Integrated Telehealth with Personalized Diabetes Management (IT- PDM) in Insulin-Treated Patients: A Randomized Controlled Trial

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Background

Integrated Personalized Diabetes Management has been proven to enhance diabetes care. In clinical practice, this approach requires frequent follow-ups and interactions between patients and healthcare providers. Telehealth has shown to be as useful and effective as face-face visits in providing care for people with diabetes.

Aims

The primary aim is to evaluate whether integrated personalized diabetes management with telehealth can improve clinical and patient outcomes. The secondary aim is to assess the efficiency of care by utilizing a smartphone application for seamless transfer of blood glucose results from patient to the healthcare team.

Methodology

A total of 120 patients participated in this prospective, two-arm randomized controlled trial. HbA1C, BMI, BP, LDL, frequency of hypoglycemia episodes and patient reported outcomes were assessed.

Results

IT-PDM led to a greater reduction in HbA1C after 6months. The HbA1c value in the intervention group was also statistically significantly lower than that in the control group (difference: -0.49, p-value =0.03). A significant decrease was observed in the PAID score post-intervention compared to pre-intervention with a mean difference of 8.3 (95% CI: 4.9, 11.7). DNEs spent less time on teleconsultation in the intervention group compared to the control group (11.2mins/call VS 13.8min/call). The intervention group experienced a 40% reduction in readmission.

Lessons Learnt / Discussion

The result of this study demonstrates that using an integrated, structured and personalized approach provides tangible benefits for insulin-treated patients. An integrated software solution has the potential to streamline the delivery of patient care. Additionally, real-time continuous glucose monitoring can help overcome clinical inertia

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