



The Role of Local Communities and Modern Technologies in Controlling and Preventing Diabetes in Surkhandarya Region

OPEN ACCESS

SUBMITTED 24 December 2024
ACCEPTED 26 January 2025
PUBLISHED 28 February 2025
VOLUME Vol.05 Issue02 2025

COPYRIGHT

© 2025 Original content from this work may be used under the terms of the creative commons attributes 4.0 License.

Allayarov Uktamjon Bektashovich

Assistant at the Department of Internal Medicine Propaedeutics, Rehabilitation, Folk Medicine, and Endocrinology, Termez Branch of Tashkent Medical Academy, Uzbekistan

Qobilov Alimardon Ergashevich

Assistant at the Department of Internal Medicine Propaedeutics, Folk Medicine, Rehabilitation, and Endocrinology, Termez Branch of Tashkent Medical Academy, Uzbekistan

Abstract: Diabetes mellitus affects over 400 million people worldwide, and this number continues to grow annually. There are two main types of diabetes (Type 1 and Type 2), both of which require regular monitoring of blood sugar levels. Failure to control diabetes in a timely manner can lead to severe complications such as cardiovascular diseases, kidney failure, and blindness, which may ultimately result in death. In Uzbekistan, the number of people with diabetes has been increasing year by year. In 2015, 170,536 patients were registered, and by 2019, this number had risen to 230,610. According to Kun.uz data from 2023, there are 820 diabetic patients per 100,000 people. This indicates that the total number of people with diabetes in the country has exceeded 275,000. Therefore, it is crucial for every individual to be well-informed about diabetes and its negative consequences. Taking care of one's health, consulting specialists in a timely manner, early detection of the disease, and taking appropriate treatment measures are essential for maintaining good health. This article provides information on the causes, symptoms, and modern treatment methods for diabetes mellitus.

Keywords: Diabetes mellitus, glucometer, monitoring, mobile applications, blood sugar, healthy lifestyle,

medical technologies, outreach workers, diabetes management, analysis.

Introduction: Diabetes mellitus remains a serious health issue in Uzbekistan. Factors such as unhealthy eating habits, lack of physical activity, and chronic stress contribute to the spread of diabetes. The government and healthcare organizations in Uzbekistan are implementing programs to prevent and treat diabetes, but much work still needs to be done. Key steps in managing diabetes include regular monitoring of blood sugar levels, promoting a healthy lifestyle, and utilizing modern medical approaches. In Uzbekistan, the use of mobile apps, glucometers, and other technologies is expanding the possibilities for diabetes management. Numerous scientific and practical efforts are being made to raise public awareness about diabetes, facilitate early diagnosis, and improve the convenience of treatment. The proposed idea and suggestion are as follows: Due to the dispersed population in Surkhandarya region, it is necessary to implement a coordinated approach to control diabetes by involving outreach workers at rural medical points. The scattered population and the complexity of accessing medical services in Surkhandarya region have led to unhealthy eating habits, indifference, and neglect of health among rural residents. Therefore, to effectively control and combat chronic diseases like diabetes, it is essential to carry

out large-scale preventive and monitoring measures through outreach doctors and medical staff. In this regard, outreach workers assist us in the following tasks.

- 1. Utilizing mobile medical services and technologies** - Patients with diabetes register on a specialized mobile application using modern technologies. This application allows patients to monitor their health, consult with doctors, and receive personalized medical recommendations.
- 2. Providing information on diabetes and healthy lifestyles** - The mobile application offers individual recommendations on healthy eating, physical activity, and stress reduction for diabetes management. Patients record their condition in the app and receive reminders related to their treatment process.
- 3. Using glucometers** - Patients regularly measure their blood sugar levels using glucometers. The measurement results are automatically transmitted to the mobile application and analyzed by the system. Based on the results, doctors receive instant notifications, and emergency medical measures are taken if necessary.
- 4. Monitoring test results through an automated system** - The collected health data of patients is transmitted to district, regional, and national healthcare systems. This process plays a crucial role in identifying the type and stage of diabetes and providing timely medical assistance.



The image demonstrates the use of glucometers, showing how outreach workers operate in this manner. At the same time, cooperation with the local community can provide positive support in our fight against diabetes.

- **Collaboration with local organizations** - Local organizations (e.g., neighborhood committees, schools, and public organizations) play a significant role in combating diabetes. The following programs and events can be implemented in collaboration with them.
- **Diabetes awareness events** - In collaboration with neighborhood committees and schools, educational events on diabetes prevention can be organized. These events provide information on healthy lifestyles, proper nutrition, and physical activity.

- **Health promotion programs** - Health promotion programs can be implemented in collaboration with local organizations. For example, organizing physical exercise groups at the neighborhood level and conducting seminars on healthy eating.
- **Social assistance** - Local organizations also play an important role in providing social assistance to diabetic patients. For example, supplying medicines to low-income families and ensuring their access to medical care.

Cooperation with the local community plays a crucial role in combating diabetes. By working closely with family doctors, neighborhood committees, schools, public organizations, and non-governmental organizations, it is possible to facilitate early detection, prevention, and reduction of the spread of diabetes. This approach helps improve the health of the

population and prevent severe complications of diabetes. As a result of such comprehensive and systematic efforts, the number of diabetic patients in Surkhandarya region will decrease, a culture of healthy living will be established among the population, and the efficiency of the healthcare system will improve. This will serve as a positive example not only for the region but also for the entire country in the fight against diabetes.

REFERENCES

Ministry of Health of the Republic of Uzbekistan. (2023). National Guidelines for the Prevention and Treatment of Diabetes Mellitus Tashkent.

World Health Organization. (2021). Global Report on Diabetes. Geneva: WHO Press.

American Diabetes Association. (2022). Standards of Medical Care in Diabetes-2022. *Diabetes Care*, 45(Supplement_1), S1-S264.

Berstein, R. (2011). *Diabetes Solution: The Complete Guide to Achieving Normal Blood Sugars*. Little, Brown Spark.

Innovative Healthcare Center of the Republic of Uzbekistan. (2022). Chronic Disease Monitoring System. Tashkent.

International Diabetes Federation. (2020). *IDF Diabetes Atlas, 9th Edition*. Brussels: International Diabetes Federation.

Nazarov, A. (2020). *Early Detection and Control Technologies for Diabetes Mellitus*. Tashkent: Fan va Texnologiyalar Nashriyoti.