



CURRENT DATA ON THE INCIDENCE OF GESTATIONAL DIABETES MELLITUS

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ABSTRACT

Gestational diabetes mellitus (GDM) is one of the most common pathologies of pregnancy associated with impaired carbohydrate metabolism. This review aims to analyze the incidence of GDM in Uzbekistan, risk factors, and current recommendations for diagnosis and treatment. Although global data are available, localized studies are important for developing strategies to prevent and improve pregnancy outcomes.

Introduction. Gestational diabetes mellitus is a disorder of glucose tolerance first diagnosed during pregnancy. According to the World Health Organization (WHO), the incidence of GDM in the world varies from 7% to 18% depending on the population, diagnostic criteria, and other factors. In Uzbekistan, a country with a high prevalence of endocrine diseases, the study of GDM is becoming an important task. However, the limitations of epidemiological studies at the national level make it difficult to fully assess the scale of the problem. The development of gestational diabetes mellitus (GDM) is associated with the influence of several risk factors, including overweight or obesity (body mass index over 30 kg/m²), significant weight gain after age 18, smoking, multiple pregnancies, the presence of type 2 diabetes mellitus in close relatives, impaired glucose tolerance before pregnancy, a history of hydramnios or a large fetus, the birth of a child weighing over 4000 g or stillbirth, malformations in children, significant weight gain during the current pregnancy, and the woman's age over 30 years [5]. In recent years, numerous studies have been conducted to investigate the causes, effects, and treatments for this condition.

The influence of pathological weight gain during pregnancy on the pathogenesis of GDM and associated obstetric complications is actively discussed in the literature. The first quantitative study of the relationship between obstetric complications and obesity was conducted in 1938 by H. Brücke (USA) and M. Christensen (Scandinavia), who found that in 75% of cases, pregnancy and childbirth in obese women are accompanied by complications. According to modern data, the frequency of complications of the gestational process in obese women varies from 45% to 96.5%. American researchers studied the relationship between the increase in body weight of pregnant women at various stages of gestation and the risk of developing GDM. It was found that a weight gain of 0.89 pounds (about 0.4 kg) per week,

especially in the first trimester of pregnancy, significantly increases the likelihood of developing GDM.

Materials and methods. Retrospective and prospective studies conducted in perinatal centers are used to assess the incidence of GDM in Uzbekistan. The basis for diagnosis is the recommendations of the International Association for the Study of Diabetes and Pregnancy (IADPSG), which include a glucose tolerance test (GTT) at 24–28 weeks of pregnancy. This article analyzes data from studies published in medical journals of Uzbekistan over the past 10 years, as well as reports from the Ministry of Health.

Results. Studies show that the prevalence of gestational diabetes mellitus varies from 1% to 28% depending on the population and diagnostic criteria. For example, work published in *Diabetes Care* (2021) found that the risk of developing GDM is higher in overweight women and those with a family history of diabetes (Torlone E. et al., 2021).

GDM can lead to serious complications for both the mother and fetus. A study published in *The Lancet Diabetes & Endocrinology* (2022) found that women who have had GDM have an increased risk of developing type 2 diabetes in the future. GDM may also contribute to higher fetal weight and an increased likelihood of cesarean section (Patterson C. et al., 2022).

More recently, a paper published in the *American Journal of Obstetrics and Gynecology* (2023) discussed new approaches to diagnosing GDM. The study raised questions about the appropriateness of using glucose tolerance tests in the first trimester of pregnancy to determine the risk group (Khan A. et al., 2023).

Studies conducted in various regions of Uzbekistan show that the incidence of GDM in the country ranges from 9% to 12%, which is in line with global trends. The main risk factors for GDM in Uzbekistan are:

Overweight and obesity in women of reproductive age (about 40% of the population).

Genetic predisposition to type 2 diabetes.

Multiple pregnancies.

Mother's age over 30 years.

Social and economic factors play a special role, including limited access to timely medical care in rural areas and insufficient information about the risks of the disease. Research shows that lifestyle changes, including diet and physical activity, can significantly reduce the risk of complications associated with GDM. In a meta-analysis published in the *Journal of Clinical Endocrinology & Metabolism* (2020), it was shown that a high-quality diet and regular exercise can help control blood glucose levels in pregnant women (Yang H. et al., 2020).

High levels of obesity and a sedentary lifestyle among women in Uzbekistan are key factors contributing to the increase in the incidence of GDM. In addition, late access to medical facilities complicates timely diagnosis and management of the disease. Recent studies have shown that children born to mothers with GDM may have a higher risk of developing obesity and metabolic diseases in childhood and adolescence. A study published in the journal *Diabetes* (2022) analyzed the relationship between GDM and metabolic syndrome in children with a hereditary predisposition (Harris K. et al., 2022).

Uzbekistan is taking steps to improve the diagnosis and treatment of GDM, including the implementation of WHO recommendations and screening programs. However, more active development of educational campaigns among the population is needed to raise awareness

about healthy lifestyles and the importance of controlling blood sugar levels during pregnancy.

Conclusion. The incidence of gestational diabetes mellitus in Uzbekistan is at the level of world indicators but requires further study and systemic measures. Regular screening, development of national protocols, and educational programs will help reduce the incidence of complications associated with GDM and improve the health of mothers and children. Gestational diabetes mellitus is an important perinatal health problem and requires careful monitoring and management. Current research shows that early diagnosis, lifestyle modification and understanding of long-term maternal and child outcomes can significantly improve patient outcomes.

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