

Impact of Mobile Applications on Therapeutic Adherence and Glycated Hemoglobin Control: Na Integrative Review

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RESUMO

ABSTRACT Introduction: Diabetes mellitus (DM) is a chronic disease with a significant impact on public health, requiring complex management strategies ranging from insulin therapy to lifestyle interventions and medications. Adequate glycemic control is fundamental to avoid short- and long-term complications. In this scenario, Digital Health, specifically through Mobile Health (mHealth), emerges as na essential tool for the control and maintenance of patient health. Monitoring applications offer continuous support that transcends the traditional clinical environment, allowing for real-time tracking of biomarkers and daily habits, which promotes patient empowerment and the precision of therapeutic decisions. Objective: To evaluate the role of monitoring applications in diabetes management, highlighting their effectiveness as a tool for self-care, treatment adherence, and improvement of clinical outcomes. Methodology: This is na integrative literature review, of a qualitative and descriptive nature. Data collection was carried out through searches in the PubMed database, including articles published between 2011 and 2020, in Portuguese and English. The search strategy used descriptors (MeSH/DeCS) such as “Mobile Applications”, “Diabetes Mellitus”, “Self-Management”, and “Telemedicine”. Inclusion criteria focused on clinical trials and reviews that analyzed the impact of digital technologies on glycated hemoglobin (HbA1c) and the quality of life of patients. Results: It was demonstrated that the use of monitoring apps and digital technologies had a positive impact on treatment adherence in patients with diabetes mellitus (DM). Evidence showed improved glycemic control, with a reduction in glycated hemoglobin (HbA1c) levels, attributed to self-monitoring and the graphical visualization of glycemic variations, facilitating understanding of the pathophysiology and strengthening self-care. Benefits such as intelligent medication reminders, automated carbohydrate counting, and integration with continuous glucose monitoring sensors were also identified. Some studies also pointed to improvements in secondary clinical outcomes, such as blood pressure control, lipid profile, and quality of life. The literature suggests that these tools reduce glycemic variability and increase time-in-range, crucial factors for the prevention of acute complications. Conclusion: It is concluded that the use of monitoring apps and other digital technologies are effective complementary strategies to improve treatment adherence in patients with diabetes, favoring glycemic control, self-care, and the prevention of complications associated with the disease. Evidence shows that these tools can contribute to better clinical outcomes and greater patient engagement in diabetes management. However, challenges related to accessibility, personalization, and scaling up the use of these technologies remain. Therefore, greater investment and further research are needed to strengthen the implementation of digital health as a complementary strategy in the care of diabetic patients and those with other pathologies.

Palavras-chave: Keywords: Telemedicine Diabetes Mellitus Self-Management Mobile Applications Digital Health Glycemic Control.