TYPE 2 DIABETES MELLITUS-RELATED MEDICATION ADHERENCE ENHANCEMENT USING MOBILE APPS

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Background: The prevalence of non-adherence to antidiabetic treatment remains high despite various efforts. Thus, the positive effects of the antidiabetic treatment cannot be optimised and the disease progresses to complications.

Objective: This present study aimed to evaluate the effects of mobile applications (apps) intervention on medication adherence among patients with type 2 diabetes mellitus (T2DM) and the elements that affect the adoption of the mobile apps among the patients.

Methods: This research was conducted using mixed methods. The systematic review following the PRISMA guidelines. The databases that had been searched included Web of Science, PubMed, Scopus, Cochrane Library and Ovid from 2019 to 2022 for the latest articles. Study characteristics were retrieved and study outcomes such as adherence status were extracted. A qualitative method was utilised to explore elements affecting the adoption of the mobile apps based on Technology Acceptance Model. Semistructured interview was conducted on purposely selected patients to record the appropriate views/quotations.

Results: For the systematic review, six studies met the final inclusion criteria and were included in the analysis, contributing to a total of 685 subjects. The methodological quality of the included studies was variable. Two studies reported statistically significant improvement in medication adherence through mobile apps intervention. For the qualitative study, the themes for readiness encompassed optimism, innovativeness, discomfort, and insecurity. The themes for acceptance were divided to usefulness and easy of use. The themes for perceived usefulness included variables related to medication, patient, device, and healthcare professionals. The themes for perceived ease of use covered variables related to apps interface, patient characteristics, and family support.

Conclusion: Mobile apps intervention had beneficial impacts on medication adherence. Important elements for readiness and acceptance for mobile apps in enhancing medication adherence have been identified. The elements can be used as a guide to enhance the adoption of mobile health in medication adherence management.