



Real-World Patient Perspectives on Glipizide and Empagliflozin for Type 2 Diabetes

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**Abstract:**

Background: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disorder requiring long-term pharmacological therapy. While Glipizide, a sulfonylurea, remains a common treatment option, newer agents such as Empagliflozin (Jardiance) offer potential additional benefits. Patient-reported experiences may provide valuable insights for optimizing treatment selection.

Methods: An anonymous, cross-sectional online survey was conducted among adults with T2DM who had prior exposure to both Glipizide and Empagliflozin. Participants answered four questions addressing perceived glycemic control, satisfaction, and treatment preference. Responses were summarized using descriptive statistics.

Results: A total of 39 patients completed the survey. The majority, 33 participants (85%), reported achieving better glycemic control with Glipizide, whereas 6 (15%) favored Empagliflozin. Satisfaction with Empagliflozin was mixed: 12 patients (31%) were disappointed, 20 (51%) were neutral, and 7 (18%) reported happiness with its use. In comparison, Glipizide was rated more positively, with 5 patients (13%) disappointed, 11 (28%) neutral, and 23 (59%) happy. When asked which medication they would recommend, 18 participants (46%) favored Empagliflozin, while 21 (54%) preferred Glipizide.

Conclusions: Glipizide was perceived to provide superior glycemic control and greater patient satisfaction compared with Empagliflozin. Nonetheless, nearly half of the participants recommended Empagliflozin despite lower ratings of satisfaction and efficacy. These findings suggest that patient preferences may extend beyond glycemic outcomes alone and highlight the importance of integrating patient-reported experiences into individualized treatment decisions for T2DM.

Keywords: Empagliflozin, Glipizide, Diabetes Mellitus type II

**Introduction:**

Type 2 diabetes mellitus (T2DM) is a progressive metabolic disorder characterized by insulin resistance, impaired insulin secretion, or both, resulting in chronic hyperglycemia. The long-term complications of T2DM, including cardiovascular disease, nephropathy, neuropathy, and retinopathy, contribute substantially to morbidity, mortality, and health-care costs worldwide. With the increasing global burden of diabetes, effective, safe, and patient-centered therapeutic strategies are essential¹.

Pharmacological options for T2DM have expanded considerably in recent decades. Sulfonylureas, such as Glipizide, are well-established agents that lower blood glucose by stimulating pancreatic insulin secretion. They remain widely used, particularly in resource-limited settings, due to their affordability and accessibility². However, their use is associated with potential adverse effects such as hypoglycemia, weight gain, and progressive β -cell decline³. In contrast, sodium-glucose cotransporter 2 (SGLT2) inhibitors, such as empagliflozin (Jardiance), reduce blood glucose by promoting renal glucose excretion and have demonstrated additional cardiovascular and renal benefits in randomized controlled trials^{4, 5}. As a result, international guidelines now recommend SGLT2 inhibitors not only for glycemic control but also for organ protection in selected populations⁶.

Despite strong evidence from clinical trials, less is known about how patients perceive the real-world effectiveness, satisfaction, and

tolerability of these medications. Patient-reported outcomes (PROs) are increasingly recognized as important in diabetes care, influencing adherence, persistence, and treatment success⁷. However, these perspectives remain underrepresented in clinical research and routine practice⁸.

Patient-reported experiences with therapy may not always align with clinical outcomes. For example, a treatment may be perceived as ineffective if it fails to improve daily symptoms such as fatigue, polyuria, or frequent glucose fluctuations, even when objective measures like glycated hemoglobin (HbA1c) improve. Conversely, a medication may be viewed favorably if it promotes weight reduction, has minimal adverse effects, or is positively reinforced by peers or social influences⁹. Recognizing these perceptions is essential, as shared decision-making is now regarded as a central component of modern diabetes care¹⁰. To address this gap, we conducted a cross-sectional online survey among patients with T2DM who had experience with both Glipizide and empagliflozin. The aim was to evaluate patient-reported perceptions regarding glycemic control, satisfaction, and treatment preference. These insights may help clinicians better integrate patient perspectives into shared decision-making and individualized care strategies.



Study design and participants: A cross-sectional online survey was conducted in July 2025 among adults with a diagnosis of type 2 anonymous, and no personal identifiers were collected

Survey instrument:

The survey consisted of four multiple-choice questions assessing: (1) perceived glycemic control, (2) satisfaction with Jardiance, (3) satisfaction with Glipizide, and (4) treatment recommendation. Treatment satisfaction was

diabetes mellitus who had experience using both Glipizide and empagliflozin (Jardiance). Participation was voluntary, measured using a three-point Likert scale represented by emoji symbols: 😞 (Disappointed), 😐 (Neutral), and 😊 (Happy).

Data analysis:

Responses were analyzed using descriptive statistics. Results are reported as absolute frequencies and percentages.

Results:

A total of 39 patients were included in the study. When asked which drug best controlled their blood glucose, 6 patients (15%) reported Jardiance as the more effective option, whereas 33 patients (85%) indicated Glipizide provided better control. Patient satisfaction with Jardiance was mixed: 12 participants (31%) reported being disappointed, 20 (51%) expressed a neutral response, and 7 (18%) were happy with its use. In contrast, Glipizide was rated more favorably, with 5 patients (13%) disappointed, 11 (28%) neutral, and 23 (59%) happy. When asked which drug they would recommend, 18 participants (46%) preferred Jardiance, while 21 (54%) recommended Glipizide. Overall, Glipizide was more frequently perceived as effective in glycemic control and had higher satisfaction scores compared with Jardiance, although nearly half of the participants still recommended Jardiance.



Results of the study are summarized in Table 1.

Question	Response	n (%)
Which drug best controlled your blood glucose?	Jardiance	6 (15%)
	Glipizide	33 (85%)
How do you rate Jardiance?	😞 Disappointed	12 (31%)
	😐 Neutral	20 (51%)
	😄 Happy	7 (18%)
How do you rate Glipizide?	😞 Disappointed	5 (13%)
	😐 Neutral	11 (28%)
	😄 Happy	23 (59%)
Which drug do you recommend?	Jardiance	18 (46%)
	Glipizide	21 (54%)

Table 1. Patient responses regarding Jardiance and Glipizide (N=39)

**Discussion:**

This study provides preliminary insights into patient-reported outcomes comparing two commonly prescribed oral antidiabetic agents: Glipizide, a sulfonylurea, and empagliflozin (Jardiance), a sodium-glucose cotransporter-2 (SGLT2) inhibitor. While sulfonylureas remain widely used because of their affordability and potent glucose-lowering effects, newer agents such as SGLT2 inhibitors offer cardiovascular and renal benefits that extend beyond glycemic control^{11, 12}. The present findings, although limited in scope, reflect real-world experiences and highlight the importance of patient perspectives in diabetes management.

In this survey, 85% of participants reported better glycemic control with Glipizide, whereas 15% favored empagliflozin. This preference aligns with the established mechanism of sulfonylureas, which directly stimulate pancreatic β -cells to enhance insulin secretion, often resulting in rapid and noticeable reductions in blood glucose². In contrast, SGLT2 inhibitors lower glucose by promoting urinary excretion, producing more modest reductions, particularly in patients with impaired renal function⁴. For individuals accustomed to immediate glucose-lowering effects, this may contribute to perceptions of reduced efficacy.

Satisfaction ratings further reflected this pattern. Among Glipizide users, 59% reported being “happy” compared with 18% for empagliflozin, while disappointment was higher for empagliflozin (31% vs. 13%). Despite these differences, nearly half of the participants (46%) recommended

empagliflozin, suggesting that treatment preferences are influenced by factors beyond glycemic efficacy. These may include perceived safety, weight loss, convenience, cost, physician advice, and awareness of cardiovascular and renal benefits associated with SGLT2 inhibitors.

This discrepancy highlights the evolving priorities in diabetes care, in which quality of life, risk reduction, and long-term outcomes increasingly guide decision-making, rather than glycemic targets alone⁷. Clinical guidelines, including those from the American Diabetes Association and the European Association for the Study of Diabetes, now recommend SGLT2 inhibitors in patients with established cardiovascular or renal disease, irrespective of HbA1c levels^{4, 13}. Patient understanding of these broader benefits, however, may be limited, underscoring the importance of effective patient education and shared decision-making.

The survey methodology also warrants reflection. The use of an emoji-based Likert scale provided a simple and engaging way to capture patient sentiment, but it lacks the granularity of validated instruments such as the Diabetes Treatment Satisfaction Questionnaire (DTSQ)¹⁴. Standardized tools would allow for more consistent comparisons across populations and better capture multidimensional aspects of satisfaction, including convenience, tolerability, and lifestyle impact.

This study has several limitations. The sample size ($n=39$) was small and may not be representative of the broader population with



T2DM. Self-reported perceptions are inherently subjective and may not reflect objective measures such as HbA1c, time in range, or incidence of hypoglycemia. The absence of demographic and clinical data (e.g., age, sex, duration of diabetes, comorbidities, or concurrent medications) further limits interpretation, as these factors strongly influence treatment response and patient preferences. Additionally, the simplified rating system is subject to variability in individual interpretation and may underestimate nuanced perspectives.

Despite these limitations, the findings underscore the value of integrating patient-reported outcomes into diabetes care. Larger, multicenter studies using validated instruments and real-world data sources (e.g., electronic health records, pharmacy claims, or continuous glucose monitoring) are needed to better understand how patients perceive their therapies. Coupling patient-reported outcomes with clinical endpoints such as HbA1c, weight change, and hypoglycemia would provide a more comprehensive comparison of treatment options.

In summary, while Glipizide was perceived as more effective in glycemic control and

satisfaction, a substantial proportion of patients recommended empagliflozin, reflecting the growing importance of factors beyond immediate glucose lowering. These results reinforce the role of shared decision-making and highlight the need to align therapeutic choices with both clinical evidence and patient values.

Conclusion

Patients in this survey perceived Glipizide as more effective for glycemic control and satisfaction, yet many still recommended Jardiance, likely due to its broader benefits and tolerability. These findings emphasize the multifactorial nature of treatment preferences and the importance of shared decision-making to align therapy with individual goals and priorities.

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