people (under 25)
12. Type 2 diabetes is only diagnosed in older people (45 and older)

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SECTION III

DIABETES - SYMPTOMS AND DIAGNOSIS

Objectives

1. To raise awareness about the symptoms of diabetes
2. To provide information on what should be done if you are experiencing symptoms of diabetes
3. To increase familiarity with the names of the tests used to diagnose diabetes

At the end of this section, you should be able to:

1. Identify symptoms of diabetes
2. Say what to do if you are having symptoms of diabetes.
3. Say the names of some of the tests that are used in diagnosing diabetes

I. Signs & Symptoms of diabetes[10]

1. Frequent urination (peeing a lot) a lot, often at night.
2. Frequent thirst
3. Unexplained weight loss
4. Frequent hunger
5. Blurry vision
6. Numbness or tingling in your hands and feet.
7. Feeling tired frequently
8. Very dry skin
9. Sores that heal slowly
10. Getting more infections than usual

II. Symptoms of type 1 diabetes[10]

If you have type 1 diabetes you may also experience nausea, vomiting, or stomach pain. You can be diagnosed with type 1 diabetes at any age. The onset can be quick (in a few weeks) and severe or it can take a longer time (months)[10].

III. Symptoms of type 2 diabetes[10]

Many people have diabetes and are not aware that they do. The symptoms of type 2 diabetes often take several years to develop and not everyone experiences symptoms. Since some people do not experience symptoms, it is important to be aware of your risk factors. Get a glucometer and check your fasting blood glucose (when you wake up in the morning) as well as two hours after you eat. If it is consistently higher than 100 mg/dl after 8 hours of fasting or higher than 140mg/dl, 2 hours after a meal you should go and get tested for diabetes. An annual visit to a primary care provider for a wellness check (including lab work – CBC, CMP, and A1C) may help find out if you have diabetes, allowing you to begin treatment sooner[10]. Note – insurance may not pay for A1C tests for people who are not diagnosed with diabetes, so you may have to pay for it.

IV. How do I know if I have diabetes? Tests and Diagnosis[11]

If you have symptoms of diabetes a doctor or health care provider can do blood tests to diagnose it. If you have risk factors for diabetes you may need to get tested. The sooner you get diagnosed with diabetes the earlier the treatments can begin, reducing your chance of developing complications[11].

While checking your blood glucose on your own and checking your A1C using kits from your local pharmacy can be helpful (to alert you to go and see your doctor), they should not be used for self-diagnosis. Diagnosis can only be done by health care provider using one or more of the diagnostic tests in the list below[11].

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Tests that are used to diagnose diabetes

- Fasting plasma glucose test
- A1C
- Random plasma glucose
- Glucose challenge test
- Oral glucose tolerance test[11]

To learn more about each test click on the following link:

https://www.niddk.nih.gov/health-information/diabetes/overview/tests-diagnosis
https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes/prediabetes-insulin-resistance

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