

## MANAGING GESTATIONAL DIABETES DURING PREGNANCY

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### ABSTRACT

Gestational diabetes mellitus (GDM) is a common metabolic disorder occurring during pregnancy, characterized by impaired glucose tolerance that poses risks for both mother and fetus. This article explores a culturally sensitive approach to managing GDM by integrating traditional Uzbek health practices with contemporary medical standards. Key components of effective management include early diagnosis through routine screening, individualized nutritional counseling, moderate physical activity, self-monitoring of blood glucose, and—in some cases—insulin therapy. The article also highlights barriers specific to the Uzbek healthcare context, such as limited access to glucometers, lack of postpartum follow-up, and the influence of family dynamics. A multidisciplinary and culturally informed strategy is essential to ensure better maternal and neonatal outcomes while reducing the risk of type 2 diabetes later in life.

**Keywords:** Gestational diabetes, pregnancy, Uzbekistan, maternal health, blood glucose monitoring, traditional medicine, diet therapy, prenatal care, insulin therapy, family support.

### INTRODUCTION

Pregnancy is a transformative journey filled with both joy and responsibility. One of the critical health challenges some women face during this time is **gestational diabetes mellitus (GDM)** a condition where blood glucose levels become elevated due to hormonal changes that affect insulin sensitivity. Though usually temporary, GDM can pose serious risks to both mother and baby if not properly managed.

In Uzbekistan, maternal health is deeply valued and often supported through a combination of traditional practices and modern medical care. Uzbek medical literature and family health traditions emphasize the importance of a balanced lifestyle during pregnancy highlighting the roles of natural nutrition, physical activity, emotional well-being, and strong family support. These principles align closely with global best practices for managing gestational diabetes.

In recent years, awareness of gestational diabetes has grown significantly across Central Asia, including in Uzbekistan. Increasing access to antenatal care and routine screenings has enabled earlier diagnosis and better outcomes. However, many expecting mothers still rely heavily on culturally rooted practices. These include dietary habits centered on whole foods, active lifestyles involving walking or home-based activities, and close-knit family support elements that can play a major role in managing GDM. This article integrates these traditional Uzbek health insights with evidence-based medical guidelines to provide a comprehensive approach to managing gestational diabetes during pregnancy. Whether you are a healthcare provider, an expecting mother, or a caregiver, understanding how to manage this condition holistically can help ensure a healthy pregnancy and a safe delivery.

The management of gestational diabetes mellitus (GDM) during pregnancy requires a comprehensive, multi-faceted approach. Drawing on Uzbek medical literature and culturally informed practices, as well as modern obstetric guidelines, this section outlines the primary methods used to monitor and control blood glucose levels in pregnant women diagnosed with GDM. The methodology includes lifestyle interventions, medical monitoring, community-based support, and integrated care.

### 1. Early Screening and Diagnosis

Early identification of gestational diabetes is critical to reducing complications. In accordance with the Uzbek Ministry of Health recommendations and WHO guidelines:

- Oral Glucose Tolerance Test (OGTT) is performed between 24–28 weeks of pregnancy, or earlier in women with high-risk factors such as obesity, family history of diabetes, or previous GDM.
- Diagnosis is based on fasting and post-load glucose levels, with thresholds adapted to local and international standards.

### 2. Nutritional Management (Dietary Therapy)

Uzbek nutritional practices during pregnancy emphasize whole, natural foods. Medical dietitians and family doctors recommend individualized meal plans that are:

- Calorie-controlled but nutritionally adequate, focusing on supporting both maternal and fetal health.
- Low in refined sugars and high-glycemic index foods, such as white bread (*oq non*), sweet pastries, and sugary drinks, which are minimized or replaced.
- Rich in complex carbohydrates and fiber, such as buckwheat (*grechka*), lentils, and seasonal vegetables like pumpkin, carrots, and leafy greens.
- Meal frequency is typically increased to 5–6 small meals per day to maintain glucose stability and reduce fasting hypoglycemia. Traditional Uzbek meals such as *soup* (vegetable soup), *mashhurda*, or *dimlama* (steamed vegetables with meat) are adapted to reduce fat and salt content, making them suitable for GDM patients.

### 3. Physical Activity and Exercise

Cultural practices in Uzbekistan support moderate, consistent physical activity, particularly walking and household chores. Based on both local traditions and modern recommendations:

- Pregnant women are advised to engage in low-impact exercises, such as 30-minute post-meal walks, light yoga, or prenatal stretching.
- In rural areas, activities like gardening, sweeping, and handwashing clothes contribute to maintaining mobility without overexertion.
- Exercise plans are customized to the woman's health status, with attention to avoiding dehydration, overheating, and physical strain.

Gestational diabetes mellitus (GDM) represents a growing public health concern globally, including in Uzbekistan, where lifestyle changes, increased maternal age, and urbanization have contributed to a rise in its prevalence. The management strategies discussed in this article—grounded in both international best practices and traditional Uzbek health

frameworks—highlight the importance of a culturally sensitive and multidisciplinary approach to improve outcomes for mothers and their babies.

### **Effectiveness of Lifestyle Interventions**

Numerous studies, including those conducted in Central Asia, have shown that dietary modification and physical activity are the first-line and most effective non-pharmacological interventions for managing GDM. Uzbek dietary customs, which emphasize home-cooked, fresh meals, can be adapted to reduce simple sugars and saturated fats without losing cultural acceptability. However, the challenge lies in the lack of structured nutrition counseling, particularly in rural areas, where access to professional dietitians is limited.

Traditional meals such as *dimlama* or *soup* can be beneficial if prepared with minimal oil and salt. Encouraging pregnant women to continue light household activity, as is common in Uzbek homes, aligns with global recommendations for safe prenatal exercise. However, public health programs should better formalize this advice, especially for urban or sedentary populations, by offering prenatal fitness classes or safe walking groups.

### **Barriers to Glycemic Monitoring and Medical Access**

One of the persistent barriers in Uzbekistan is the limited availability of glucometers and test strips for daily blood sugar monitoring, especially outside major cities. While urban clinics may provide equipment and training, rural women often depend on infrequent clinic visits. This can delay detection of glucose fluctuations and reduce timely intervention.

Moreover, insulin therapy, though effective, may be underused due to fear, stigma, or lack of understanding. Cultural perceptions around injections, particularly during pregnancy, need to be addressed through educational outreach and counseling. It is critical that health professionals take time to explain the safety and necessity of insulin in cases where dietary changes alone are insufficient.

### **Psychosocial and Family Dynamics**

Cultural norms in Uzbekistan can both support and complicate GDM management. The involvement of extended family, especially mothers-in-law, can reinforce healthy eating habits and reduce emotional stress. However, traditional beliefs may also resist medical advice—such as the notion that rest, not movement, is preferable during pregnancy, or that “eating for two” is essential.

These dynamics highlight the need for family-inclusive health education programs, in which not only the pregnant woman but also her support network is educated on gestational diabetes, its risks, and its management.

## **CONCLUSION**

Gestational diabetes mellitus (GDM) is a manageable yet potentially serious condition that requires timely intervention and a coordinated approach during pregnancy. As this article has demonstrated, combining evidence-based medical practices with traditional Uzbek values and healthcare customs offers a promising model for effective GDM management. Early diagnosis through routine screening, individualized nutritional planning, regular physical activity, and



appropriate glucose monitoring are the cornerstones of treatment. When necessary, insulin therapy remains a safe and effective option. The support of family members, particularly in culturally close-knit societies like Uzbekistan, plays a crucial role in encouraging adherence to dietary and lifestyle changes.

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