**Title:**

Clinical Utility of 15-Day Continuous Glucose Monitoring

(CGM) Data in Optimizing Glycemic Management in Patients

with Type 2 Diabetes: A Prospective Case Series

**Background:**

While HbA1c is widely used for assessing long-term glycemic

control, it fails to capture daily glucose fluctuations,

hypoglycemic episodes, and postprandial variations.

Continuous Glucose Monitoring (CGM) provides dynamic,

real-time data, offering insight into glucose variability.

However, short-term CGM use remains underutilized in

clinical practice. This study explores the clinical value of 15-

day CGM in guiding individualized treatment for patients with

type 2 diabetes mellitus (T2DM).

**Objective:**

To evaluate the effectiveness of 15-day professional CGM in

detecting glycemic patterns and informing treatment decisions

in T2DM patients.

**Methods:**

A prospective case series involving 40 adults with T2DM

(mean age 52 ± 6 years; diabetes duration 7.7 ± 1.6 years) was

conducted. Baseline HbA1c averaged 7.36 ± 0.97%. All

patients wore a professional CGM device for 15 days. Data

collected included Time in Range (TIR), Time Above Range

(TAR), Time Below Range (TBR), Coefficient of Variation

(CV), and mean glucose. Based on CGM data, clinical teams

adjusted therapy (medication, insulin, lifestyle). Patients were

followed for 4–6 weeks to assess outcomes.

**Results:**

CGM revealed significantly improved glycemic excursions:

TIR improved from 56.4% to 72.8% (p &lt; 0.01)

TAR decreased from 38.6% to 21.4%

TBR reduced from 5.0% to 4.2%, minimizing hypoglycemia

risk

CV decreased from 36.1% to 29.3%

Therapeutic impact included:

85% had treatment modifications

60% required dose changes or GLP-1 RA/SGLT2i initiation

40% received dietary or behavioral coaching

25% had unrecognized nocturnal hypoglycemia

**Conclusion:**

Short-term CGM is a valuable tool for identifying hidden

glycemic patterns, enabling timely and personalized

interventions. Broader use may enhance patient engagement

and improve outcomes in T2DM.