

INTERNSHIP REPORT ON

**“Market Research on preference of
GLIPTINS in Type 2 Diabetes Mellitus”**

(18th March to 18th June)



By

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(2022-2024)



What is Diabetes?

One of the main indicators of diabetes mellitus, a chronic metabolic illness brought on by either insufficient insulin production by the pancreas or ineffective insulin usage by the body, is hyperglycemia, or elevated blood sugar. Insulin is one hormone that helps regulate blood sugar (glucose) levels.^[2]

Types of Diabetes:

1. Type 1 Diabetes (T1D): o caused by the autoimmune process that kills the beta cells in the pancreas that make insulin.

- Needs constant insulin therapy in order to survive.
- Young adults and children are typically diagnosed.

2. Type 2 Diabetes (T2D): o Occurs when the body either gradually loses the capacity to produce adequate insulin or becomes resistant to it.

- Frequently linked to lifestyle variables such genetic predisposition, physical inactivity, and obesity.
- Can be controlled by dietary adjustments, oral drugs, and occasionally insulin

1. Gestational Diabetes:

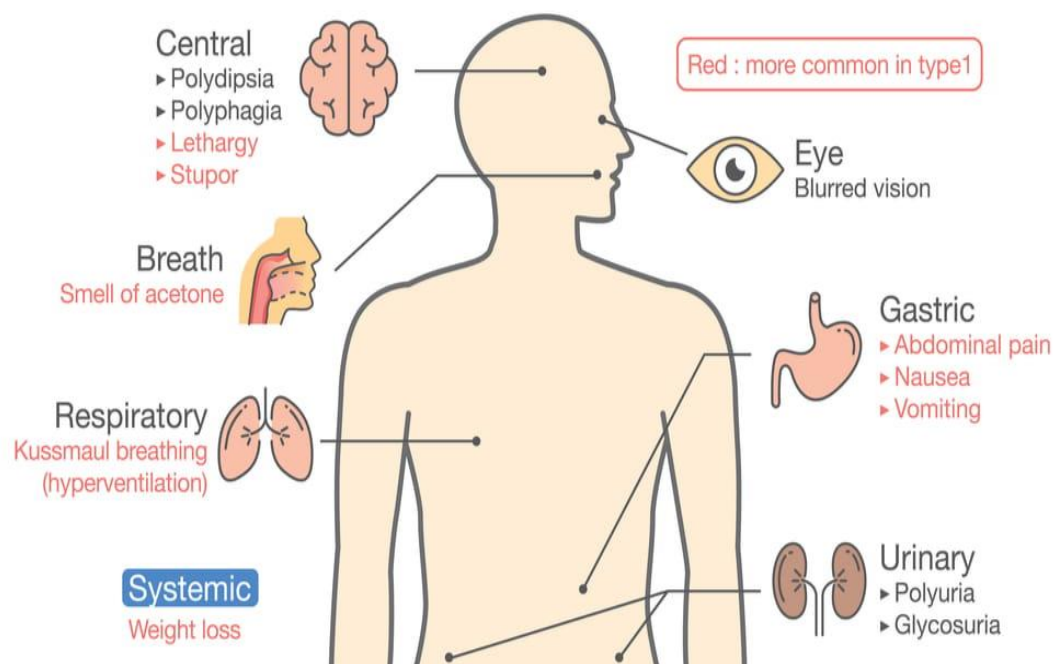
- a. Occurs during pregnancy and usually resolves after childbirth.
- b. Raises the likelihood that both the mother and the child may experience type 2 diabetes in later life.^[2]



Symptoms of Diabetes

- Frequent urination
- Increased thirst
- Excessive hunger
- Unexplained weight loss
- Fatigue
- Blurred vision
- Slow-healing sores
- Frequent infections^[4]

Main symptoms of Diabetes



Diagnosis

1) Blood sugar tests:

- Fasting blood sugar test,
- HbA1c test,
- oral glucose tolerance test (OGTT).

2) Urine tests: May check for the presence of ketones, a byproduct of fat breakdown when the body can't use glucose for energy. ^[5]



TREATMENTS

■ Treatment Options for Diabetes

- Lifestyle changes: Diet, exercise, weight management, stress control.
- Medications:
 - Oral medications like metformin, sulfonylureas, and gliptins.
 - Injectable medications like insulin.^[3]

DIABETES TREATMENT AND PREVENTION



VISIT A DOCTOR



INSULIN
INJECTION



DIAGNOSTIC



KEEP NORMAL
WEIGHT



HEALTHY DIET



NO SMOKING



FOOD CONTROL



AVOID ALCOHOL

WHAT ARE GLIPTINS?

- Gliptins, also known as DPP-4 inhibitors, are a class of oral medications for type 2 diabetes.
- They work by increasing levels of incretin hormones, which stimulate insulin release and suppress glucagon production.
- This helps regulate blood sugar levels without causing hypoglycemia (low blood sugar).

Mechanism of Actions

Gliptins, sometimes referred to as Dipeptidyl Peptidase-4 (DPP-4) inhibitors, enable people with type 2 diabetes mellitus (T2DM) better regulate their blood sugar levels by altering incretin hormones. This is a detailed explanation of how gliptins work:

DPP-4 Enzyme Inhibition: Gliptins work by inhibiting the DPP-4 enzyme, which breaks down incretin hormones, mainly GLP-1 (glucagon-like peptide-1) and glucose-dependent insulinotropic polypeptide (GIP).

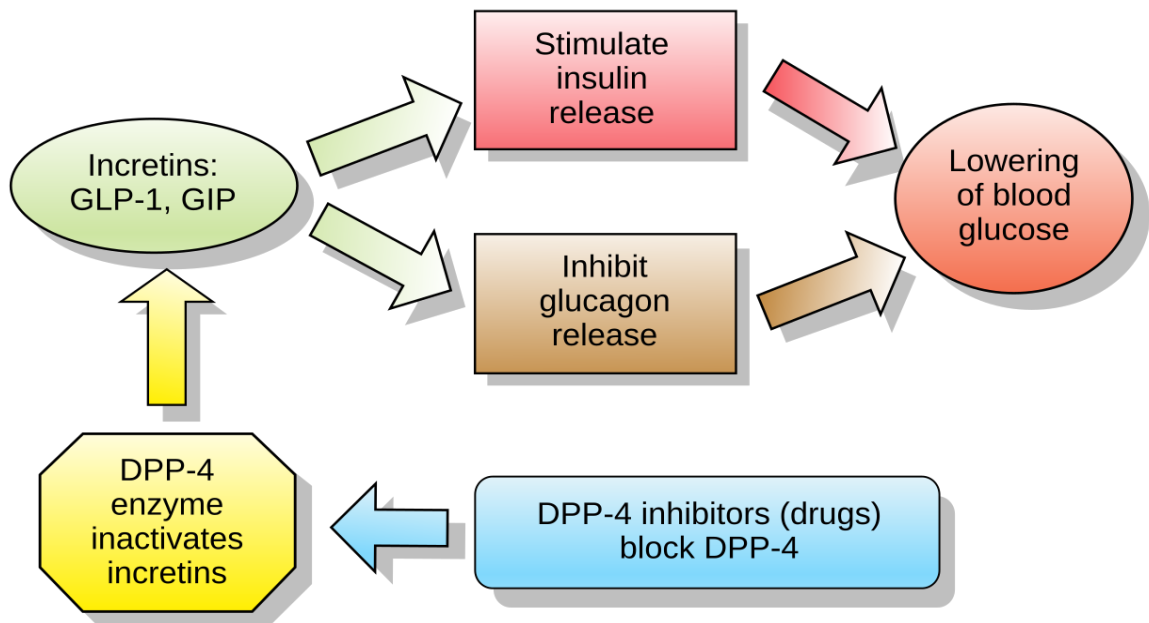
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Elevated Incretin Levels: Gliptins raise the blood levels of active GLP-1 and GIP by blocking DPP-4. The intestines release these hormones in reaction to food consumption.

Enhanced Insulin Secretion: In a glucose-dependent way, elevated levels of GLP-1 and GIP stimulate the pancreatic beta cells to release insulin. This lowers the risk of hypoglycemia by enhancing insulin secretion solely in response to elevated blood glucose levels.^[1]

Diminished Secretion of Glucagon: GLP-1 also inhibits the pancreatic alpha cells' ability to secrete glucagon. By inducing the liver to release stored glycogen into glucose, the hormone glucagon increases blood glucose levels. Decreased hepatic glucose synthesis is the outcome of lower glucagon levels.

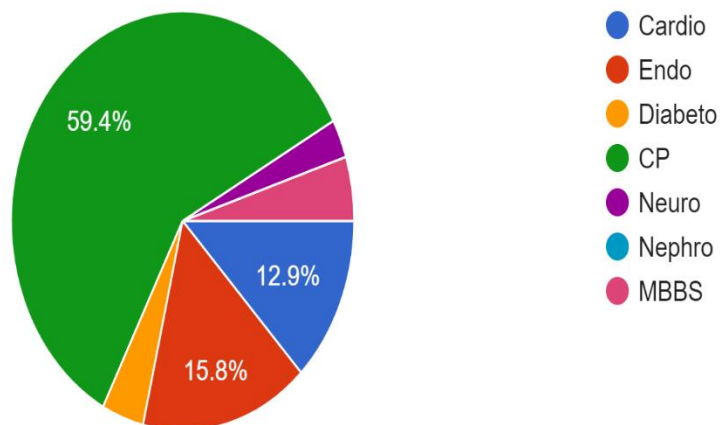
Increased Insulin and Decreased Glucagon Together Help Lower Blood Glucose: Insulin and dextrose work together to lower blood glucose, especially postprandial glucose levels during meals.



SURVEY ANALYSIS

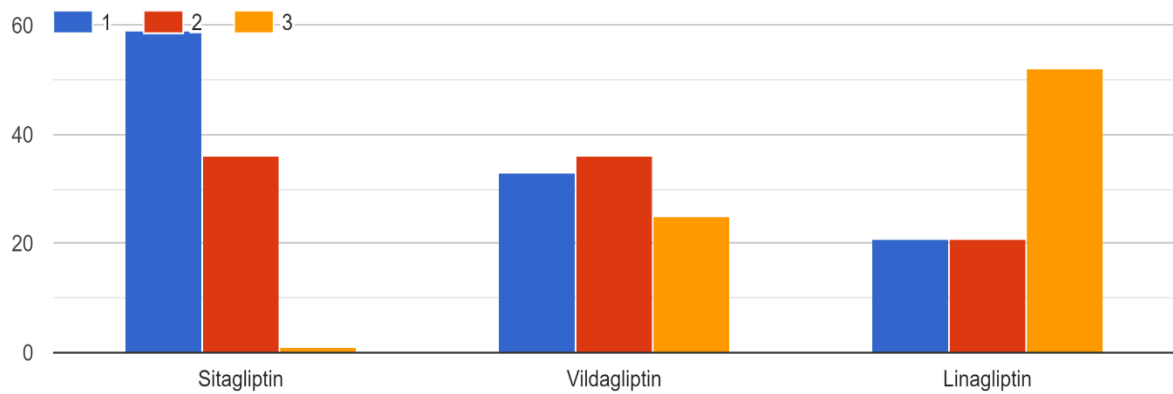
Specialty

101 responses



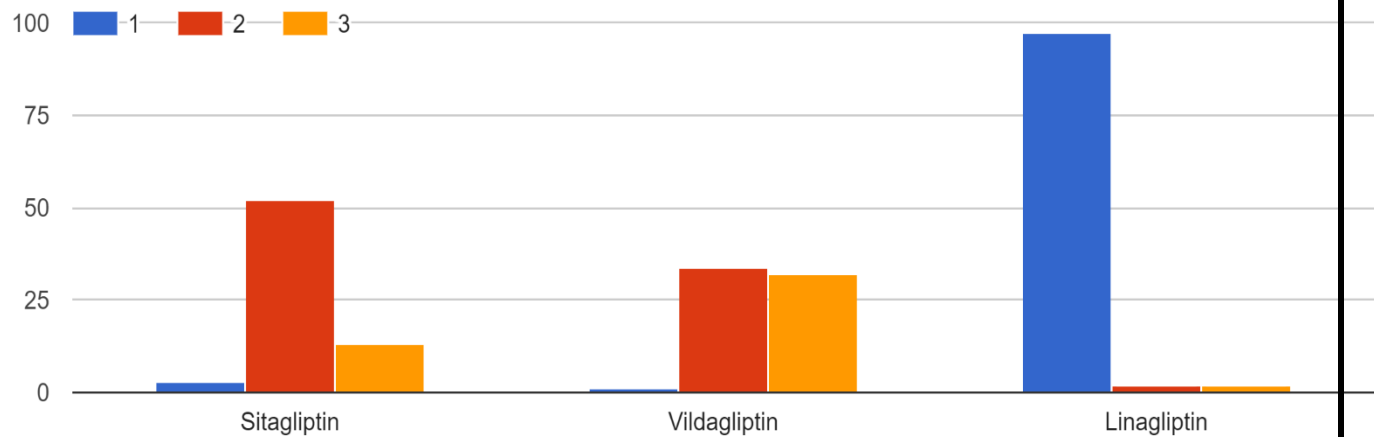
The Survey Covered almost 59% of Consultant Physicians, 15.8% of Endocrinologist, 12.9% of Cardiologist.

1. Which Gliptin do you prefer as the first choice for T2DM, followed by the second and third choices?



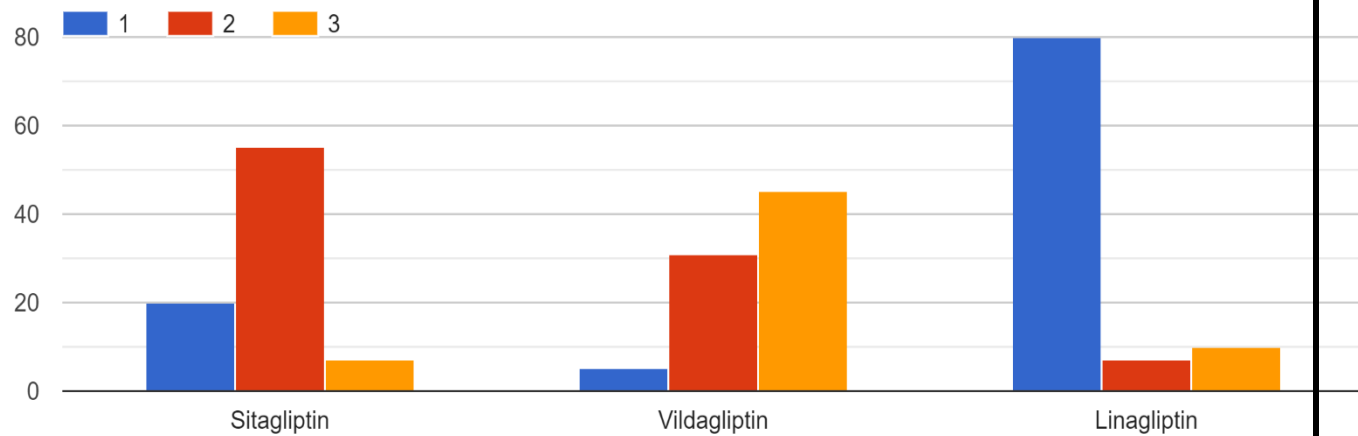
After asking doctors that which gliptin they preferred for T2DM, majority of them chose Sitagliptin as their 1st choice, then Vildagliptin as their 2nd choice and then Linagliptin as their 3rd choice.

2. Among Gliptins, what is your preferred choice during worsening renal function in the sequence of 1st to 3rd?



After asking doctors that which gliptin they preferred during worsening renal function for T2DM, majority of them chose Linagliptin as their 1st choice, then Sitagliptin as their 2nd choice and then Vildagliptin as their 3rd choice.

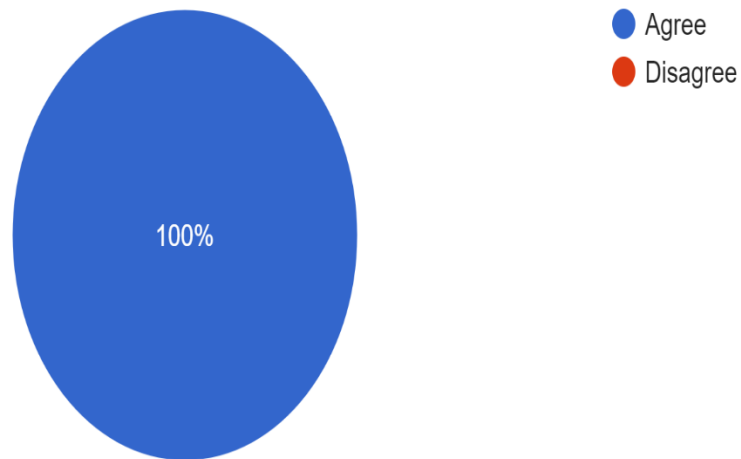
3. Among Gliptins, what is your preferred choice during hepatic impairment in the sequence of 1st to 3rd?



After asking doctors that which gliptin they preferred during hepatic impairment for T2DM, majority of them chose Linagliptin as their 1st choice, then Sitagliptin as their 2nd choice and then Vildagliptin as their 3rd choice.

4. In your practice is there a shift in prescription from Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin?

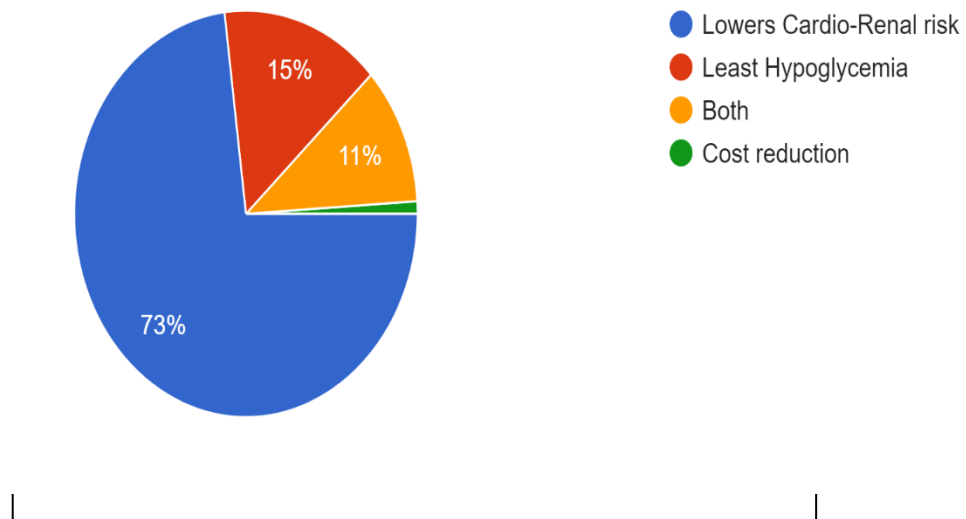
100 responses



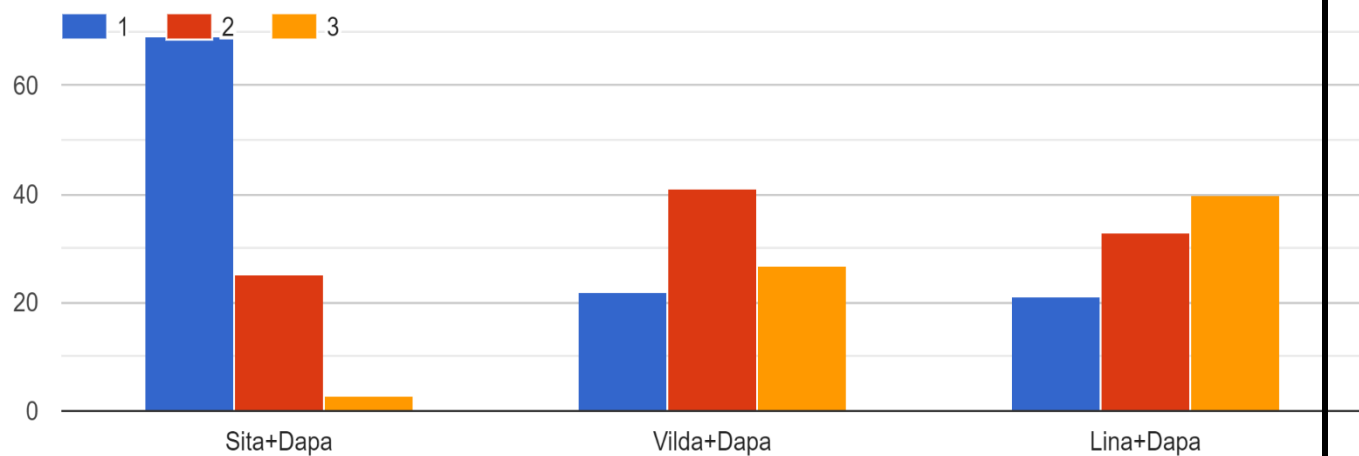
Almost all Doctors agreed that there is a shift in prescription from Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin.

5. What is the main reason to shift Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin?

100 responses

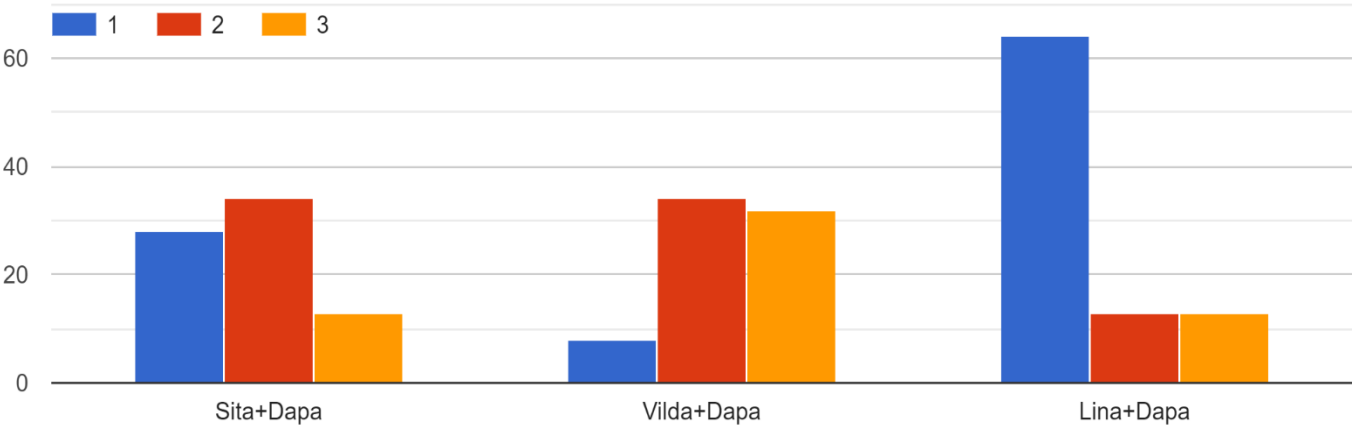


6. In SGLT2i+DPP4i combination, what is your preferred choice for T2DM to prolong treatment failure in the sequence of 1st to 3rd?



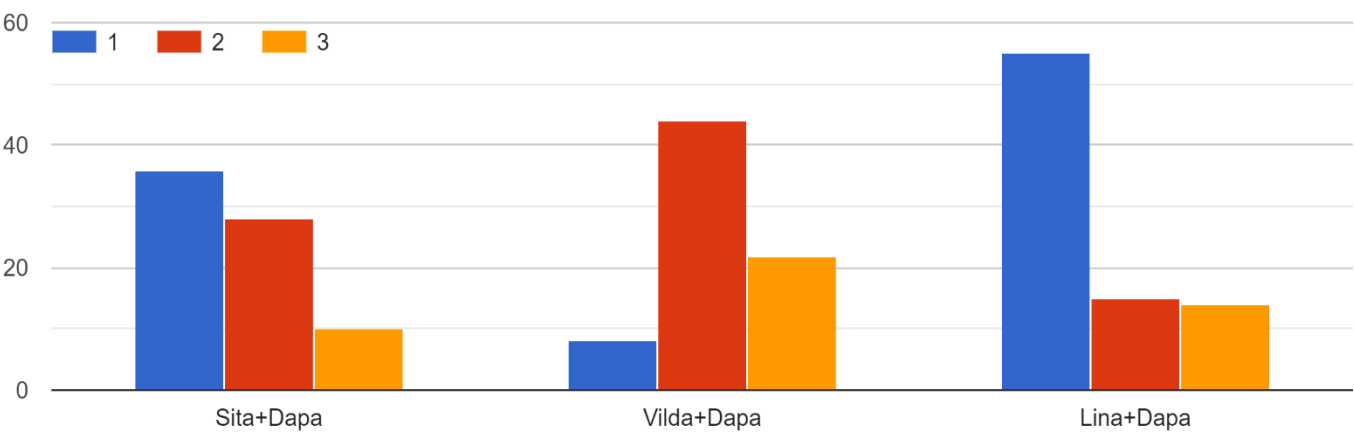
According to the doctors their 1st preference was Sita+Dapa, then 2nd preference was Vilda+Dapa, then 3rd preference was Lina+Dapa.

7. In SGLT2i+DPP4i combination, what is your preferred choice with lower UTI side effects incidences in the sequence of 1st to 3rd?



In SGLT2i+Dpp4i Combination, Doctors considered Dapa to be causing UTI so they Didn't prefer Dapa, but based on Gliptins Doctors preferred LINA+Dapa as their 1st preference, SITA+Dapa as their 2nd preference and VILDA+Dapa as their 3rd preference.

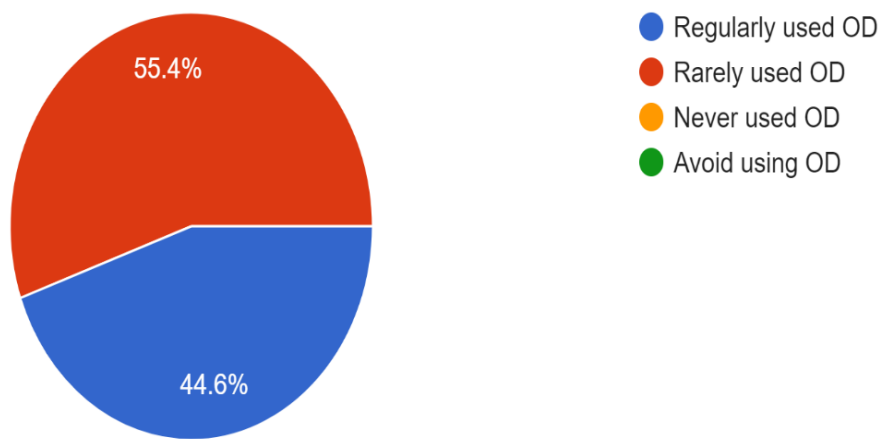
8. In SGLT2i+DPP4i combination, what is your preferred choice for uncontrolled T2DM with Edema or unknown history in the sequence of 1st to 3rd?



For uncontrolled T2DM with Edema, majority of them chose Linagliptin as their 1st choice, then Sitagliptin as their 2nd choice and then Vildagliptin as their 3rd choice.

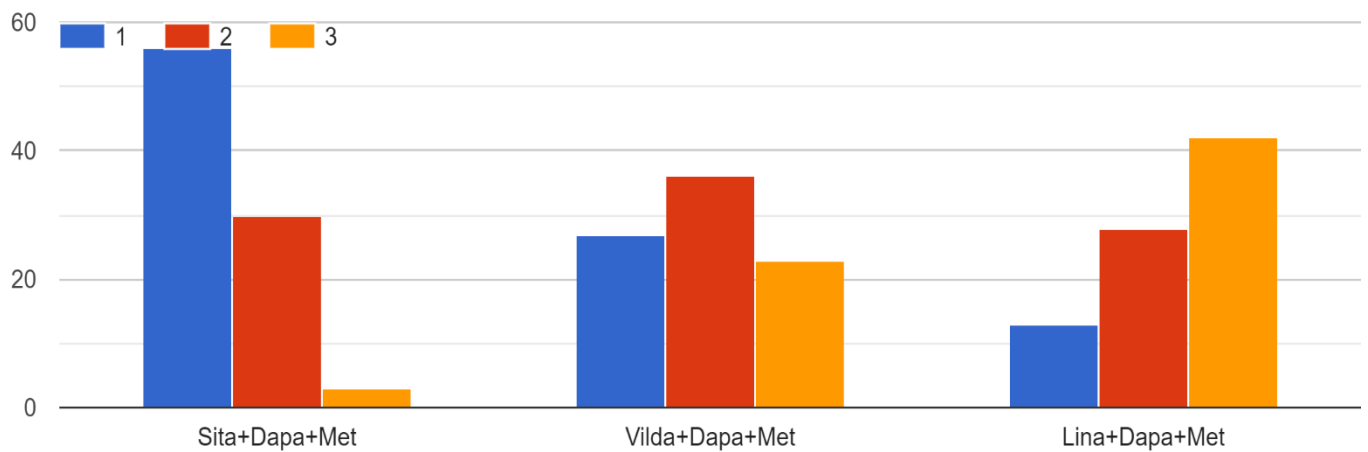
9. Is there any scope for Vildagliptin OD and Vildagliptin OD +Metformin SR (once daily) in your routine practice?

101 responses



55.4% people rarely used Vilda OD and Vilda OD+ Metformin SR in their routine practice and 44.6% people regularly used this combination.

10. Among triple combination of gliptins what is your preferred choice in the sequence of 1st to 3rd?



In triple combination of Gliptins, Doctors preferred Sita+Dapa+Met as their 1st preference, Vilda+Dapa+Met as their 2nd preference and Lina+Dapa+Met as their 3rd preference.

Findings

1. Doctors are shifting in prescription from Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin.
2. Maximum Doctors believes that the main reason to shift from Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin is Lower Cardio-Renal risk.
3. Doctors considered Dapa to be causing UTI so they Didn't prefer Dapa, but based on Gliptins Doctors preferred LINA+Dapa as their 1st preference, SITA+Dapa as their 2nd preference and VILDA+Dapa as their 3rd preference.
4. In triple combination of Gliptins, Doctors preferred Sita+Dapa+Met as their 1st preference, Vilda+Dapa+Met as their 2nd preference and Lina+Dapa+Met as their 3rd preference.
5. Almost all Doctors agreed that there is a shift in prescription from Vildagliptin and Glimepiride to Sitagliptin, Linagliptin, Dapagliflozin.
6. During worsening renal function for T2DM Doctors Preferred Linagliptin the most.

Reference

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THANK YOU