

Diabetes Melitus Overview

What is diabetes?

Diabetes melitus is a condition where there is an abnormal increase in the levels of sugar (glucose) in the blood.

Diabetes is a condition in which the body does not produce enough insulin, or the insulin produced by the body is not effective.

Predisposing factors

Diabetes can affect anyone, but certain groups of people are more prone to get it.

- Familial/genetic tendency
- Obese/overweight people
- Some ethnic groups have been shown to be more affected e.g. Latinos, African American
- It is more common in people older than 45 years old
- Women who have had gestational diabetes
 - Occurs when a pregnant woman develops diabetes for the first time while she is pregnant, and it is resolved after the pregnancy.
- People who live sedentary lifestyles

Types of diabetes

The two most common are type 1 and type 2 diabetes. Type 1 diabetes is formerly called insulin dependent diabetes. This type is caused due to a lack of insulin in the body, because the pancreas doesn't produce insulin. Type 2 diabetes, which is more common than type 1, is formerly known as non-insulin dependent diabetes. In this type the body does provide insulin, but the body's cells become less responsive to the insulin efforts to drive glucose into the cells.

Processes

During digestion, food is broken down into its basic components. Carbohydrates are broken down into simple sugars/glucose. Glucose is very important source of energy for the body's cells. The glucose needs to leave the bloodstream and get inside the cells to provide energy for the body.

The pancreas produces insulin to help the glucose get into the cells. In a person that doesn't have diabetes, the pancreas produces more insulin after a meal and the insulin signals the cell to take in the glucose. In diabetes, either the pancreas ability to produce insulin or the cell's response to insulin is affected.

Signs and symptoms of diabetes

- Fatigue
- Frequent urination
- Increased thirst and hunger
- Weight loss
- Blurred vision
- Slow healing of wounds or sores
- Frequent infections

It is possible to have diabetes and not know because symptoms are not always present.

Caring for the diabetic

Diabetic conditions/Emergencies and how to respond:

Hypoglycemia or low blood sugar signs can include: profuse sweating, increased heart rate, nervousness, chills or tremors, anger, disorientation, decreased level of concentration and restlessness. These signs can proceed rapidly to unconsciousness, seizures, coma or even death. The person should drink something sweet such as orange juice, apple juice, sweetened coffee etc.

Hyperglycemia or high blood sugar signs can include: increased urine, increased thirst, dehydration, vision changes, fatigue, drowsiness, deep gasping breathy, nausea, fruity smelling breath and unconsciousness. Fruity smelling breath, deep gasping breathing and unconsciousness are emergency symptoms that can quickly lead to death. Call 911 for emergency medical care immediately.

Most diabetics need their blood checked at least once per day. Some diabetics may need their blood sugar test several times per day depending on certain factors such as age, and type of diabetes. If the person is on insulin, the dosages may be adjusted based on the level of the sugar. The doctor must set the acceptable range for the person.

Complications of diabetes

Long term diabetes can have other complications including:

- Atherosclerosis which is the buildup of fat in the walls of the arteries. This can lead to heart disease and stroke.
- Retinopathy which is damaged blood vessels in the retina. This can lead to loss of vision or blindness.
- Neuropathy which is nerve damage. The nerves to the legs are damaged first and causes pain and numbness in the feet. Damage to the nerves that control digestion, sexual function and urination can also occur.
- Kidney failure

Managing diabetes

Exercise

Regular exercise improves circulation and lowers blood sugar. Exercise also strengthens the heart and help maintain an ideal body weight.

Diet

Diet is very important in managing diabetes. Some type 2 diabetes can be controlled with diet and exercise alone. The right diet can help control blood sugar levels, maintain an ideal body weight and prevent complications of diabetes.

Basic elements of good nutrition

Nutrients:

- Proteins (for growth of muscle and body tissue):
 - Sources: meat, fish, eggs, milk, peas, beans and nuts.
- Carbohydrates (for energy):
 - Sources: bread, grains, cereals, potatoes, peas and beans.
- Fats (for warmth, vitamin storage and energy):
 - Sources: dairy, products, meat, oils and egg yolks
- Vitamins (for healthy functioning of body systems):
 - Sources: fruits, vegetables, meat and dairy products.
- Minerals (for growth strength, healthy blood, bones and body system function):
 - Sources: fruit, vegetables, meat, fish dairy products and grains

Using a variety of different foods within these food groups ensure balance and healthy nutrition.

Name:

Date:

Questions

1. What's a serving?
2. What is diabetes?
3. Name 2 symptoms of diabetes.
4. What is hyperglycemia?
5. What is hypoglycemia?
6. Name 2 symptoms of hyperglycemia.
7. Name 2 symptoms of hypoglycemia.
8. What are some complications of long-term diabetes?
9. What is damage to the nerves called?
10. Name one way that can help manage diabetes.
11. Name 2 of the food groups and give examples of each.