

The Effect of Glucare.Health Model on Glycemic Control And Body Composition of Type 1 Diabetes Patients

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BACKGROUND AND AIMS

Overweight and obesity are becoming more prevalent among patients with type 1 diabetes (T1D). GluCare.Health is a hybrid, data-driven approach in the management of metabolic diseases and combines in-clinic treatment with Continuous Metabolic Monitoring (CMM) through wearables, so patients are in continuous contact with their care team in the cloud. The team consists of physicians, educators, nurses, dietitians, and coaches, and provides real-time support when the patient needs it most, not just during their clinical visits. Patients were also encouraged to log their meals via a picture using a connected app. Previous studies have shown improvement in models utilizing digital biomarker tracking in chronic diseases as type 2 diabetes and obesity.

MATERIALS AND METHODS

We retrospectively evaluated T1D patients who visited GluCare Integrated Diabetes Center located in Dubai, UAE. Patients between 18-65 ages who completed their follow-up visits in 3 and 6 months were included and patients presenting with catabolic features were excluded from the study. Patients were tested for HbA1C for glycemic control and weight, fat mass, and muscle mass were evaluated with bioelectrical impedance analysis (BIA). All patients received feedback via a cause-and-effect approach according to their nutritional choices, and exercise patterns. Patients are educated in a personalized approach to adjust their insulin doses according to their lifestyle during the intensification or de-intensification of their insulin treatment.

RESULTS

19 patients with T1D who completed their 3 and 6-month follow-up visits were evaluated. 42% of patients were female and 58% were male. The median age was 35 (18-52). Mean HbA1c in the first visit was 7.67%, 6.72% in 3-month follow-up and 6.73 % in 6-month follow-up visits. There was a statistically significant improvement in patients' glycaemic control in 3 and 6 months compared to the first visit ($p < 0.005$, $p < 0.005$; respectively). In terms of body composition during follow-up patients maintained their weight and no significant change was found in BMI, weight, fat mass, and muscle mass both in the 3 and 6 month follow-up compared to the first visit.

CONCLUSION

This study shows Glucare.Health Model CMM improves glycemic control without an increase in weight and fat mass in patients with type 1 diabetes. Larger prospective studies which implement the Glucare.Health Model for follow-up of patients with type 1 diabetes are needed.