Effectiveness of using Hybrid Care Models with Continuous Glucose Monitoring in Patients with Diabetes During Ramadan

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1 Backgrounds and aims

Ramadan fasting mandates abstinence from food and drink from dawn to dusk, with exemptions for those with serious medical conditions like diabetes. Fasting diabetics should be closely monitored. CGMs track glucose levels, but require self-management. GluCare.Health utilizes a hybrid care model, streamlining clinical and psychological support. This study evaluates the effectiveness of this hybrid care model during Ramadan fasting.

Overview of the GluCare Hybrid Journey

The GluCare.health Hybrid Journey represents an innovative approach to diabetes management by integrating digital health tools with traditional in-person care. This model utilizes wearable devices to continuously monitor patients' vital signs and glucose levels, enabling real-time data analysis.

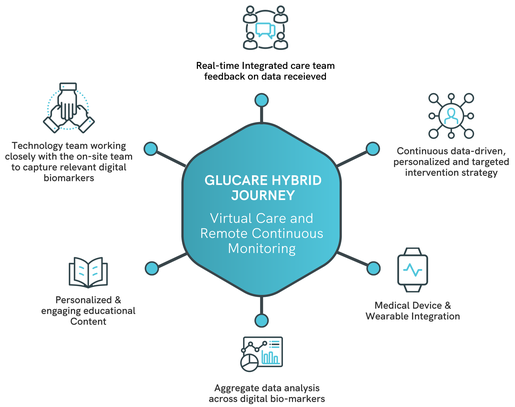


Figure 1: Overview of the GluCare.Health Hybrid Model of Care

2 Methodology

In an observational study, 24 diabetic patients managed under GluCare.Health were assessed using the DAR risk score. Medication adjustments were made, and patients observed fasting for 27-30 days. The hybrid model provided app access for continuous physician communication, CGM data analysis, and personalized feedback from diabetic educators and dieticians.

1 Study Population
- 24 diabetic patients (41.7% T1D, 58.3% T2D)
- Average age: 43.08 years
- Baseline HbA1c: 7.58 ± 1.50

2 Pre-Ramadan Assessment
- DAR Risk Score Evaluation - Low risk (≤3 score) Moderate risk (3–6 score), High risk (>6 score).
- Medication Adjustments

3 Hybrid Model Interventions
- Continuous Glucose Monitoring (CGM)
- GluCare App for Virtual Support Diabetic
- Educator & Dietitian Consultations Physician
- Adjustments Based on CGM Data

4 Ramadan Fasting (27-30 Days)
- Monitoring glycemic trends
- Personalized feedback via virtual and in-person care

5 Post-Ramadan Outcomes Assessment
- Time in Range (TIR)
- Glucose Management Indicator (GMI) Time
- Above Range (TAR)
- Impact of Virtual Engagement

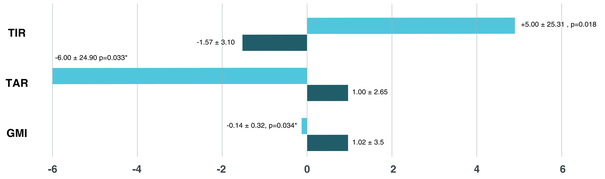
3 Results

1. Basic Demographics and Patient Characteristics

The average age was **43.08 YEARS**

HbA1c	7.58 ± 1.50
DAR	4.89 ± 4.03
Diabetes duration	8.14 years
Male	79.2%
T1D	41.7%
T2D	58.3%

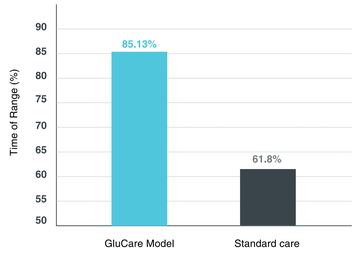
2. CGM Improvement by Number of Virtual Interactions



3. GluCare App Engagement

4. Improvements in CGM Metrics and Glycemic Control

GluCare Model vs Standard Care - TIR during Ramadan in Patients with T2D



4 Conclusions

Higher engagement levels between patients and care team, that can only be done in a continuous hybrid model of care, leads to vastly better outcomes compared to low engagement levels.

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2. Hasbullah FY, Yusof BN, Zukiman WZ, Zaid ZA, Omar N, Liu RX, Marczewska A, Hamdy O. Effects of structured Ramadan Nutrition Plan on glycemic control and variability using continuous glucose monitoring in individuals with type 2 diabetes: a pilot study. Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2022 Oct 1;16(10):102617.