Sweet Deceptions: Misrepresentation of Self-Monitored Blood Glucose Values by T2DM Patients and Impact on Clinical Decision-Making

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Background/Purpose

Patient self-monitoring of blood glucose (SMBG), alongside hemoglobin A1c (HbA1c), is an essential tool used in assessing glycemic control and directing therapy modifications in patients with type 2 diabetes mellitus (T2DM). However, misreporting of SMBG values can lead to therapeutic inertia and inappropriately impact treatment decisions. This study aims to identify the discrepancies in SMBG reporting and the impact on pharmacist interventions.

Methods

In this observational, retrospective chart review, patient data was collected from March 2022 to November 2023 from LA General Medical Center (LAGMC) using Orchid EHR. The study population included patients ≥18 years old who had pharmacist-led visits at LAGMC for diabetes management. Patient data collection included SMBG values reported at pharmacist visits, HbA1c values, appointment dates, and therapeutic interventions. A1c values were converted to estimated average glucose (eAG) to determine the association between A1c and SMBG values. Percent differences were calculated between eAG and SMBG values to observe disparities between these values. Discrepancies between SMBG and eAG values could indicate patient misreporting of SMBG values.

Results

Based on A1c data from the initial study period (March 2022 to November 2022), A1c values trended downward over time. Those with A1c <10% showed less discrepancy than those with A1c ≥ 10%. Patients with minimal discrepancy had more intensification of therapy than those with higher discrepancy. Lastly, patients who started with better alignment (≤50%) had a lower initial A1c and displayed a greater decrease in A1c than those with poor alignment (>50%).

Conclusions

Overall, patients with poorer glycemic control are more likely to misreport their SMBG values, leading to a misrepresentation of their glycemic status. This misrepresentation may contribute to a lack of optimization in clinical therapy modifications. Clinicians should consider validating SMBG values with HbA1C and/or continuous glucose monitors (CGM) when misreporting is suspected.