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research spotlight

Comparing Continuous Glucose Monitoring (CGM) and Blood Glucose Monitoring (BGM) in Adults With Inadequately Controlled, Insulin-Treated Type 2 Diabetes: A 12-Month, Single-Center, Randomized Controlled Trial[1]

PURPOSE OF STUDY

To compare the 12-month effects of **Dexcom RT-CGM** versus **BGM** in **adults with poorly controlled (A1C ≥7.5%), insulin-treated type 2 diabetes.**

DEMOGRAPHICS

Adults with T2D for over 1 year (n=76)

(≥18 years of age)

HbA1c ≥ 7.5%

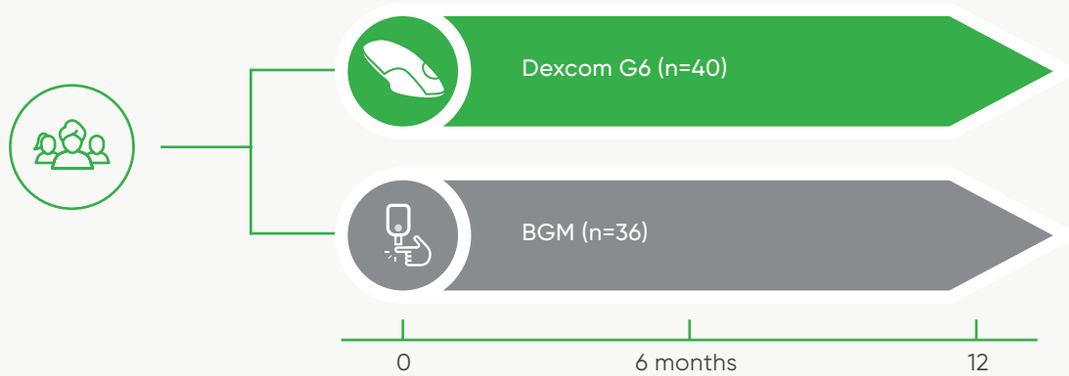
Insulin at least once daily

(56% were on at least 3 medications)

Dexcom G6*

METHODS

12-month single-center, open-label, parallel, RCT



One of the first T2 RCTs using CGM that was conducted in a study population with a high use of GLP1RA and SGLT2i.

Participants in both groups received a 3-h diabetes self-management education (DSME).

Minimum study contacts replicated real-world usual care. HCP visits took place every 3 months.

* CGM – Continuous glucose monitoring, BGM – Blood glucose monitoring, TIR – Time in range (70-180 mg/dL), TAR– Time above range (>250 mg/dL) The mean active sensor time assessed during the last blinded CGM at 12-month follow-up was 96.3%
† Group results from baseline to 12 months. ‡ (95% CI: 4.6; 25.9)% (P = 0.006) § (P =0.006)

1. Lind N, et al. Diabetes Care. 2024;47(5):881-9 2. Battelino T, Danne T, Bergenstal RM, et al. Diabetes Care 2019;42(8):1593–1603; doi: 10.2337/dci19-0028

GLYCEMIC AND METABOLIC OUTCOMES

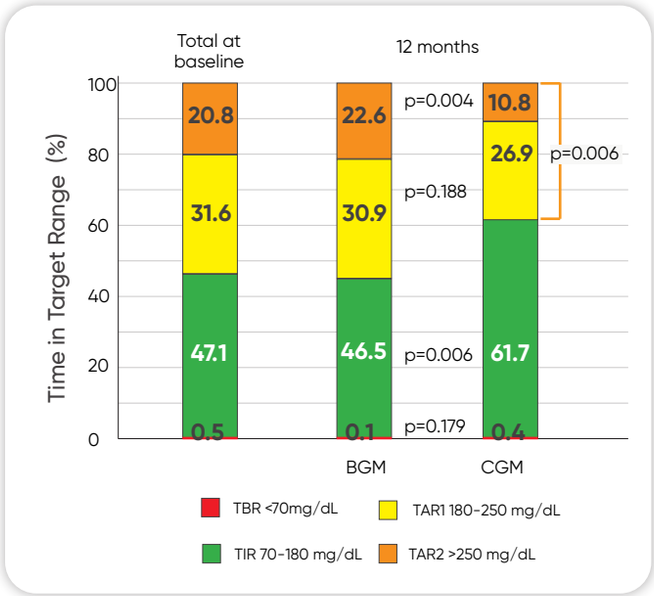
When compared to BGM, CGM* use was associated with significantly improved outcomes.† The improvements in A1C together with a decrease in total daily dose (TDD) of insulin, BMI and body weight was achieved without increasing other glucose-lowering treatments.[1]

↑15.2%‡
MORE TIR[2] (3h 39min a day)

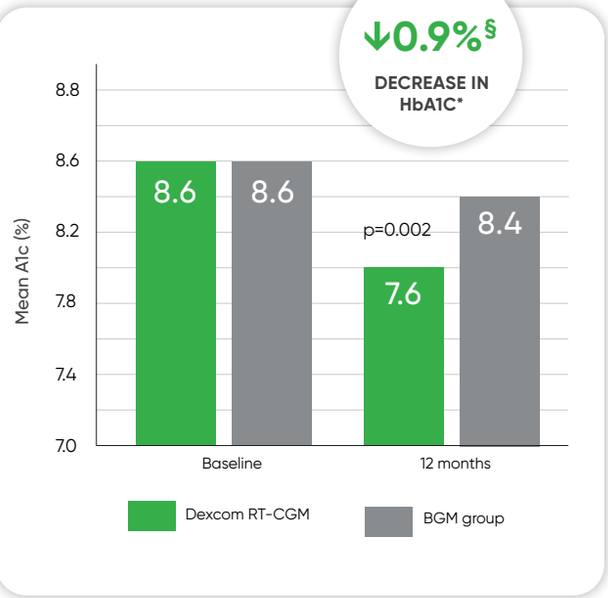
↓15.8%§
DECREASE IN TAR*

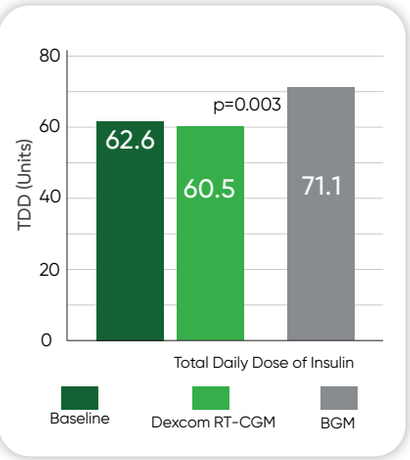
↓10.6
UNITS LESS OF INSULIN

↓3.3 kg
DECREASE IN BODY WEIGHT (SELF-REPORTED)



↓0.9%§
DECREASE IN HbA1C*





7.5% **Participants in the CGM group** no longer required insulin for treatment at 12 months (p=0.13).[1]

Key Takeaways for Dexcom CGM

- **Significant improvement of TIR[2] in the Dexcom RT-CGM treated group compared to BGM treatment at 6 months which sustained until 12 months.** (6 months: 12.4% TIR improvement (2 h 59 mins/day), P=0.021. 12 months: 15.2% TIR improvement (3 h 39 mins/day), P=0.006).[1]
- **The empowerment of people to make informed changes in their lifestyle** is supported by the between-group difference in TIR peaking during the day and changes in diet and activity.[1]
- **Treatment de-escalation is supported by significant reduction of total daily dose of insulin (TDD)**, and a tendency to lower MDI and lower insulin dependency, without increase in other glucose-lowering treatments.
- **Dexcom RT-CGM significantly improved glycemic, and self-reported metabolic participant outcomes compared to BGM in adults with insulin-treated type 2 diabetes.**

Minimal education was needed to empower self-managed behavior change.[1]

The increase of TIR was achieved **without an increase in TBR**.[1]

Participants **self-reported greater improvements** in:

- General well-being
- Diabetes related distress
- Treatment and monitoring satisfaction.[1]

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1. Nanna Lind, Merete B. Christensen, Dorte L. Hansen, and Kirsten Nørgaard, Diabetes Care 2024;47(5):1–9 | https://doi.org/10.2337/dc23-2194 2. Battelino T, Danne T, Bergenstal RM, et al. Diabetes Care 2019;42(8):1593–1603; doi: 10.2337/dci19-0028

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