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The effectiveness of mobile application interventions in improving medication adherence among patients with type 2 diabetes mellitus: a systematic review

By

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Abstract

AimType 2 diabetes mellitus (T2DM) is a global health concern, and medication non-adherence contributes to poor glycaemic control and complications. Mobile applications are a potential strategy to improve adherence, but their effectiveness remains uncertain. This systematic review evaluates the effectiveness of mobile applications interventions in improving medication adherence in

patients with T2DM.
Data SourcesA comprehensive search of PubMed, Cochrane Library, and Scopus was conducted.
Study SelectionStudies included were English-language studies published in from 2013-2023. Study quality was assessed using the Mixed Method Appraisal Tool.
ResultsSeven clinical studies with 717 participants (median age 54.7 years) were included. All studies showed improvements in adherence, but only four reported statistically significant changes. Among these, three studies also showed significant reductions in haemoglobin A1c (HbA1c) levels, suggesting a positive clinical impact. The studies were generally of high quality.
ConclusionMobile applications appear to improve medication adherence in T2DM patients compared to traditional care. However, the specific application features that enhance adherence are unclear due to variations in study designs and small sample sizes. Future research should focus on identifying key applications characteristics, improving usability, and ensuring cost-effectiveness to optimize patient outcomes.

Keywords

Author Keywords: adherence; diabetes mellitus; telemedicine; mobile applications; systematic review

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