

CAUSES AND PREVENTION OF THE INCREASE OF DIABETES AMONG YOUNG PEOPLE

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ANNOTATSIYA

Maqolada qandli diabetning yoshlar orasida ortib borish sabablari, kasallikning rivojlanishiga ta'sir etuvchi biologik, ijtimoiy va psixologik omillar hamda uning oldini olish bo'yicha zamonaviy profilaktik yondashuvlar tahlil qilinib, noto'g'ri ovqatlanish, jismoniy faollikning kamayishi, stress omillari, genetik moyillik, shuningdek, texnologiyalar ta'sirida o'zgarayotgan turmush tarzi diabet xavfini oshirayotgan asosiy sabablar sifatida ko'rsatib o'tiladi.

Kalit so'zlar: Qandli diabet, qand kasalligi, insulin, qon tomirlari, simptomlar, Parhez, Kompensatsion qandli diabet, Subkompensatsion qandli diabet, Dekompensatsion qandli diabet, Yurak-qon tomir kasalliklari

АННОТАЦИЯ

В статье анализируются причины роста заболеваемости сахарным диабетом среди молодежи, биологические, социальные и психологические факторы, влияющие на развитие заболевания, а также современные профилактические подходы к его предупреждению. Отмечается, что неправильное питание, снижение физической активности, стрессовые факторы, генетическая предрасположенность, а также изменения образа жизни под влиянием технологий являются основными причинами увеличения риска диабета.

Ключевые слова: Сахарный диабет, заболевание сахара, инсулин, кровеносные сосуды, симптомы, диета, компенсированный сахарный диабет, субкомпенсированный сахарный диабет, декомпенсированный сахарный диабет, сердечно-сосудистые заболевания

ANNOTATION

The article analyzes the reasons for the increasing prevalence of diabetes among young people, the biological, social, and psychological factors influencing the development of the disease, as well as modern preventive approaches to reducing this risk. It is highlighted that poor nutrition, decreased physical activity, stress factors, genetic predisposition, and lifestyle changes influenced by technology are the main contributors to the rising risk of diabetes.

Keywords: Diabetes mellitus, sugar disease, insulin, blood vessels, symptoms, diet, compensated diabetes mellitus, subcompensated diabetes mellitus, decompensated diabetes mellitus, cardiovascular diseases

Introduction

In recent years, the widespread increase of diabetes, especially among young people, has become an urgent medical and social issue on a global scale. According to the World Health Organization, factors such as obesity, physical inactivity, increased stress, and unhealthy eating habits among adolescents and young adults create conditions for the early development of diabetes. As technology becomes more deeply integrated into daily life and routine activities, the physical activity of the younger generation decreases, leading to a more sedentary lifestyle. This negatively affects metabolic processes in the body, causing insulin resistance and impaired glucose absorption. Today, diabetes remains one of the most pressing issues in clinical medicine. This is due to the wide prevalence of the disease, the severe complications it can cause, and most importantly, the lack of complete understanding of its causes and development mechanisms.

According to modern medical views, diabetes is a collection of diseases that do not have a single cause but share one common feature. This common feature is the body's reduced ability to absorb glucose.

The complexity of the disease lies in the fact that it develops as a result of various hereditary factors, lifestyle habits, environmental conditions, and many other influences. In other words, external factors and genetic predisposition together can give rise to different forms of diabetes that have varying characteristics but similar symptoms.

Discussion

Diabetes, also known as sugar disease, is a condition that occurs as a result of insulin deficiency in the body and impaired metabolism. This disease has been known since ancient times in the history of Eastern traditional medicine. Abu Ali Ibn Sina paid special attention to this illness. He wrote: "Water comes out exactly as it was drunk." Excessive thirst and frequent urination caused by the disease lead to other health problems, and the patient becomes extremely thin.¹

In 2022, 14 percent of adults aged 18 and older were living with diabetes, up from 7 percent in 1990. More than half (59 percent) of adults aged 30 and older living with diabetes in 2022 did not take diabetes medications. Treatment coverage for diabetes was lowest in low- and middle-income countries.

In 2021, diabetes was the direct cause of 1.6 million deaths, and 47 percent of diabetes-related deaths occurred before the age of 70. An additional 530,000 deaths

¹ https://uz.wikipedia.org/wiki/Qandli_diabet

from kidney disease were caused by diabetes, and high blood glucose accounted for about 11 percent of cardiovascular disease cases.

Since 2000, the mortality rate from diabetes has been increasing. In contrast, the probability of dying from any of the four major non-communicable diseases (cardiovascular diseases, cancer, chronic respiratory diseases, or diabetes) among people aged 30 to 70 decreased globally by 20 percent between 2000 and 2019.²

The symptoms of diabetes can sometimes appear very quickly and unexpectedly. In particular, in type 2 diabetes, the symptoms may be very mild, and a person may not notice them for years.

The main symptoms of diabetes include:

- persistent, intense thirst;
- urinating more frequently than usual;
- blurred vision;
- frequent fatigue;
- unexplained weight loss.

If diabetes is not controlled in time, the disease can gradually damage the heart, eyes, kidneys, and nervous system. Therefore, people living with diabetes are more prone to severe conditions such as heart attack, stroke, and kidney failure. Damage to the delicate blood vessels in the eyes can also lead to complete loss of vision.

Another dangerous aspect of diabetes is its effect on the feet. Due to nerve damage and poor blood circulation, wounds may develop on the feet that take a long time to heal. In severe cases, amputation may even be necessary.

Early detection and control of diabetes are very important in preventing such serious complications.

Type 1 Diabetes

Type 1 diabetes (formerly called insulin-dependent, juvenile, or childhood-onset diabetes) is characterized by insulin deficiency and requires daily insulin administration. In 2017, 9 million people had type 1 diabetes; most of them lived in high-income countries. Its causes and preventive measures are not known.

Type 2 Diabetes

Type 2 diabetes affects how your body uses sugar (glucose) for energy. It prevents the body from using insulin properly, which, if untreated, can lead to high blood sugar levels.

Over time, type 2 diabetes can cause serious damage to the body, especially to nerves and blood vessels.

² https://www.who.int/news-room/fact-sheets/detail/diabetes?utm_source=chatgpt.com

Type 2 diabetes is often preventable. Factors that contribute to the development of type 2 diabetes include being overweight, insufficient physical activity, and genetics.

Early diagnosis is important to prevent the worst outcomes of type 2 diabetes. The best way to detect diabetes early is through regular medical check-ups and blood tests.

The symptoms of type 2 diabetes can be mild. It may take several years to notice them. The symptoms may be similar to type 1 diabetes but are often less pronounced. As a result, the disease may be diagnosed only after complications have already developed several years after its onset.

More than 95% of people with diabetes have type 2 diabetes. Previously, type 2 diabetes was called non-insulin-dependent or adult-onset diabetes. Until recently, this type of diabetes was observed only in adults, but now it is increasingly seen in children as well.³

When blood sugar is found to be high for the first time, the patient should follow their usual diet before a repeat test. Following a prescribed diet can significantly lower blood sugar levels compared to the previous measurement, making it impossible to accurately assess the true state of carbohydrate metabolism. A patient suspected of having diabetes must eat normally until a definitive diagnosis is made.⁴

Diabetes caused by poor nutrition during childhood. It is often observed in people living in tropical regions.

In addition, gestational diabetes, which occurs in women during pregnancy, can be distinguished. According to blood glucose levels, it is classified as follows:

- Compensated diabetes – the patient has no health complaints; fasting blood sugar does not exceed 4 mmol/L, and during the day it does not exceed 9 mmol/L.
- Subcompensated diabetes – symptoms do not appear, and blood sugar levels range from 8 to 11 mmol/L.
- Decompensated diabetes – the patient complains of poor health, disease symptoms are detected, and blood glucose levels are above 11 mmol/L.⁵

The most common forms of diabetes are type 1 and type 2 diabetes. Type 1 diabetes usually occurs due to the failure of β -cells that produce insulin in the body or as a result of autoimmune processes. In this case, the immune system fails to recognize the pancreatic cells and begins to attack them. This process often occurs after infectious diseases such as measles, viral hepatitis, mumps, or exposure to toxic substances such as pesticides, nitrosamines, or certain medications. If more than 80

³ Kasalliklarning global yuki hamkorlik tarmog'i. Global kasallik yukini o'rganish 2021. Natijalar. Sog'liqni saqlash ko'rsatkichlari va baholash instituti. 2024

⁴ <https://kun.uz/news/2019/12/21/qandli-diabet-kasalligi-haqida-xalq-orasida-keng-tarqalgan-notogri-tushunchalar>

⁵ <https://med24.uz/uz/bolezni/sakharnyy-diabet>

percent of β -cells are damaged, the body is left without insulin, resulting in the development of diabetes.

In type 2 diabetes, the main problem is not insulin deficiency but a decrease in the body's sensitivity to it. Even though insulin is present in the body, the tissues “ignore” it. Therefore, this type of diabetes is usually found in older or overweight individuals. This form accounts for approximately 90 percent of people with diabetes.

When tissue sensitivity to insulin is impaired, blood glucose levels rise sharply, and cells do not receive enough glucose. In this condition, the body activates alternative pathways to process glucose, resulting in the accumulation of sorbitol, glycosaminoglycans, and glycated hemoglobin. The increase of these substances leads to changes in the eyes (cataracts), nerve damage (neuropathy), and damage to small blood vessels.

Due to energy deficiency, protein breakdown in the body increases, and muscle tissues weaken. At the same time, ketone bodies accumulate, causing the buildup of toxic substances in the body. As blood glucose levels rise, the need to excrete these substances through urine increases, leading to fluid loss, dehydration, and persistent thirst. With the depletion of energy reserves, the patient gradually begins to lose weight.⁶

Main Risk Factors Leading to Diabetes

There are several factors that increase the likelihood of developing diabetes. These include:

- Overweight and obesity — reduce the body's sensitivity to insulin.
- Hereditary predisposition — approximately 9 percent of patients with diabetes have close relatives who also had the disease.
- Improper nutrition — a lack of fiber-rich foods and an abundance of rapidly digestible carbohydrates lead to metabolic disorders.
- Long-term use of certain medications — diuretics, glucocorticoids, cytostatics, and antihypertensive drugs can increase susceptibility to diabetes.
- Cardiovascular diseases — these conditions, combined with impaired metabolic status, raise the risk of diabetes.

Conclusion

The widespread increase of diabetes among young people is a serious challenge facing modern medicine. Alongside hereditary factors, modern lifestyle, poor nutrition, a sharp decrease in physical activity, psychological stress, and environmental influences play a significant role in the progression of this disease. Changes in the pace of life under the influence of technology, increased sedentary behavior, and the consumption of high-calorie foods create favorable conditions for metabolic disorders in the younger generation. Therefore, it is important to strengthen

⁶ World Health Organization (WHO). *Global Report on Diabetes*. Geneva: World Health Organization, 2016.

preventive measures against diabetes among young people, educate the population on healthy eating habits, increase physical activity, support psychological well-being, and organize regular screening examinations. Only cooperation between schools, families, medical institutions, and other sectors of society can reduce the spread of this disease.

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