INNOVATION COMPETITION
IC5

Development of a Mobile Application for Personalized Exercise Monitoring in Patients with Type 2 Diabetes Mellitus

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ABSTRACT

Background and Objectives: Despite the well-established benefits of regular exercise in managing Type 2 Diabetes Mellitus (T2DM), patient adherence to exercise regimens remains challenging. Remote monitoring presents an opportunity to obtain real-time tracking of exercise behavior, enabling healthcare workers to provide personalized support. This study investigates the potential of remote exercise monitoring in improving patient adherence. **Methods:** A 3-phase study was conducted. Phase I entailed conducting a systematic review to establish the exercise protocol, which was subsequently validated by a panel of experts. Phase II focused on developing a mobile application, which experts reviewed for usability and acceptability. In Phase III, seven patients were recruited to participate in an 8-week exercise program consisting of two sessions of resistance exercise and five sessions of aerobic exercise per week. Quantitative and qualitative methods were utilized to capture patient experiences and satisfaction with the application. **Results:** Patients found the mobile application acceptable, providing constant reminders for exercise adherence. Satisfaction with the application was high. **Conclusion:** The newly developed mobile fitness application shows promise, particularly for beginner exercisers.

Keywords: Exercise; Glycemic control; Patient education; Type 2 diabetes; Quality of life

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