



## Type 2 Diabetes

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## Short Communication

Type 2 diabetes is a non-communicable disease (NCD) and metabolic disorder. WebMD (2020) stated that type 2 diabetes is a lifelong disease that prevents insulin from doing its job. Type 2 diabetes also causes an abundance of sugar (glucose) to stream down in the blood (Animated Diabetes Patient, 2014 and MAYO CLINIC, 2021). According to Animated Diabetes Patient (2014), the digestive system will break down food into micronutrients through the digestive tract to be used by the body. Carbohydrates and sugars were broken down into glucose (Animated Diabetes Patient, 2014). Animated Diabetes Patient (2014) and MAYO CLINIC (2021) added glucose provides the energy source for many organs in the body. Animated Diabetes Patient (2014) and MAYO CLINIC (2021) mentioned glucose must go through the cells before being consumed by other bodily organs.

Hence, Animated Diabetes Patient (2014) and MAYO CLINIC (2021) explained that the pancreas assists in the absorption of glucose to enter the body cells. The pancreas then produces insulin, a chemical messenger for glucose to enter the body cells (Animated Diabetes Patient, 2014 and MAYO CLINIC, 2021). Then, Animated Diabetes Patient (2014) mentioned insulin also triggers cells to remove glucose from the blood to enter the cells. Hence, one of the causes of type 2 diabetes is insulin resistance since it ignores the message for glucose to enter the cells (Animated Diabetes Patient, 2014, CDC, 2021, MAYO CLINIC, 2021, and WebMD, 2020). Besides that, Animated Diabetes Patient (2014) and MAYO CLINIC (2021) uncovered the second cause of type 2 diabetes as insufficient insulin production by the pancreas. Animated Diabetes Patient (2014) and MAYO CLINIC (2021) stated the pancreas doesn't produce enough insulin. If the blood sugar drops, it will cause the pancreas to produce insufficient insulin (MAYO CLINIC, 2021). MAYO CLINIC (2021) reported the causes were unidentified and unknown.

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MAYO CLINIC (2021) found being overweight and inactive are the true causes of type 2 diabetes. WebMD (2020) studied a combination of things that causes type 2 diabetes, such as genes, putting on weight, metabolic syndrome, too much glucose from the liver, interruption between cells, and damaged beta cells.

Animated Diabetes Patient (2014), MAYO CLINIC (2021), and WebMD (2020) also mentioned having frequent urination may cause a high frequency of thirst and an increased amount of liquid consumed by the body. Animated Diabetes Patient (2014) and WebMD (2020) notified other symptoms of type 2 diabetes, such as weakness, drowsiness, and blurred vision caused by the highly-accumulated glucose levels. MAYO CLINIC (2021) and WebMD (2020) added increased hunger, unintended weight loss, slow healing sores, frequent infections, numbness or tingling in the hands or feet, and darkened skin in the armpits and neck into the list of symptoms of having type 2 diabetes. The darkened skin areas around the armpits and neck, known as the acanthosis nigricans, show that the body is insulin resistant (WebMD, 2020). WebMD (2020) found mood swings and yeast infections are a few symptoms of type 2 diabetes.

CDC (2021) found most of the patients are symptomless. Animated Diabetes Patient (2014) reported that 1 in 4 people is unaware they have type 2 diabetes. Around 8 million people are unaware of developing type 2 diabetes (WebMD, 2020) [1-4].

CDC (2021) and WebMD (2020) suggested a simple blood test to detect the presence of type 2 diabetes. WebMD (2020) stated the test is conducted in two days to confirm. If the glucose level is heightened or has many symptoms, one test is all that it needs (WebMD, 2020). A1c test measures an average blood glucose level over the past two or three months (WebMD, 2020). WebMD (2020) proposed fasting plasma glucose, the fasting blood sugar test that measures blood sugar on an empty stomach. The patient

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should not eat or drink for eight hours before the test except for drinking water (WebMD, 2020). WebMD (2020) also mentioned an oral glucose tolerance test (OGTT) before and two hours after drinking something sweet to see how the body handles sugar.

The risk factors for type 2 diabetes are overweight, sedentary lifestyle or lack of exercise, family history, and ethnic origins (Animated Diabetes Patient, 2014 and WebMD, 2020). MAYO CLINIC (2021) and WebMD (2020) added fat distribution, blood lipid levels, age, pre-diabetes, pregnancy-related risk, polycystic ovary syndrome, and darkened skin in the armpits and neck. These factors may increase the risk of developing type 2 diabetes (Animated Diabetes Patient, 2014). Animated Diabetes Patient (2014) referred to factors increasing the risk for developing type 2 diabetes, such as corticosteroids, thiazide diuretics, and medications to treat mental illnesses and human immunodeficiency virus (HIV). Other potential risk factors for type 2 diabetes are heart and blood vessel disease, high blood pressure (being treated or under control), having a baby weighing more than 9 pounds, depression, smoking, stress, and sleeping too little or too much.

WebMD (2020) accumulated 29 million people in the US were diagnosed with type 2 diabetes while another 84 million have pre-diabetes (the blood sugar level is high but not high enough to be proposed as diabetes). Center for Disease Control and Prevention (CDC) (2021) reported more than 37 million Americans are diagnosed with diabetes. CDC (2021) estimated approximately 90-95% of them had developed type 2 diabetes.

CDC (2021) and WebMD (2020) added type 2 diabetes is most often prevalent in the age group of 45 and above. WebMD (2020) supported that middle-aged or older people are most likely to develop adult-onset diabetes. However, more and more young children tend to have the disease (CDC, 2021, MAYO CLINIC, 2021, WebMD, 2020). WebMD (2020) found childhood obesity has to do with it. CDC (2021) accumulated more than 75% of children with type 2 diabetes have a close relative who has it. CDC (2021) found it was not because of family history but their lifestyle changes.

Based on Animated Diabetes Patient (2014), it is crucial to have early detection and diagnosis of type 2 diabetes. Over time high blood glucose damages the blood vessels and can damage the vital organs leading to other irreversible health complications (Animated Diabetes Patient, 2014, MAYO CLINIC, 2021, and WebMD, 2020). Further, damage to microvessels can lead to vision problems, such as loss of sight, nerve damage, and kidney disease (Animated Diabetes Patient, 2014, CDC, 2021 and MAYO CLINIC, 2021). Animated Diabetes Patient (2014) and MAYO CLINIC (2021) also mentioned deterioration of macro vessels leads to cardiovascular complications, such as heart disease, stroke, and poor blood circulation. Other health complications after developing type 2 diabetes are nerve damage

(neuropathy) in limbs, skin conditions, slow healing wounds, hearing impairment, sleep apnea, and dementia (MAYO CLINIC, 2021 and WebMD, 2020). WebMD (2020) listed other health deterioration, such as pregnancy and depression.

CDC (2021), MAYO CLINIC (2021), and WebMD (2020) enlisted some ways to manage diabetes with healthy eating and being physically active. At the same time, the doctor may prescribe insulin or oral diabetes medicines (CDC, 2021 and MAYO CLINIC, 2021). CDC (2021) recommended consistently following up with the doctor when measuring blood pressure and cholesterol. WebMD (2020) suggested checking blood glucose levels may also determine how frequently to do it.

According to WebMD (2020), some generic medications help to regulate and maintain the blood sugar level. Thus, metformin, sulfonylureas, meglitinides, thiazolidinediones, DPP-4 inhibitors, GLP-1 receptor agonists, SGLT2 inhibitors, GIP, and GLP-1 receptor agonists, and insulin.

Hence, CDC (2021) stated family support helps guide children to prevent and reverse type 2 diabetes. For instance, drink more water and fewer sugary drinks, add more portions of fruits and vegetables, make healthier options for their favorite foods, and increase time for physical activities. WebMD (2020) suggested stopping smoking and weight gaining afterward. There are also diabetes educators who are there to support and guide (CDC, 2021).

## References

1. Animated Diabetes Patient. Understanding Type 2 Diabetes. 2014.
2. Centers for Disease Control and Prevention (CDC). 2021.
3. Mayo Clinic. 2021.
4. WebMD. 2020.