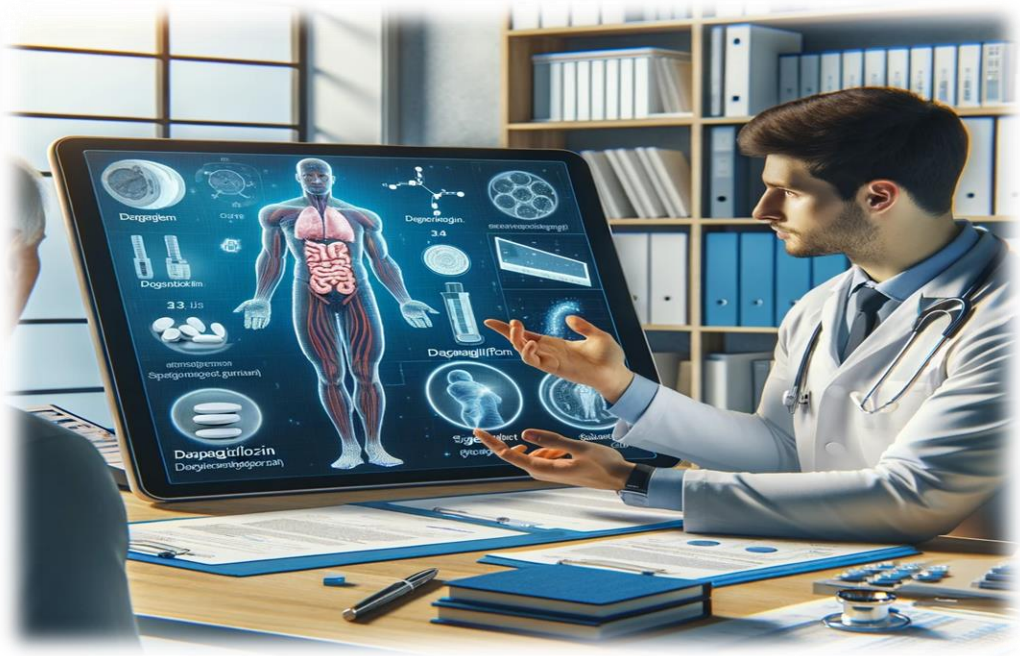

Patient Profiles of Dapagliflozin and Sitagliptin in Real World Setting

CONTENTS

Background and Objective of the Survey

Background

Type 2 diabetes mellitus (T2DM) remains a significant global health challenge due to its increasing prevalence and association with serious complications. The introduction of newer classes of antidiabetic medications, such as SGLT2 inhibitors like dapagliflozin and DPP-4 inhibitors like sitagliptin, has expanded therapeutic options, offering benefits beyond glycemic control, such as cardiovascular and renal protection.

These drugs operate through distinct mechanisms: dapagliflozin reduces renal glucose reabsorption, while sitagliptin enhances the incretin system's effectiveness, which increases insulin release and decreases glucagon levels in response to meals. Understanding how these medications are used in real-world settings can provide insights into their effectiveness, safety, and the characteristics of patients who benefit most from them.

Dapagliflozin

Dapagliflozin is classified as a sodium-glucose cotransporter 2 (SGLT2) inhibitor. It works by preventing glucose reabsorption in the kidney, leading to increased excretion of glucose through urine.

This process helps lower blood glucose levels. Beyond glycemic control, dapagliflozin is noted for its cardiovascular benefits and potential to reduce the risk of heart failure in diabetic patients. It may also aid in weight loss and blood pressure reduction, which are advantageous for diabetic patients who often have comorbid conditions like obesity and hypertension.

Sitagliptin

Sitagliptin belongs to the class of drugs known as dipeptidyl peptidase-4 (DPP-4) inhibitors. It functions by increasing the levels of incretin hormones, which enhance the production of insulin when blood glucose levels are high. Unlike dapagliflozin, sitagliptin does not directly cause glucose to be excreted in the urine but works by affecting the insulin release in response to meals.

It is particularly noted for not causing weight gain, which is a significant benefit over other antidiabetic medications that can induce weight gain. Sitagliptin is often praised for its neutral effect on weight and low risk of causing hypoglycemia.

Together, these medications offer robust options for managing type 2 diabetes, each addressing different aspects of the disease mechanism. They are sometimes used in combination to harness the benefits of both glucose excretion and enhanced insulin release, offering a comprehensive approach to controlling high blood sugar levels in patients with T2D.

Objective

- This study aims to analyze the real-world patient profiles of dapagliflozin and sitagliptin to better understand the demographic and clinical characteristics of patients who are prescribed these medications.
- By examining data from routine clinical practice, the study seeks to determine patterns in the use of these drugs, assess adherence rates, and evaluate the outcomes associated with their use.
- Additionally, the research will explore how these agents are combined with other diabetes treatments and identify any gaps in care that could inform future clinical guidelines and patient management strategies.

Methodology of the Survey

A survey was conducted to understand the current Opinion **on "Patient Profiles of Dapagliflozin and Sitagliptin in Real World Setting**" and to understand the market better and offer better services to improve the patient outcome. A total of 150 doctors from India participated in the survey.

Step 1:

A literature search was done on the topic. Below topics were covered in literature search:

- **DAPA-RWE: a retrospective multicentre study comparing dapagliflozin and sitagliptin in patients with Type 2 diabetes treated under routine clinical practice in Spain**

- **Efficacy of Fixed-dose Combination of Dapagliflozin and Sitagliptin in Type 2 Diabetes Mellitus Using Continuous Glucose Monitoring: A Real-world Study in India**

Step 2:

A survey questionnaire was prepared based on the literature search. The survey form was shared through digital medium with 150 doctors across India.

Step 3:

Their responses were analysed and the findings are provided in this survey analysis booklet.

Literature Review

DAPA-RWE: a retrospective multicenter study comparing dapagliflozin and sitagliptin in patients with Type 2 diabetes treated under routine clinical practice in Spain

Introduction

Achieving glycemic control is crucial to minimize the morbidity and long-term mortality associated with Type 2 diabetes (T2D) [1]. Therefore, maintaining effective therapeutic strategies is critical. Oral metformin, often the initial treatment for T2D, diminishes in antihyperglycemic effectiveness over time, necessitating escalated therapy [2]. Sulfonylureas, another treatment option, can lose efficacy within the first year and are associated with weight gain and hypoglycemia. These side effects can deter patient adherence and degrade glycemic management [3,4]. Additionally, a significant portion of T2D patients are obese or hypertensive, with nearly 40% not achieving metabolic targets [5,6], underscoring the challenges in treating this condition.

Real-world studies are vital for understanding the safety and efficacy of treatments within broader patient populations typically excluded from controlled trials due to comorbidities or other factors. For instance, real-life studies report more frequent hypoglycemic episodes among insulin-treated patients than controlled trials [7], emphasizing the importance of real-world data.

Dapagliflozin (FORXIGA™), a reversible inhibitor of the sodium–glucose cotransporter 2 (SGLT2i), combats hyperglycemia by blocking glucose reabsorption in the kidneys and enhancing glucose excretion via urine, independently of insulin [8]. Approved in the European Union for T2D management alone or with other treatments when metformin is unsuitable, dapagliflozin has been well-documented in clinical development, with studies spanning up to four years and international clinical practice reports [9,10]. However, detailed reports of its application in Spain remain scarce.

Sitagliptin, another widely used oral antihyperglycemic agent in Spain, works as a DPP4 inhibitor, preserving incretins that regulate glucose levels by enhancing insulin secretion and reducing glucagon in a glucose-dependent manner.

The DAPA-RWE study is a retrospective, multicenter, observational analysis designed to evaluate the effectiveness and safety of these oral antihyperglycemic drugs in typical clinical settings in Spain. The study specifically compares the real-world outcomes of dapagliflozin against sitagliptin, focusing on changes in glycosylated hemoglobin (HbA1c) and body weight after six months of therapy.

Materials & Methods

- **Study design & patients**

DAPA-RWE was a retrospective, observational, multicenter study designed to assess the effectiveness and safety of dapagliflozin compared to sitagliptin in patients with Type 2 diabetes (T2D) within the context of routine clinical practice in Spain. The research was conducted across 22 Spanish healthcare centers, adhering to the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) Good Clinical Practice guidelines, and received approval from respective Research Ethics Committees.

To participate, patients had to be 18 years or older with a stable diagnosis of T2D, treated with standard antihyperglycemic therapies that included either dapagliflozin or sitagliptin, initiated at least six months prior to study inclusion. Essential baseline data required for inclusion consisted of gender, age, T2D diagnosis date, weight, height, systolic and diastolic blood pressure, body mass index (BMI), concomitant medications, fasting blood glucose, glycosylated hemoglobin (HbA1c), and estimated glomerular filtration rate (eGFR). Additionally, participants were required to have attended a follow-up appointment approximately six months after the initial visit (±3 months). Exclusion criteria ruled out patients with Type 1 diabetes or those with gestational diabetes.

- **Study outcomes**

The main objective of the study was to compare the effectiveness of dapagliflozin with that of sitagliptin, measured as a composite end point comprising reduced HbA1c and weight at 6 months of treatment under conditions of usual clinical practice. Weight

was considered to have been reduced if the patient lost ≥1.5 kg, and HbA1c was reduced if it fell by ≥0.5%.
The secondary objectives were assessment of the use of SGLT2i/DPP4i (in mono-, double or triple therapy), measurement of the incidence and severity of hypoglycemia, measurement of the incidence of urinary and genital infections and evaluation of differences in patient characteristics at the beginning and end of treatment (6 months ± 3 months).
Patients were retrospectively evaluated at initiation of treatment (baseline), 6 months (±3 months) of treatment and, if applicable and available, every 6 months (±2 months) of treatment thereafter. Evaluable patients were those with complete data at the start of treatment (baseline) and at 6 months of treatment (±3 months).

- **Statistical analysis**

The primary endpoint of this study was to assess the proportion of patients who achieved both a reduction of at least 0.5% in HbA1c and a weight loss of at least 1.5 kg after six months of treatment. The study aimed to demonstrate the superiority of dapagliflozin over sitagliptin in achieving this composite outcome. Based on the assumption that 60% of patients treated with dapagliflozin and 50% of those treated with sitagliptin would meet the primary outcome, it was calculated that 407 evaluable patients per treatment group would be needed to reject the null hypothesis (with a power of 80% and a significance level of 5% on a two-sided test) that both treatments were equally effective. Anticipating that 25% of participants might not be evaluable, the sample size was set at 509 patients per group, totaling 1018 patients for the study.

Table 1. Baseline characteristics of evaluable patients per treatment cohort.[†,‡]

Outcome	Sitagliptin (n = 452)	Dapagliflozin (n = 594)
Gender – male	57.6%	56.6%
Arterial hypertension	64.3%	69.4%
Dyslipidemia	70.3%	75.6%
Obesity (BMI>30)	**39.03%**	**71.6%**
Chronic kidney disease[§]	**27.3%**	**19.8%**
Secondary CV prevention	24.6%	21.7%
Ischemic heart disease	14.9%	14.5%
Cerebrovascular disease	6.9%	5.1%
Peripheral arterial disease	7.8%	6.2%
Chronic heart failure	5.1%	3.7%
Nonalcoholic fatty liver disease	**5.2%**	**10.4%**
PDR	13.6%	13.1%

[†]Data presented as % of patients.
[‡]Statistically significant differences are marked in bold.
[§]Chronic kidney disease is defined as an estimated glomerular filtration rate <60 ml/min/1.73 m^2.
CV: Cardiovascular; PDR: Proliferative diabetic retinopathy.

To minimize bias from confounding variables, a multivariate matching analysis was performed. A propensity score was calculated using logistic regression to adjust for variables that were both statistically significant and potentially clinically significant.

Categorical data were presented in terms of frequency (both absolute and relative), while continuous variables were summarized using mean and standard deviation. Statistical analyses were conducted using IBM SPSS Statistics for Windows, Version 21.0 (IBM Corp., Armonk, NY, USA).

Results

The study population included 1056 patients with Type 2 diabetes, enrolled from March to June 2018, with 1046 found evaluable. Treatment cohorts consisted of 452 patients on sitagliptin and 594 on dapagliflozin. The mean age was 61.8 years in the dapagliflozin group and 66.2 years in the sitagliptin group. Baseline characteristics showed balance across most parameters between groups, with no significant differences in gender, hypertension, dyslipidemia, retinopathy, or ischemic heart disease. HbA1c levels were comparable between groups, however, significant differences were observed in obesity prevalence and baseline weight, with the dapagliflozin cohort showing higher obesity rates and weights.

Differences in chronic kidney disease and nonalcoholic fatty liver disease prevalence were also noted, with chronic kidney disease more common in the sitagliptin group and nonalcoholic fatty liver disease more frequent in the dapagliflozin group. Other clinical characteristics, such as disease duration and blood pressure, were similarly balanced, though significant variations were observed in age, obesity-related measurements (waist circumference, BMI, weight), and eGFR values.

Exposure to both sitagliptin and dapagliflozin, as well as other antihyperglycemic treatments, was comparable between the cohorts. Approximately half of the patients in both groups had previously been treated with insulin analogues, and a majority had received metformin, with around a quarter having previously used sulfonylureas or repaglinide.

The primary goal of the study was to assess the effectiveness and safety of dapagliflozin versus sitagliptin, focusing on a composite endpoint of reduced HbA1c and weight after 6 months. This goal was substantially met in the dapagliflozin group, with a significant 31.7% difference in achieving this composite endpoint

compared to the sitagliptin group. Further analyses revealed significant reductions in both weight and HbA1c from baseline to the end of treatment in both cohorts, with the dapagliflozin group showing a more pronounced reduction.

Confounding factors like differences in weight, age, BMI, eGFR, and waist circumference at baseline were considered through a propensity score matching analysis, confirming the robustness of the results in favor of dapagliflozin even after adjusting for these variables.

The study also noted a higher incidence of genital and urinary tract infections in the dapagliflozin group compared to the sitagliptin group, with no significant reports of hypoglycemia during the study period.

Table 2. Baseline clinical characteristics of evaluable patients per treatment cohort.[†,‡]

Outcome	Sitagliptin	Dapagliflozin	Statistical significance[‡]
Age (years)	**66.2 ± 11.4**	**61.8 ± 10.0**	¶
Disease duration (years)	14.0 ± 9.4	13.1 ± 7.8	NS
HbA1c (%)	8.8 % ± 5.8	8.9 % ± 7.2	NS
FPG (mg/dl)	170.3 ± 60.9	173.9 ± 62.8	NS
Weight (kg)	**80.4 ± 16.7**	**92.0 ± 17.5**	¶
Waist circumference (cm)	**99.7 ± 17.6**	**106.9 ± 18.1**	¶
BMI (kg/m^2)	**29.9 ± 5.6**	**33.8 ± 5.8**	¶
SBP (mmHg)	140.5 ± 17.8	140.3 ± 18.0	NS
DBP (mmHg)	79.1 ± 10.7	80.5 ± 11.2	NS
eGFR (mg/dl)[§]	**77.2 ± 24.7**	**82.7 ± 24.8**	¶
LDL (mg/dl)	**102.5 ± 36**	**95.7 ± 33**	¶
HDL (mg/dl)	46.9 ± 15	44.3 ± 14	NS
Triglycerides (mg/dl)	**160.9 ± 99**	**187.9 ± 149**	¶
Uric acid (mg/dl)	5.2 ± 1.6	5.5 ± 4.4	NS
Hematocrit (%)	41.5 ± 6.5	42.8 ± 5.3	NS
Prior treatment:			
Metformin	88.9%	86%	NS
Sulfonylurea/repaglinide	25.3%	27.8%	NS
Pioglitazone	3.8%	3.9%	NS
DPP4	**0%**	**17.2%**	¶
SGLT2 inhibitor	**4.4%**	**0%**	¶
Glucagon-like peptide-1	13.7%	16.8%	NS
Insulin analogues	45.5%	42.4 %	NS

[†]Data presented as mean (± standard deviation).
[‡]Statistically significant differences are marked in bold (t-test for comparing means).
[§]The eGFR was calculated using the CKD-EPI method.
¶% relative frequency.
CKD: Chronic kidney disease; DBP: Diastolic blood pressure; eGFR: Estimated glomerular filtration rate; FPG: Fasting plasma glucose; HbA1c: Glycosylated hemoglobin; HDL: High-density lipoprotein; LDL: Low-density lipoprotein; NS: Not significant; SBP: Systolic blood pressure; SGLT2: Sodium-glucose cotransporter 2.

Discussion

The DAPA-RWE study conducted a retrospective analysis on 1046 Type 2 diabetes (T2D) patients treated in a routine clinical practice setting in Spain. The study's principal goal was to evaluate the efficacy of the SGLT2 inhibitor dapagliflozin compared to the DPP4 inhibitor sitagliptin. This evaluation was based on achieving a composite endpoint of a reduction in HbA1c by at least 0.5% and weight by at least 1.5 kg over 6 months. The results indicated that 56.1% of patients in the dapagliflozin cohort reached this endpoint compared to 24.4% in the sitagliptin cohort, thereby demonstrating dapagliflozin's superior effectiveness. The observed difference between the cohorts was over 30%, exceeding the anticipated 10%.

Notably, there was no significant difference in achieving a 0.5% reduction in HbA1c alone between the cohorts. This finding aligns with other real-world data, such as a study from Italy where dapagliflozin and various DPP4 inhibitors showed similar reductions in HbA1c after 6 months. However, the significant difference in the combined endpoint of weight reduction and HbA1c reduction underscores dapagliflozin's advantages, particularly in weight management.

The study also highlighted significant baseline differences in weight, age, BMI, eGFR, and waist circumference between the cohorts, suggesting that dapagliflozin might be preferred for patients with higher baseline weights due to its weight loss benefits. This pattern is consistent with clinical practices and guidelines that recommend SGLT2 inhibitors for patients needing substantial weight management. Propensity score matching confirmed that the observed benefits in the dapagliflozin cohort were not solely due to these baseline differences.

Table 3. Reduction in weight and HbA1c after 6 months of treatment.[†]

Outcome	Sitagliptin	n	Dapagliflozin	n	Dapa-Sita[‡]
Weight reduction[§]	30.8%	428	64.7%	567	33.9%
HbA1c reduction[¶]	79.3%	430	82.3%	566	3%
Weight + HbA1c reduction	24.4%	427	56.1%	565	31.7%
Weight reduction total	-0.61 kg (80.56 → 79.95 kg)	428	-2.88 kg (92.05 → 89.17 kg)	567	
HbA1c reduction total	-1,43% (8.79% to 7.36%)	430	-1,63% (8.91% to 7.28%)	566	

[†]Statistically significant differences are marked in bold.
[‡]'Dapa-Sita' was calculated as follows: % in dapagliflozin cohort – % in sitagliptin cohort.
[§]Weight reduction was defined as a reduction of ≥1.5 kg after 6 months of treatment.
[¶]HbA1c reduction was defined as a reduction of ≥0.5% after 6 months of treatment.
HbA1c: Glycosylated hemoglobin.

In terms of safety, the incidence of genital and urinary tract infections in the dapagliflozin cohort was within the expected range and did not lead to significant discontinuation, validating the study's external validity. The overall findings from the DAPA-RWE study not only reinforce dapagliflozin's role in effective weight management but also align with broader clinical data suggesting its benefits in terms of efficacy and safety.

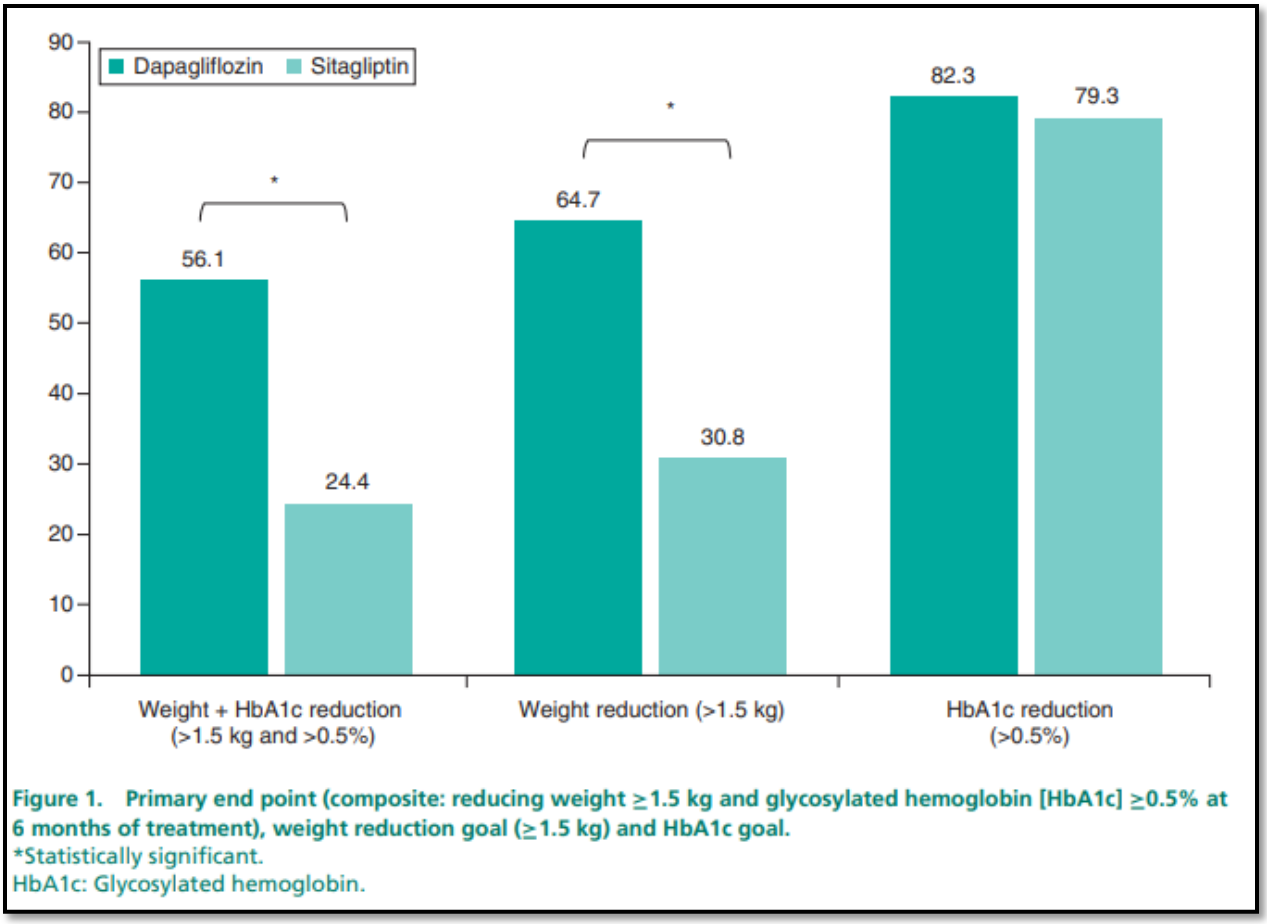

Figure 1. Primary end point (composite: reducing weight ≥1.5 kg and glycosylated hemoglobin [HbA1c] ≥0.5% at 6 months of treatment), weight reduction goal (≥1.5 kg) and HbA1c goal.
*Statistically significant.
HbA1c: Glycosylated hemoglobin.

Conclusion

The DAPA-RWE study marks the inaugural examination of dapagliflozin's application in clinical practice within Spain, showcasing its superior efficacy in reducing HbA1c levels and facilitating weight loss compared to sitagliptin. This study not only confirms the results observed in clinical trials but also exceeds them in terms of effectiveness. The tolerability and safety profile of dapagliflozin were also found to be manageable in the real-world setting, reinforcing its suitability for routine use. Given the frequent correlation between Type 2 diabetes (T2D) and obesity, the choice

of therapeutic intervention may be influenced by its potential impact on body weight, making dapagliflozin a particularly appealing option for patients struggling with both conditions.

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Efficacy of Fixed-dose Combination of Dapagliflozin and Sitagliptin in Type 2 Diabetes Mellitus Using Continuous Glucose Monitoring: A Real-world Study in India

Introduction

Diabetes remains one of the fastest-growing health challenges globally. According to the International Diabetes Federation (IDF), the number of people with diabetes is projected to rise to 643 million by 2030 and 783 million by 2045 worldwide [1]. Particularly in India and other South Asian countries, the prevalence of diabetes is notably high, expected to increase from 77 million in 2019 to 134 million by 2045 [2]. Additionally, around 25 million individuals are currently considered prediabetic, signaling a likely transition to diabetes soon [3].

Type 2 diabetes mellitus (T2DM) is a progressive metabolic disorder characterized by a combination of genetic and environmental risk factors [4, 5]. Effective glycemic control is crucial to slow the progression of T2DM and minimize its complications [6]. Numerous pharmacological agents are available for maintaining euglycemia, including biguanides, sulfonylureas, α-glucosidase inhibitors, dipeptidyl peptidase-4 (DPP4) inhibitors, sodium-glucose cotransporter 2 (SGLT2) inhibitors, meglitinides, and thiazolidinediones [5,7]. Most of these drugs initially manage blood sugar effectively but fail to maintain normoglycemia over time as monotherapies, necessitating combination treatments [7,8]. In India, fixed-dose combinations (FDCs) are frequently prescribed for newly diagnosed T2DM patients due to their convenience, reduced side effects, cost-effectiveness, and improved patient compliance [10]. The FDC of dapagliflozin and sitagliptin is particularly favored; dapagliflozin works by enhancing glucose excretion in urine, thereby lowering blood glucose levels, while sitagliptin increases insulin secretion by elevating incretin levels, effectively reducing both fasting and postprandial glucose levels [11].

Despite the proven benefits of these drugs in various populations, their effects in the Indian demographic are less understood [12,13]. This underscores the need for more targeted research, particularly employing Continuous Glucose Monitoring (CGM) systems that offer a more detailed view of glucose fluctuations than the traditional HbA1c test. CGM systems measure glucose every few minutes to provide a comprehensive 24-hour profile, which helps in identifying nocturnal and asymptomatic hypoglycemia and adjusting treatment plans accordingly [15].

Objective

The main objective of this study is to evaluate the real-world efficacy of the FDC of dapagliflozin and sitagliptin in the Indian T2DM population using Time-in-Target (TIT) from CGM as the primary metric. TIT assesses the proportion of time an individual's glucose levels are within the target range, offering a nuanced understanding of glycemic control that extends beyond traditional metrics like HbA1c. This study also aims to explore other critical CGM metrics such as Time Below Target (TBT) and Time Above Target (TAT), which together provide a comprehensive assessment of an individual's glycemic profile.

Materials and Methods

Study Design and Participants Enrolment

This retrospective, single-arm, real-world study was conducted at the SKN Diabetes and Endocrine Centre in North 24 Parganas, West Bengal. The study enrolled 28 adult patients diagnosed with Type 2 diabetes mellitus (T2DM) who consented to participate. Inclusion criteria stipulated that patients must be over 18 years of age, non-hospitalized, and exhibit an estimated glomerular filtration rate (eGFR) greater than 60 ml/min/1.73m². Each participant was equipped with a Continuous Glucose Monitoring System (CGMS), specifically the Freestyle Libre Pro, to monitor their glucose levels continuously.

The study meticulously recorded each patient's demographic and clinical characteristics, including age, sex, weight, body mass index (BMI), glycated hemoglobin (HbA1c) levels, the number of oral hypoglycemic agents used, and insulin dosage. Exclusion criteria for this study included individuals under 18 years of age, those diagnosed as prediabetic, patients with Type 1 diabetes, pregnant women, and individuals with an eGFR below 60 ml/min/1.73 m². This setup aimed to gather comprehensive real-world data on the efficacy and safety of diabetes management strategies in an adult Indian population with T2DM.

Procedure

The administration of the fixed-dose combination (FDC) of dapagliflozin and sitagliptin began concurrently with the initiation of Continuous Glucose Monitoring System (CGMS) usage on the first day. This approach was specifically adopted for patients whose glycemic levels were not within the targeted range, against the

backdrop of their existing diabetes therapies. To establish a baseline, the average values from the first four days were used, which align with the peak plasma concentration typically achieved between the third and fourth day following the commencement of the FDC therapy.

All participants in the study were prescribed a daily regimen consisting of 10 mg of dapagliflozin and 100 mg of sitagliptin. This treatment protocol was maintained consistently for a duration of 15 days to evaluate the effectiveness and impacts of the combination therapy on their glycemic control.

Outcomes

For the study's efficacy assessment, key metrics such as Average Daily Glucose (ADG), Time in Target (TIT), Time Below Target (TBT), and Time Above Target (TAT) were initially recorded. These baseline measurements were based on averages from the first four days, aligning with the peak concentration of the fixed-dose combination (FDC).

Changes in these parameters were then documented at the conclusion of the study on the 15th day of Continuous Glucose Monitoring System (CGMS) use. Additionally, percentage improvements for each efficacy metric were calculated, providing a concise evaluation of the treatment's impact on glycemic control.

Results

Patients Demographic

Of the 28 participants in the study, 60.7% were male and 39.2% were female, ranging in age from 31 to 74 years. The average body weight for 23 patients was 64.67 ± 9.52 kg. Details such as body mass index and HbA1c levels for 19 patients are provided in Table 1, which also includes additional patient characteristics. The patients were previously on various antidiabetic therapies detailed in Table 2.

Among them, 14 patients were on triple therapy combinations: one patient on Metformin, Repaglinide, and Voglibose; and 13 on Glimepiride, Metformin, and Pioglitazone. Five patients received dual therapy with Glimepiride and Metformin, while monotherapy was administered to two patients—one on Metformin and another on Insulin. Additionally, 15 patients were treated with insulin therapy, specifically Glargine, Degludec, and Aspart, with an average insulin dose of 16.40 IU.

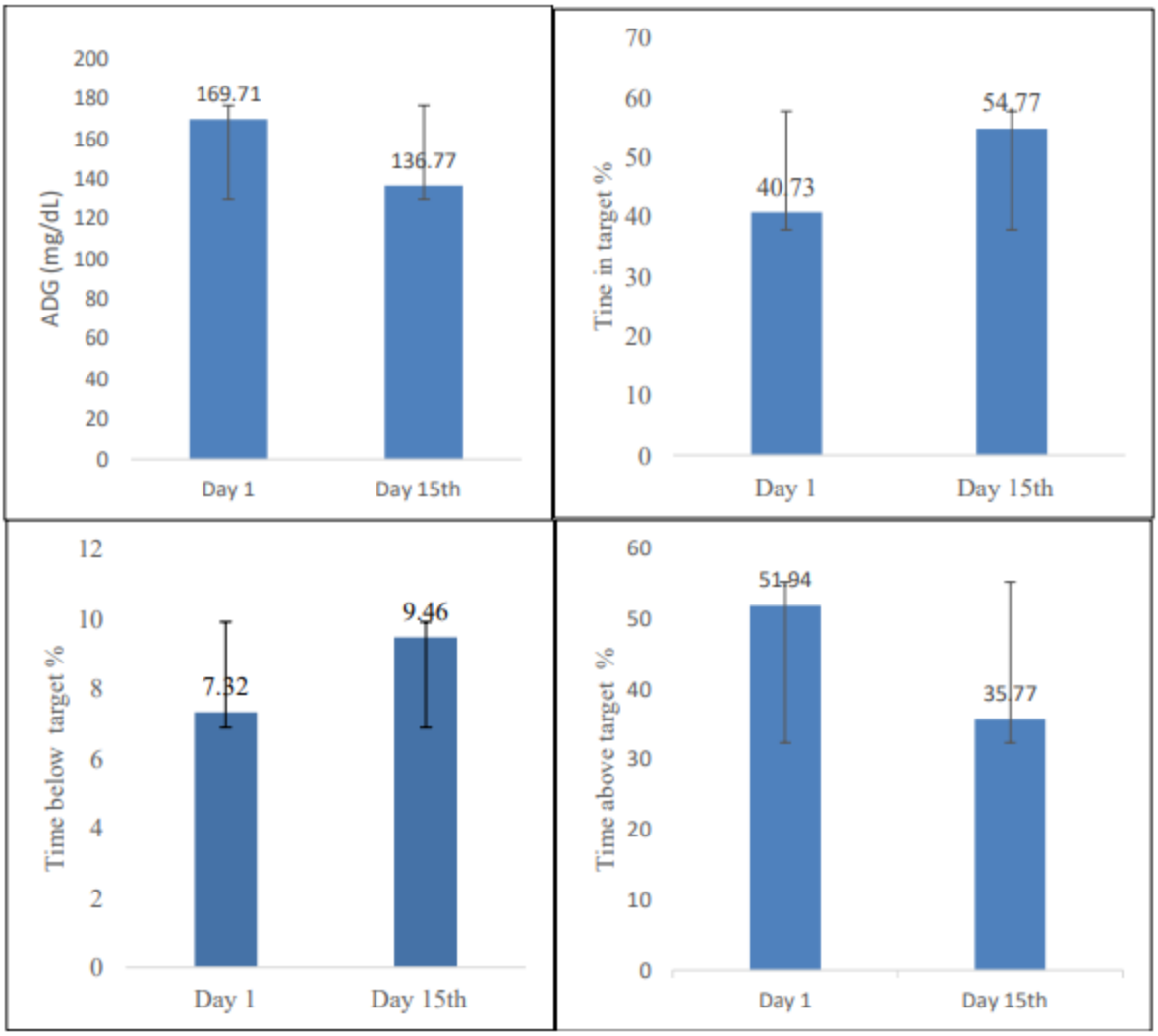

Fig. 1. Change in Average Daily Glucose, Time-in-target, Time-below-target, Time-above-target after the administration of FDC. Data are expressed as mean ± standard deviation; $p<0.05$ was considered statistically significant

Discussion

This study in India explored the efficacy of a fixed-dose combination (FDC) of dapagliflozin and sitagliptin in controlling blood glucose in patients with Type 2 diabetes mellitus (T2DM). Utilizing continuous glucose monitoring (CGM) instead of relying solely on HbA1c levels, this research aimed to provide a more nuanced understanding of daily glucose fluctuations and overall glycemic control. CGM allows for the assessment of Time in Target (TIT), a metric gaining recognition for its comprehensive snapshot of glycemic management. The study involved 28

participants who were administered a once-daily dose of dapagliflozin (10 mg) and sitagliptin (100 mg). Initial results indicated significant improvements in average daily glucose (ADG) and TIT, suggesting the FDC was effective in managing T2DM. This aligns with previous research indicating the benefits of dapagliflozin and sitagliptin in improving insulin sensitivity and glycemic control. The findings underscore the potential of FDCs in enhancing treatment outcomes for diabetic patients in India.

Conclusion

The management of Type 2 diabetes mellitus (T2DM) requires tailored strategies to sustain long-term glycemic control and minimize the risk of complications. This study demonstrates that the daily use of a fixed-dose combination (FDC) of dapagliflozin and sitagliptin significantly enhances key glycemic parameters such as average daily glucose (ADG), Time in Target (TIT), and Time Above Target (TAT) within 15 days among Indian T2DM patients.

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SURVEY FORM

1. For which T2DM patient profiles do you frequently prescribe Dapagliflozin?

A. Patients with cardiovascular risk factors

B. Patients with obesity or overweight

C. Patients with renal impairment

2. For which T2DM patient profiles do you frequently prescribe Sitagliptin?

A. Limitation of use of sitagliptin in history of pancreatitis.

B. Patients with mild renal impairment

C. Patients with a preference for oral medications

3. In your clinical experience, how effective is Dapagliflozin in reducing HbA1c levels in patients with type 2 diabetes?

A. Highly effective

B. Moderately effective

C. Slightly effective

D. Ineffective

E. Not sure

4. In your clinical experience, how effective is Sitagliptin in reducing HbA1c levels in patients with type 2 diabetes?

A. Highly effective

B. Moderately effective

C. Slightly effective

D. Ineffective

E. Not sure

5. How frequently do you prescribe the combination of Dapagliflozin and Sitagliptin for patients with type 2 diabetes?

A. Very frequently, as a preferred combination therapy.

B. Occasionally, for specific patient cases

C. Rarely, only in exceptional situations

D. I do not commonly prescribe this combination

6. In your experience, what benefits have you observed with the combination of Dapagliflozin and Sitagliptin in diabetes management?

A. Improved glycemic control compared to monotherapy

B. Additional cardiovascular risk reduction benefits

C. Weight loss in patients with obesity or overweight.

D. No additional benefits observed

7. Which factors influence your decision to initiate the combination of Dapagliflozin and Sitagliptin in diabetic patients?

A. Inadequate glycemic control with monotherapy

B. High cardiovascular risk and need for risk reduction

C. Presence of obesity or overweight in patients

D. I do not commonly initiate this combination

8. Have you observed any specific patient demographics that respond better to the combination of Dapagliflozin and Sitagliptin?

A. Younger patients

B. Older patients

C. Patients with specific comorbidities

D. No noticeable differences

9. How has the response of patients > 65 years to the combination of Dapagliflozin and sitagliptin been?

A. Excellent

B. Good

C. Fair

D. Poor

10. How do you address patient concerns related to potential side effects of the combination of Dapagliflozin and Sitagliptin?

A. Provide detailed information about side effects during consultations

B. Offer alternative medication options

C. Adjust the medication doses if necessary

D. Monitor for side effects and manage them accordingly.

11. In obese patients with uncontrolled hyperglycemia, what percentage of patients treated with the combination of Dapagliflozin and Sitagliptin reach target HbA1c?

A. <20%

B. 21-40%

C. 41-60%

D. >60%

12. Do you consider the combination of Dapagliflozin and Sitagliptin to be a cost- effective option for diabetes management?

A. Yes

B. No

13. In your experience, how well-tolerated is the combination of Dapagliflozin and Sitagliptin in elderly patients (above 60 years)?

A. Very well-tolerated

B. Moderately well-tolerated

C. Poorly tolerated

D. Not sure

14. In newly diagnosed type 2 diabetes patients with HbA1c >9.0%, what percentage of patients treated with the combination of Dapagliflozin and Sitagliptin reach target HbA1c?

A. <30%

B. 31-50%

C. 51-60%

D. >60%

15. What side effects, if any, have you observed in patients taking the combination of Dapagliflozin and Sitagliptin?

A. Genital mycotic infections

B. Urinary tract infections

C. Hypoglycemia (low blood sugar)

D. No specific side effects observed

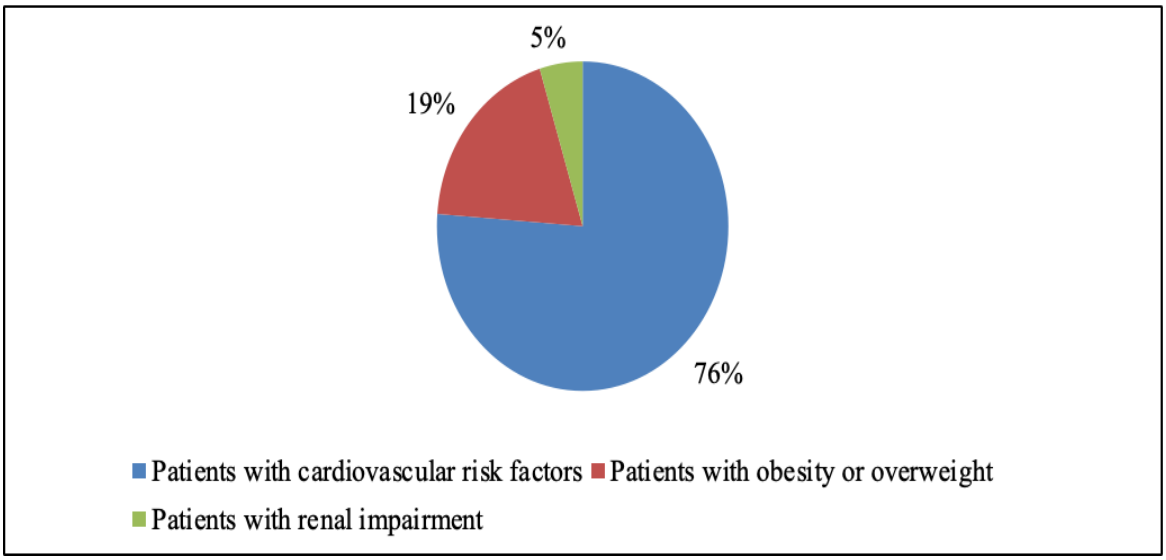
SURVEY FINDINGS

1. For which T2DM patient profiles do you frequently prescribe Dapagliflozin?

A. Patients with cardiovascular risk factors

B. Patients with obesity or overweight

C. Patients with renal impairment



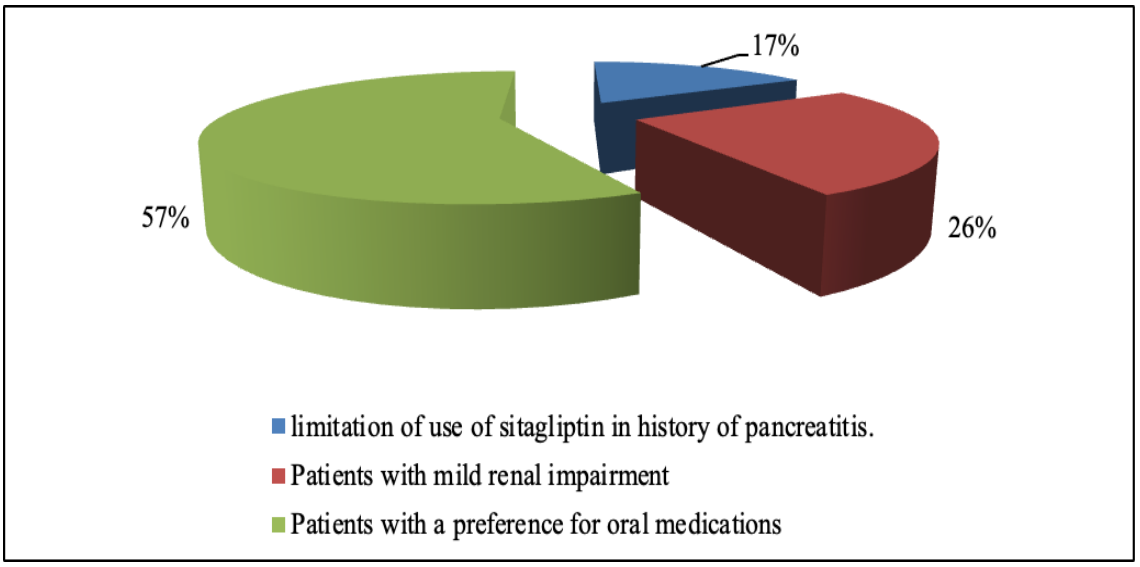
Dapagliflozin is frequently prescribed for patients with type 2 diabetes mellitus (T2DM) who have cardiovascular risk factors

2. For which T2DM patient profiles do you frequently prescribe Sitagliptin?

A. Limitation of use of sitagliptin in history of pancreatitis.

B. Patients with mild renal impairment

C. Patients with a preference for oral medications



Sitagliptin is frequently prescribed for T2DM patients who have a preference for oral medications. This approach is utilized by 57% of doctors to accommodate patient preferences and enhance treatment adherence.

3. In your clinical experience, how effective is Dapagliflozin in reducing HbA1c levels in patients with type 2 diabetes?

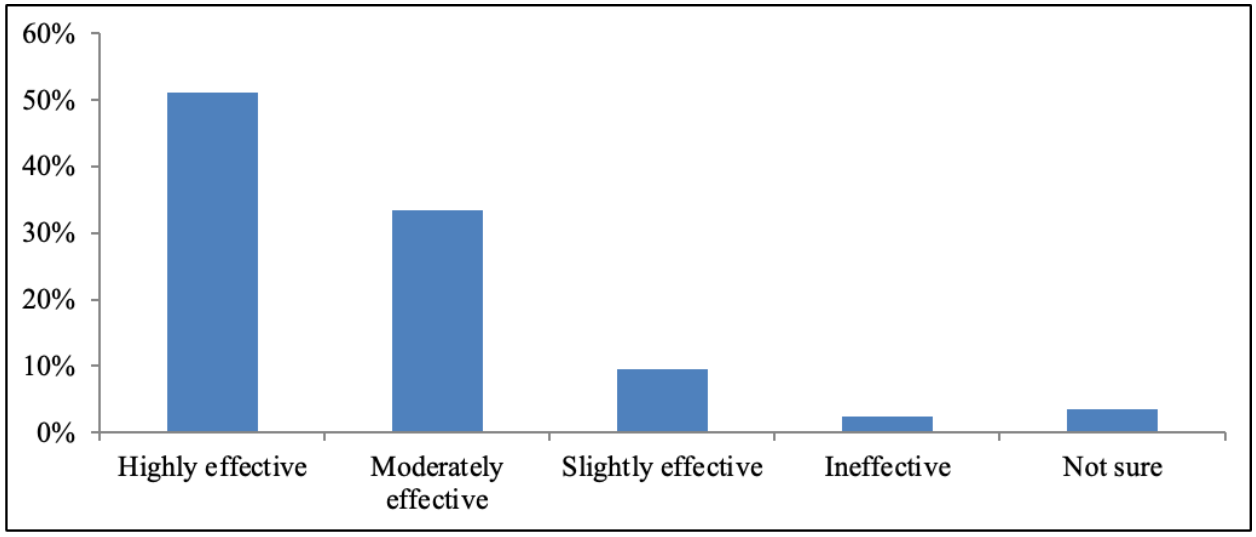
A. Highly effective

B. Moderately effective

C. Slightly effective

D. Ineffective

E. Not sure



In the clinical experience, Dapagliflozin is highly effective in reducing HbA1c levels in patients with type 2 diabetes. This medication has shown significant efficacy in improving glycemic control.

4. In your clinical experience, how effective is Sitagliptin in reducing HbA1c levels in patients with type 2 diabetes?

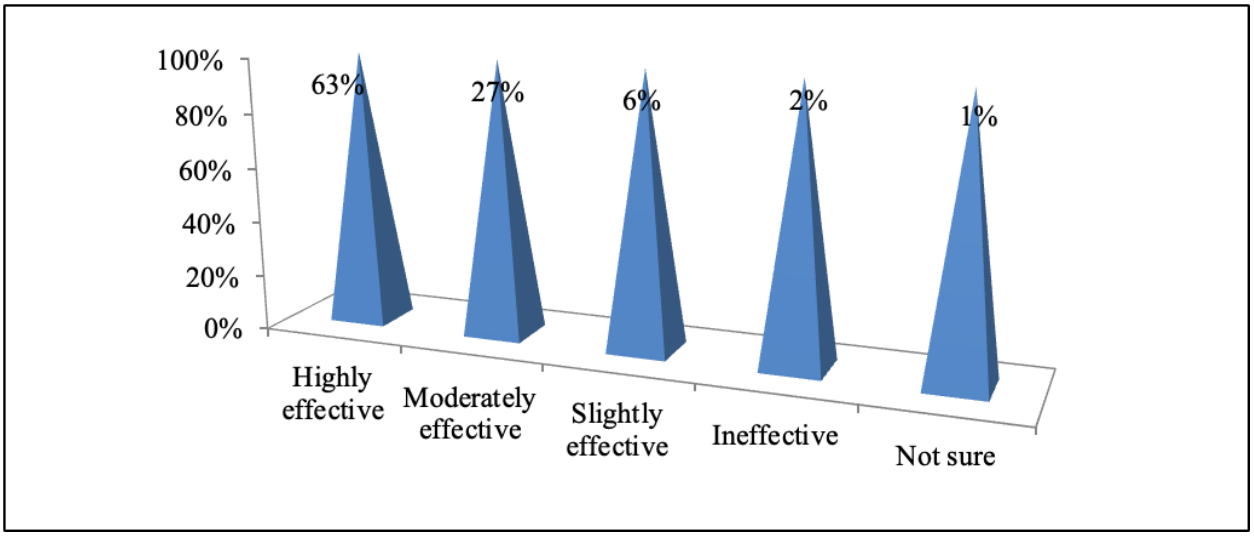
A. Highly effective

B. Moderately effective

C. Slightly effective

D. Ineffective

E. Not sure



In my clinical experience, Sitagliptin is highly effective in reducing HbA1c levels in patients with type 2 diabetes. This medication has consistently demonstrated significant efficacy in improving glycemic control.

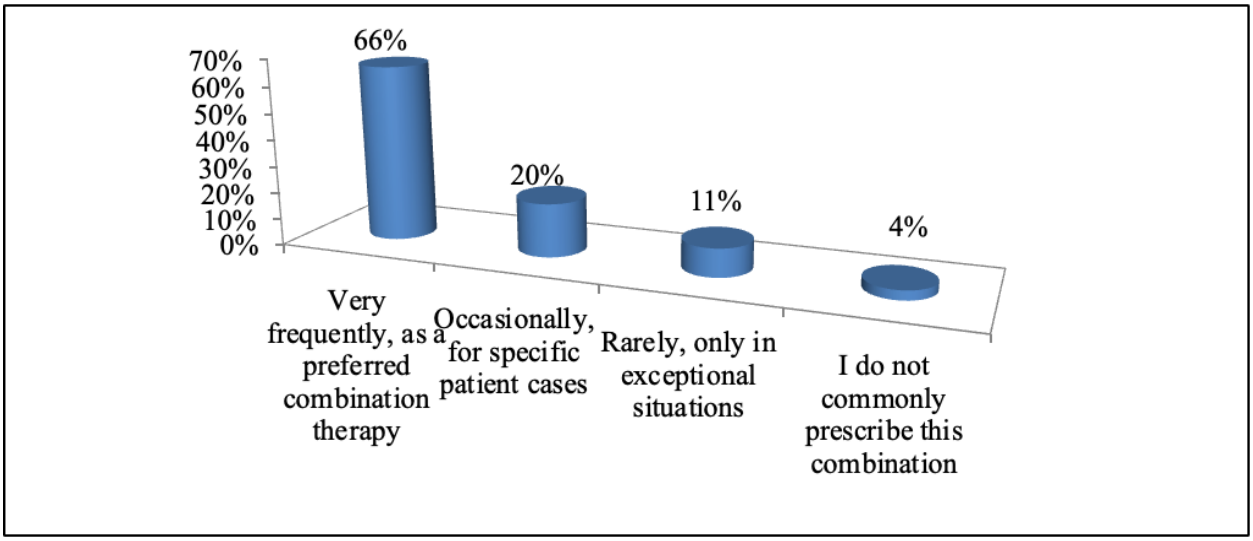
5. How frequently do you prescribe the combination of Dapagliflozin and Sitagliptin for patients with type 2 diabetes?

A. Very frequently, as a preferred combination therapy

B. Occasionally, for specific patient cases

C. Rarely, only in exceptional situations

D. I do not commonly prescribe this combination



The combination of Dapagliflozin and Sitagliptin is prescribed very frequently, as a preferred combination therapy for patients with type 2 diabetes. This approach is utilized by 66% of clinicians to effectively manage glycemic levels and improve patient outcomes.

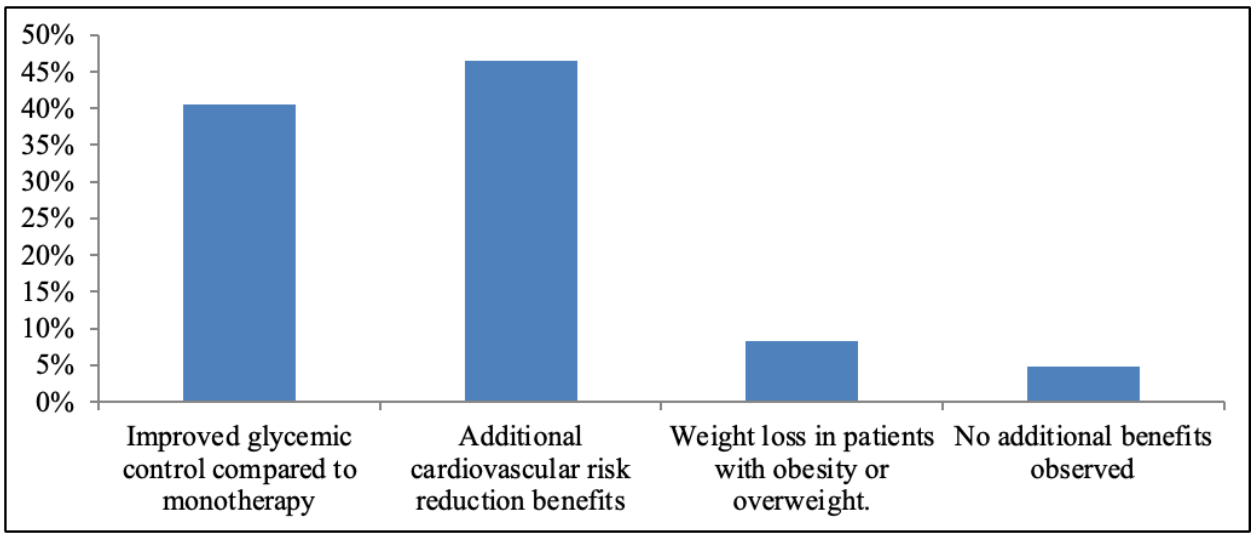
6. In your experience, what benefits have you observed with the combination of Dapagliflozin and Sitagliptin in diabetes management?

A. Improved glycemic control compared to monotherapy

B. Additional cardiovascular risk reduction benefits

C. Weight loss in patients with obesity or overweight.

D. No additional benefits observed



In my experience, the combination of Dapagliflozin and Sitagliptin in diabetes management has provided additional cardiovascular risk reduction benefits. This therapeutic approach offers more than just glycemic control, contributing to improved overall cardiovascular health in patients.

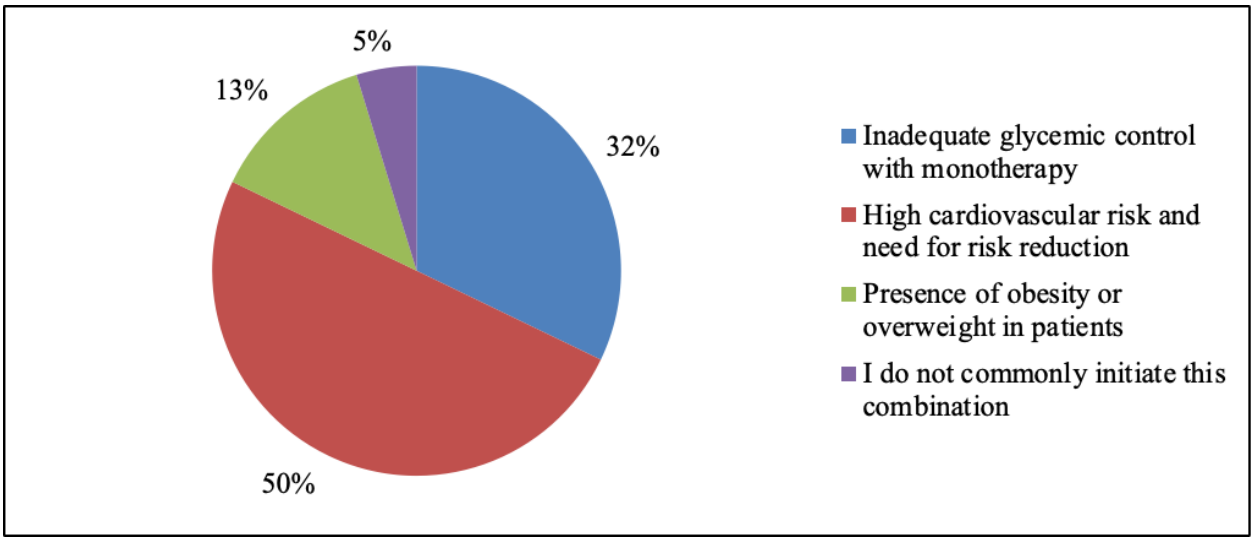
7. Which factors influence your decision to initiate the combination of Dapagliflozin and Sitagliptin in diabetic patients?

A. Inadequate glycemic control with monotherapy

B. High cardiovascular risk and need for risk reduction

C. Presence of obesity or overweight in patients

D. I do not commonly initiate this combination



The primary factor influencing the decision to initiate the combination of Dapagliflozin and Sitagliptin in diabetic patients is high cardiovascular risk and the need for risk reduction. This approach is chosen by 50% of clinicians to address both glycemic control and cardiovascular health.

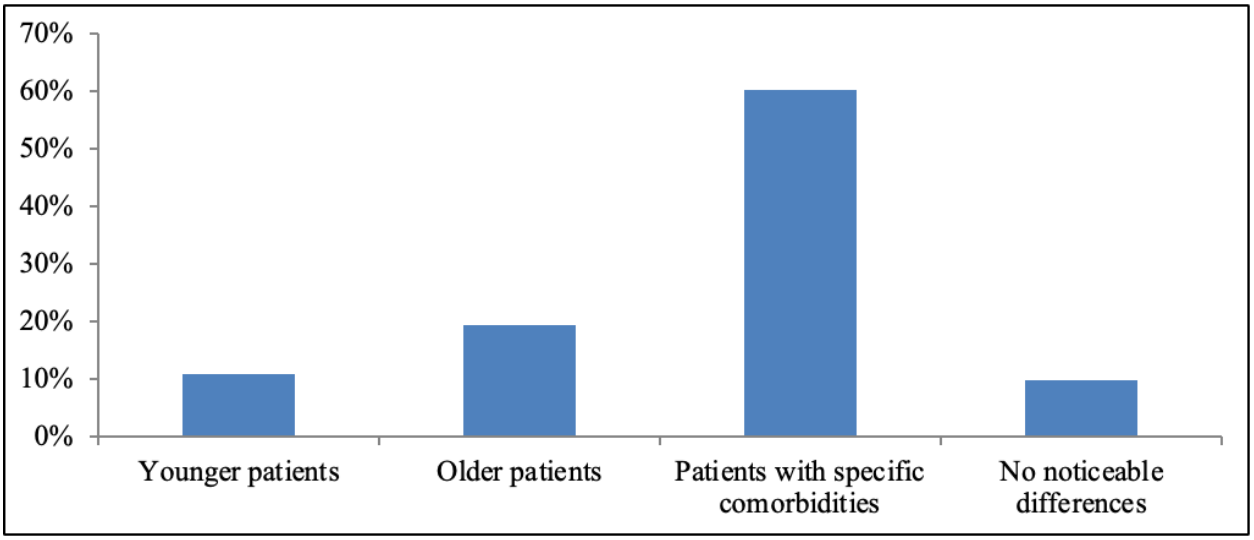
8. Have you observed any specific patient demographics that respond better to the combination of Dapagliflozin and Sitagliptin?

A. Younger patients

B. Older patients

C. Patients with specific comorbidities

D. No noticeable differences



I have observed that patients with specific comorbidities respond better to the combination of Dapagliflozin and Sitagliptin. This demographic tends to show improved outcomes due to the dual benefits of glycemic control and management of comorbid conditions.

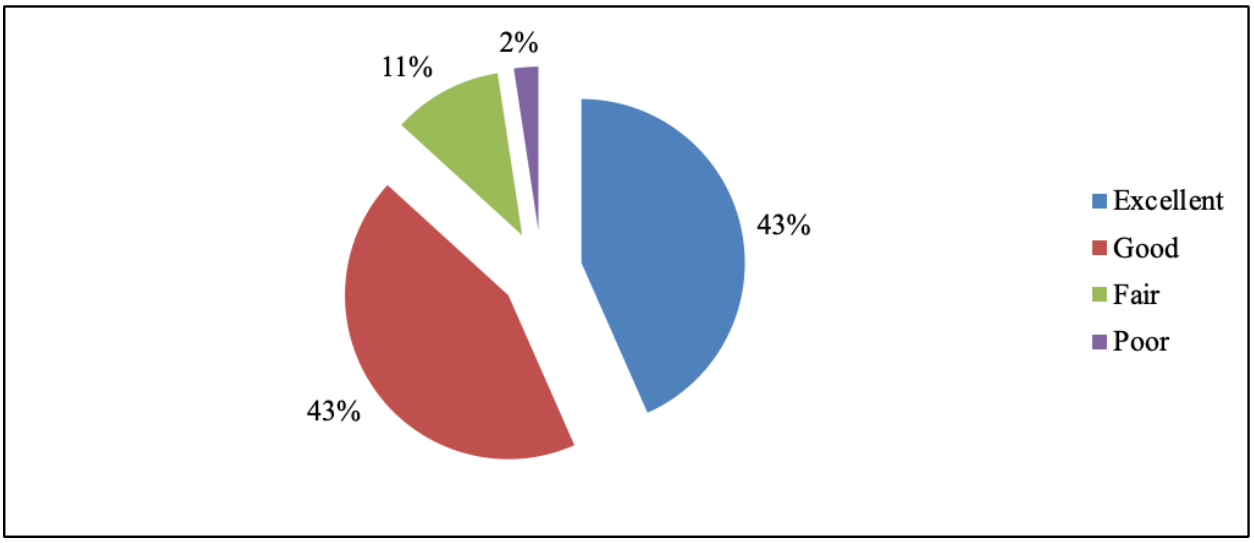
9. How has the response of patients > 65 years to the combination of Dapagliflozin and sitagliptin been?

A. Excellent

B. Good

C. Fair

D. Poor



The response of patients over 65 years to the combination of Dapagliflozin and Sitagliptin has been equally divided, with 43% of responses indicating it has been excellent and another 43% indicating it has been good. This suggests a generally positive outcome for older patients using this combination therapy.

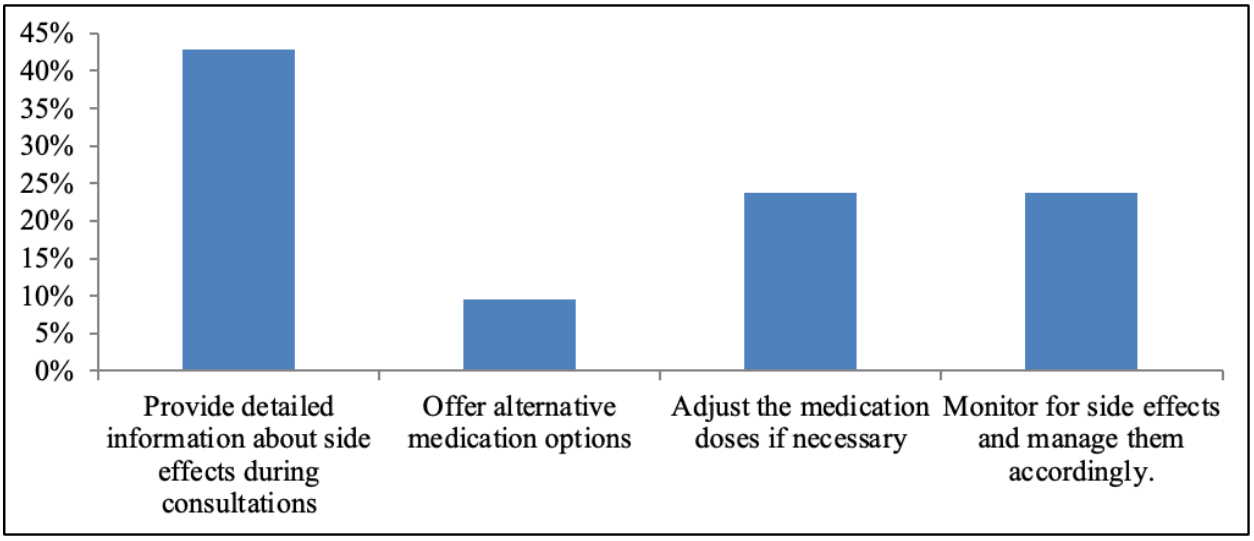
10. How do you address patient concerns related to potential side effects of the combination of Dapagliflozin and Sitagliptin?

A. Provide detailed information about side effects during consultations

B. Offer alternative medication options

C. Adjust the medication doses if necessary

D. Monitor for side effects and manage them accordingly.



To address patient concerns related to potential side effects of the combination of Dapagliflozin and Sitagliptin, providing detailed information about side effects during consultations is mandatory. This approach ensures that patients are well-informed about potential risks and enables them to make informed decisions about their treatment.

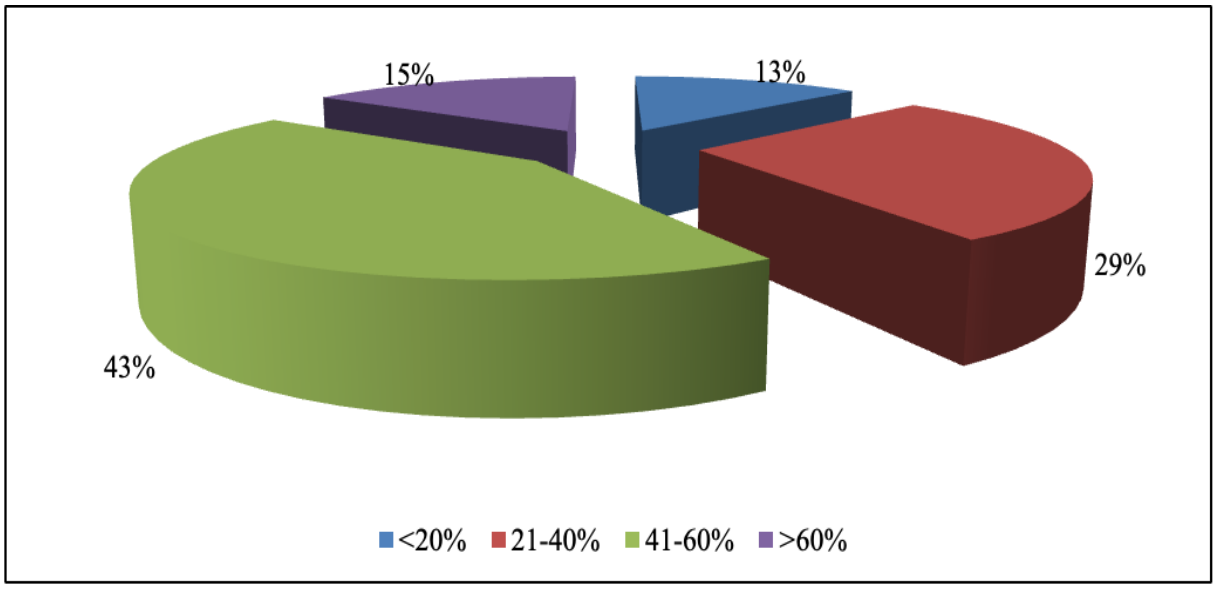
11. In obese patients with uncontrolled hyperglycemia, what percentage of patients treated with the combination of Dapagliflozin and Sitagliptin reach target HbA1c?

A. <20%

B. 21-40%

C. 41-60%

D. >60%

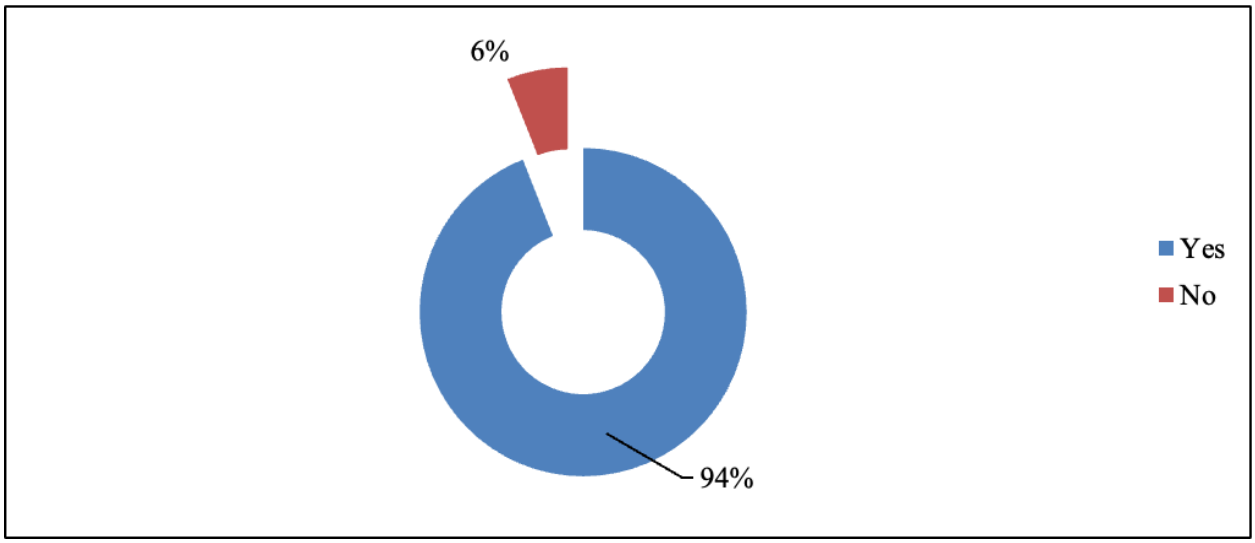


In obese patients with uncontrolled hyperglycemia, the majority, approximately 41-60% of patients treated with the combination of Dapagliflozin and Sitagliptin, reach target HbA1c levels. This indicates the effectiveness of this combination therapy in managing glycemic control in this patient population.

12. Do you consider the combination of Dapagliflozin and Sitagliptin to be a cost- effective option for diabetes management?

A. Yes

B. No



The combination of Dapagliflozin and Sitagliptin is a cost-effective option for diabetes management. This combination therapy offers comprehensive glycemic control and potential cardiovascular benefits, making it a valuable and efficient choice for patients.

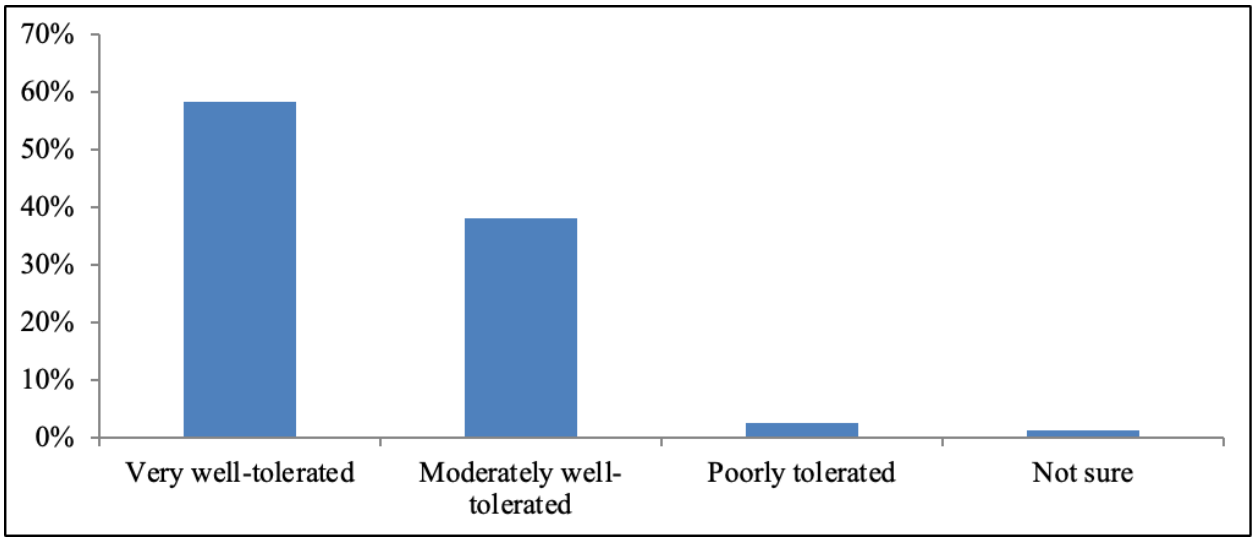
13. In your experience, how well-tolerated is the combination of Dapagliflozin and Sitagliptin in elderly patients (above 60 years)?

A. Very well-tolerated

B. Moderately well-tolerated

C. Poorly tolerated

D. Not sure



The combination of Dapagliflozin and Sitagliptin is very well-tolerated in elderly patients above 60 years old. This therapeutic combination is generally very well-received and tolerated, contributing to its effectiveness in managing diabetes in this demographic.

14. In newly diagnosed type 2 diabetes patients with HbA1c >9.0%, what percentage of patients treated with the combination of Dapagliflozin and Sitagliptin reach target HbA1c?

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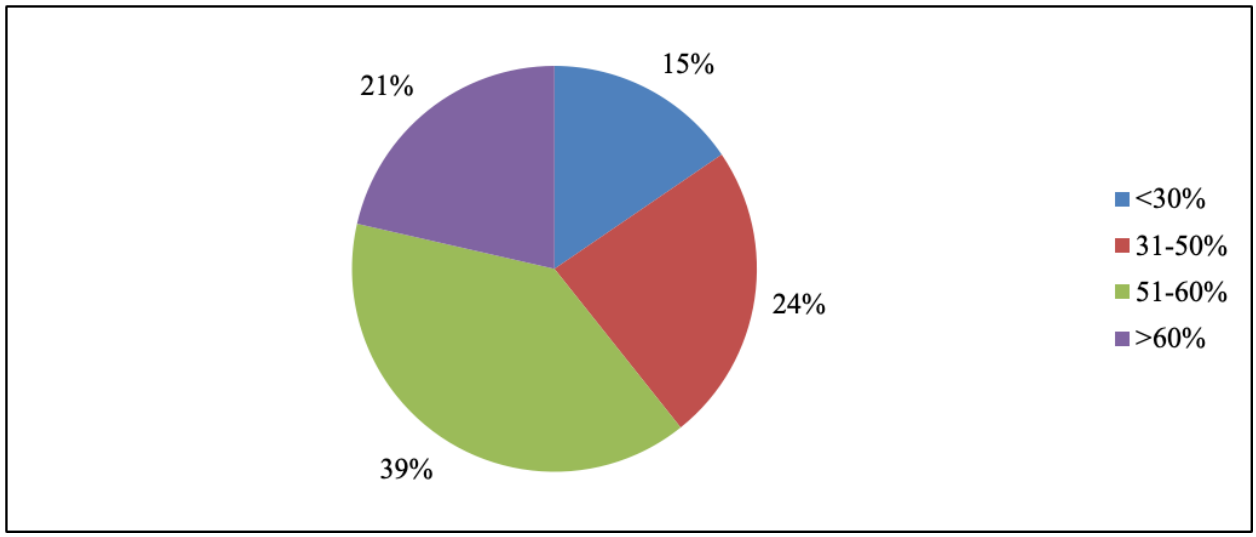

In newly diagnosed type 2 diabetes patients with HbA1c >9.0%, approximately 51-60% of patients treated with the combination of Dapagliflozin and Sitagliptin reach target HbA1c levels. This indicates the effectiveness of this combination therapy in achieving glycemic control even in patients with higher initial HbA1c levels.

15. What side effects, if any, have you observed in patients taking the combination of Dapagliflozin and Sitagliptin?

A. Genital mycotic infections

B. Urinary tract infections

C. Hypoglycemia (low blood sugar)

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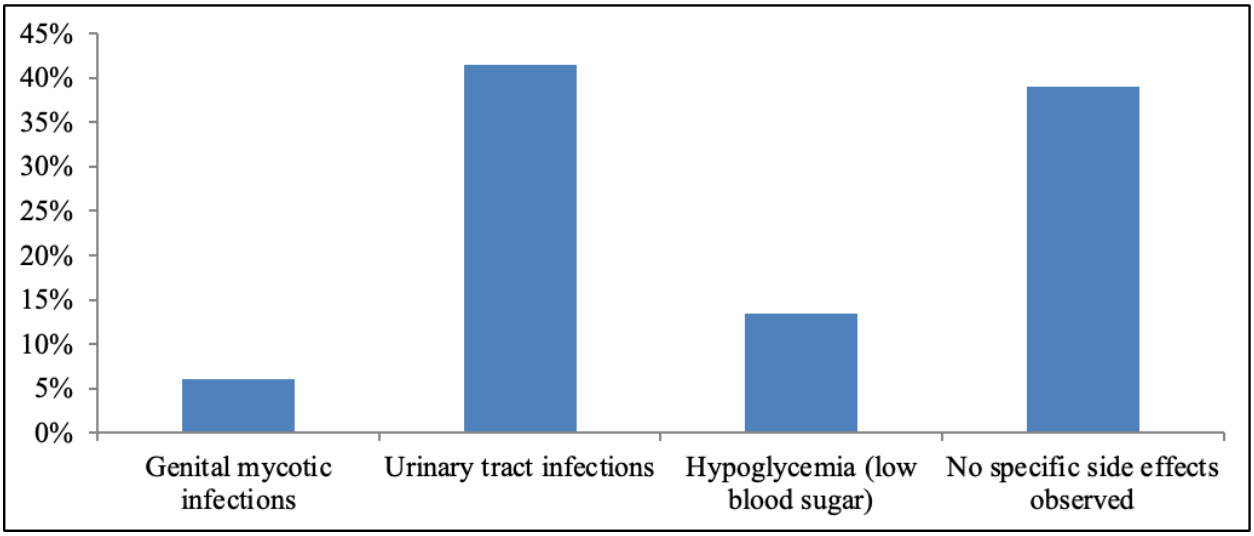

In patients taking the combination of Dapagliflozin and Sitagliptin, observed potential side effect is urinary tract infections as. It's essential to monitor patients for this and other potential adverse reactions closely.

SUMMARY

1. Dapagliflozin is frequently prescribed for patients with type 2 diabetes mellitus (T2DM) who have cardiovascular risk factors

2. Sitagliptin is frequently prescribed for T2DM patients who prefer oral medications. This approach is utilized by 57% of doctors to accommodate patient preferences and enhance treatment adherence.

3. In the clinical experience, Dapagliflozin is highly effective in reducing HbA1c levels in patients with type 2 diabetes. This medication has shown significant efficacy in improving glycemic control.

4. In my clinical experience, Sitagliptin is highly effective in reducing HbA1c levels in patients with type 2 diabetes. This medication has consistently demonstrated significant efficacy in improving glycemic control.

5. I prescribe the combination of Dapagliflozin and Sitagliptin very frequently, as a preferred combination therapy for patients with type 2 diabetes. This approach is utilized by 66% of clinicians to effectively manage glycemic levels and improve patient outcomes.

6. In my experience, the combination of Dapagliflozin and Sitagliptin in diabetes management has provided additional cardiovascular risk reduction benefits. This therapeutic approach offers more than just glycemic control, contributing to improved overall cardiovascular health in patients.

7. The primary factor influencing the decision to initiate the combination of Dapagliflozin and Sitagliptin in diabetic patients is high cardiovascular risk and the need for risk reduction. This approach is chosen by 50% of clinicians to address both glycemic control and cardiovascular health.

8. I have observed that patients with specific comorbidities respond better to the combination of Dapagliflozin and Sitagliptin. This demographic tends to show improved outcomes due to the dual benefits of glycemic control and management of comorbid conditions.

9. The response of patients over 65 years to the combination of Dapagliflozin and Sitagliptin has been equally divided, with 43% of responses indicating it has been excellent and another 43% indicating it has been good. This suggests a generally positive outcome for older patients using this combination therapy.

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12. The combination of Dapagliflozin and Sitagliptin is a cost-effective option for diabetes management. This combination therapy offers comprehensive glycemic control and

potential cardiovascular benefits, making it a valuable and efficient choice for patients.

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15. In patients taking the combination of Dapagliflozin and Sitagliptin, observed potential side effect is urinary tract infections as. It's essential to monitor patients for this and other potential adverse reactions closely.

CONSULTING OPINION

Market Opportunities:

The combination use of Sodium-Glucose Cotransporter-2 inhibitors (SGLT2i) and Dipeptidyl Peptidase-4 inhibitors (DPP4i) in the Indian diabetes setting presents significant market opportunities. Emerging clinical evidence supports the synergistic effects of these two drug classes in managing diabetes, indicating a potential increase in demand for combination therapies.

Value for Healthcare Professionals:

Healthcare professionals can derive substantial value from the combination use of SGLT2i and DPP4i. The dual mechanism of action addresses multiple pathophysiological aspects of diabetes, offering a comprehensive approach to glycemic control. This combination provides healthcare professionals with a versatile tool for tailoring treatment strategies based on individual patient profiles.

Adverse Effect Management:

Effectively managing adverse effects is a crucial aspect of utilizing the SGLT2i + DPP4i combination. Literature suggests that healthcare professionals should closely monitor patients for potential side effects such as urinary tract infections, genital mycotic infections, and increased risk of hypoglycemia. Establishing a robust monitoring system and patient education can aid in early detection and management of adverse effects.

Effective Management:

The combination of SGLT2i and DPP4i offers effective management of diabetes by addressing both insulin resistance and impaired insulin secretion. Healthcare professionals can leverage the complementary actions of these agents to achieve

better glycemic control, potentially reducing the reliance on higher doses of individual medications and minimizing the risk of treatment-related complications.

Market Positioning:

Positioning the SGLT2i + DPP4i combination in the Indian diabetes market requires a strategic approach. Highlighting the synergistic benefits, safety profile, and potential to address unmet needs in diabetes management can enhance the market position of this combination therapy. Collaborative efforts between pharmaceutical companies and healthcare providers can contribute to successful market penetration.

Personalized Treatment Decisions:

The combination use of SGLT2i and DPP4i allows healthcare professionals to make personalized treatment decisions based on individual patient characteristics. Factors such as age, comorbidities, and patient preferences can be considered when tailoring treatment regimens. Personalized approaches contribute to better treatment adherence and overall patient satisfaction.

Improving Patient Outcomes:

Utilizing the SGLT2i + DPP4i combination in the Indian diabetes setting has the potential to significantly improve patient outcomes. By addressing multiple facets of diabetes pathology, this combination may lead to better glycemic control, reduced cardiovascular risks, and improved quality of life for patients. Monitoring and optimizing therapy in collaboration with healthcare providers can contribute to sustained positive outcomes.

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