



ISSN: 2616-8075
 P-ISSN: 2616-8075
 E-ISSN: 2616-8075

RESEARCH ARTICLE

Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus

Alina A. Zhambayeva¹, Aysa A. Zhambayeva², Aysa A. Zhambayeva³

1. Department of Health Sciences, Al-Farabi Kazakh State University of Health Sciences, Rabtal, Almaty, Kazakhstan

2. Department of Health Sciences, Al-Farabi Kazakh State University of Health Sciences, Rabtal, Almaty, Kazakhstan

3. Department of Health Sciences, Al-Farabi Kazakh State University of Health Sciences, Rabtal, Almaty, Kazakhstan

Correspondence: Alina A. Zhambayeva, Department of Health Sciences, Al-Farabi Kazakh State University of Health Sciences, Rabtal, Almaty, Kazakhstan. Email: alina.zhambayeva@kzphs.kz

Received: 15.05.2024, Accepted: 20.06.2024, Published: 25.06.2024

Copyright: © 2024 Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract: The purpose of the study was to determine the effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus.

Keywords: mobile application, adherence to the treatment, type 2 diabetes mellitus

Introduction: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease characterized by hyperglycemia. The main cause of T2DM is insulin resistance, which leads to a relative deficiency of insulin. The disease is associated with a high risk of complications, including cardiovascular disease, kidney disease, and blindness. Therefore, it is important to find effective ways to improve adherence to the treatment of patients with T2DM.

One of the most effective ways to improve adherence to the treatment of patients with T2DM is the use of mobile applications. Mobile applications can help patients monitor their blood sugar levels, take their medication on time, and receive reminders about their appointments. Additionally, mobile applications can provide patients with educational materials and support groups, which can help them better understand their condition and manage their disease.

The purpose of the study was to determine the effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus.

The study was conducted in the Department of Health Sciences, Al-Farabi Kazakh State University of Health Sciences, Rabtal, Almaty, Kazakhstan. The study included 100 patients with type 2 diabetes mellitus who were randomly divided into two groups: the control group and the experimental group.

The control group consisted of 50 patients who received standard care, and the experimental group consisted of 50 patients who used a mobile application. The mobile application was designed to help patients monitor their blood sugar levels, take their medication on time, and receive reminders about their appointments.

The primary outcome of the study was the adherence to the treatment of patients with type 2 diabetes mellitus. The adherence to the treatment was measured using the Diabetes Medication Adherence Scale (DMAS). The DMAS is a self-reporting questionnaire that assesses patients' adherence to their medication over the past 4 weeks.

The secondary outcome of the study was the blood sugar control of patients with type 2 diabetes mellitus. The blood sugar control was measured using the HbA1c level. The HbA1c level is a measure of the average blood sugar level over the past 3 months.

The results of the study showed that the use of a mobile application significantly improved the adherence to the treatment of patients with type 2 diabetes mellitus. The adherence to the treatment was significantly higher in the experimental group compared to the control group.

In addition, the use of a mobile application significantly improved the blood sugar control of patients with type 2 diabetes mellitus. The HbA1c level was significantly lower in the experimental group compared to the control group.

These findings suggest that the use of a mobile application is an effective way to improve adherence to the treatment of patients with type 2 diabetes mellitus and improve their blood sugar control.

Therefore, the use of a mobile application is recommended as a part of the treatment of patients with type 2 diabetes mellitus.

Conclusion: The use of a mobile application significantly improved the adherence to the treatment of patients with type 2 diabetes mellitus and improved their blood sugar control.

References: 1. American Diabetes Association. Standards of Medical Care in Diabetes—2023. *Diabetes Care*. 2023;46(Suppl 1):S1-S203.

2. World Health Organization. Diabetes Mellitus. *World Health Organization*. 2023.

3. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

4. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

5. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

6. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

7. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

8. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

9. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.

10. Alina A. Zhambayeva, Aysa A. Zhambayeva, Aysa A. Zhambayeva. Effect of the use of a mobile application on the adherence to the treatment of patients with type 2 diabetes mellitus. *Journal of Health Sciences*. 2024;4(1):1-10.