

Real-Time CGM-Driven Coaching Improves Glycemic Outcomes in Adults with Type 2 Diabetes: Findings from a Randomized Trial

Chhavi Mehra, Annie Mattilda Raymond, Ankitha Sequiera, Jeny Joseline, Shivtosh Kumar
Ragus Healthcare Pvt Ltd

Background:

Continuous glucose monitoring (CGM) has transformed diabetes care by providing real-time insights. This study evaluated CGM-guided lifestyle coaching for people with T2DM, focusing on changes in HbA1c, fasting glucose, glycemic patterns, and body weight through data-driven interventions.

Methodology:

A total of 77 individuals with type 2 diabetes mellitus (HbA1c > 7%) enrolled in Sugarfit’s randomized controlled trial were assessed, including 49 males and 28 females, with a mean age of 51.54 ± 12.52 years.

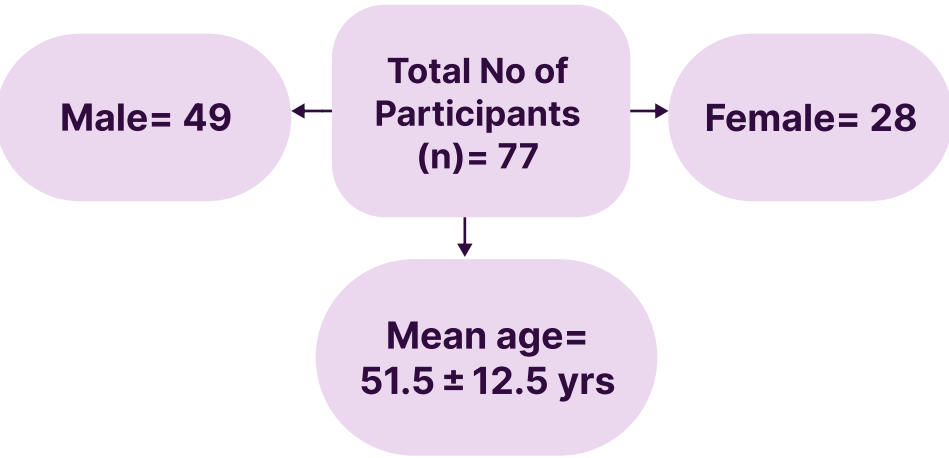


Fig 1 : Study Cohort

Each participant wore two CGMs sensors subcutaneously on the arm, one at enrollment and another around day 82 ± 15. Lifestyle modifications were personalized based on the glucose patterns identified from the CGM data.

Results:

Participants showed significant improvements in glycemic and anthropometric measures, with reductions in HbA1c, fasting blood sugar (FBS), and weight, as well as decreases in time above range (TAR) and time below range (TBR), alongside a significant increase in time in range (TIR).

Parameters	Baseline	Follow up	p- value
TBR <70	1.69 ±4.72	1.45±3.27	<0.5
TITR (70-140)	36.39±27.14	40.72±26.27	<0.1
TIR (70-180)	36.39±27.14	40.72±26.27	<0.1
TAR >180	39.23±29.86	32.62±26.49	<0.05

Table 1 : Baseline and Follow up CGM trends

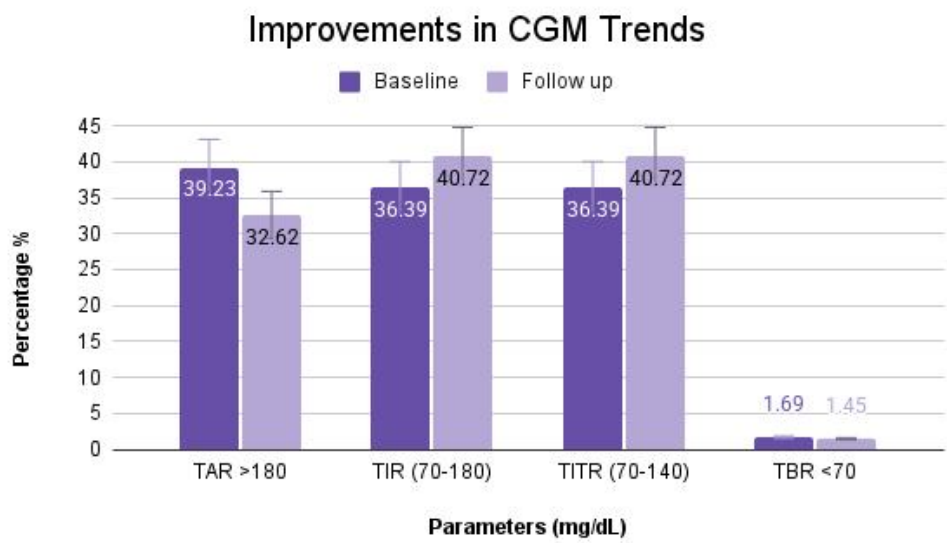


Figure 1 : Baseline and Follow up CGM trends

Parameters	Baseline	Follow up	p- value
HbA1c	9.41±1.88	7.88±1.30	<0.001
FBS	160.89±57.94	140.11±51.59	<0.001
Weight	73.7±11.91	73.1±12.06	<0.05

Table 2 : Baseline and Follow up Parameters

Parameters	Difference (Q0- Q1)
TBR <70	0.23± 5.19
TITR (70-140)	-4.32± 22.7
TIR (70-180)	-4.32± 22.7
TAR >180	6.6± 26.9
HbA1c	1.52± 1.6
FBS	20.7± 63.6
Weight	0.61± 2.5

Table 3 : Difference in parameters from Baseline to Follow Up



Figure 3: CGM Data Report

Conclusion:

Our study shows that CGM-guided lifestyle coaching improves glucose trends in people with Type 2 Diabetes. Real-time data revealed lower variability and better stability, reflecting adherence to personalized changes. This approach supports lasting behavioral change and improved metabolic outcomes.