

GLP-1 Drugs Use, Risks, and Regulation

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Key Takeaways

- GLP-1 (Glucagon-Like Peptide-1 agonist) drugs are prescription medications used to treat type 2 diabetes and obesity but carry serious side effects and must only be taken under the supervision of a qualified medical specialist.
- In India, GLP-1 drugs can only be prescribed by endocrinologists, internal medicine specialists, and cardiologists - they cannot be purchased over the counter.
- Drug Controller General of India, in collaboration with State Drug Controllers, has intensified regulatory surveillance, conducting inspections and warning that non-compliance will result in licence cancellation, fines, and legal action.

Introduction

Diabetes is a chronic disease that occurs when the pancreas does not produce adequate insulin, or when the body cannot effectively use the insulin it produces, leading to high blood sugar. If left untreated, it can lead to complications like blindness, kidney failure, heart attacks, stroke and lower limb amputation.

Insulin and glucagon are hormones produced by the pancreas that regulate blood sugar (glucose) levels. Insulin helps convert food into energy and lowers blood sugar by enabling cells to absorb glucose, while glucagon raises blood sugar when levels drop too low. Together, the two hormones keep blood sugar within a healthy range.

In patients with type 2 diabetes, however, this balance breaks down. The body's cells become resistant to insulin, or the pancreas does not produce enough of it, or both - while glucagon continues to drive blood sugar higher. It is this dual dysfunction that GLP-1 drugs are designed to address.

People with excess body weight, a family history of diabetes and excess sugar in the diet are at high risk of developing type 2 diabetes. Being obese – with a body mass index of over 25 kg/m² – also increases the risk of diabetes. Abdominal fat particularly raises the risk of insulin resistance. Obesity is also a major driver of non-communicable diseases such as cardiovascular disease and some cancers.

Keeping Diabetes and Obesity at Bay

There are two kinds of diabetes. Type 1 diabetes is characterised by deficient insulin production by the pancreas. Type 1 diabetic patients require daily doses of insulin for life.

Type 2 diabetes stops the body from using insulin properly. Family history of diabetes, obesity/overweight and not getting enough exercise increases the risk of getting type 2 diabetes.

Type 2 diabetes is preventable – and to keep it at bay, people should:

- Reach and maintain a healthy body weight

- Be physically active with at least 150 minutes of moderate exercise each week
- Eat a healthy diet and avoid sugar and saturated fats
- Not smoke tobacco.

Obesity is a chronic disease caused by excess body fat. Obesity is defined by a BMI greater than or equal to 25 kg/m², while overweight is defined as a BMI ranging from 23.00 to 24.99 kg/m². BMI is a metric calculated from height and weight.

Obesity is preventable and reversible. To prevent and reduce obesity, people should:

- Reduce the number of calories consumed from fats and sugars
- Increase the daily portion intake of fruit, vegetables, legumes, whole grains and nuts
- Engage in regular physical activity (60 minutes per day for children and 150 minutes per week for adults)

GLP-1 Drugs

GLP-1 drugs (glucagon-like peptide-1 receptor agonists) are medications developed to treat both type 2 diabetes and obesity by correcting hormonal imbalance - stimulating insulin release and suppressing excess glucagon -to bring blood sugar back under control. The drugs regulate blood sugar and appetite and are also used to treat obesity. Essentially, they slow down the gastric emptying, increasing the feeling of fullness. This decreases patients' appetites and thereby leads to their weight loss.

Multiple variants of GLP-1 drugs have been recently introduced in the Indian market, and concerns have emerged regarding their on-demand availability through retail pharmacies, online platforms, wholesalers, and wellness clinics. To prevent unauthorised sale, unsupervised use, and other malpractices, the Drug Controller of India has intensified its regulatory surveillance, warning that the drugs can lead to serious side effects if not taken under strict medical supervision.

How do GLP-1 drugs work?

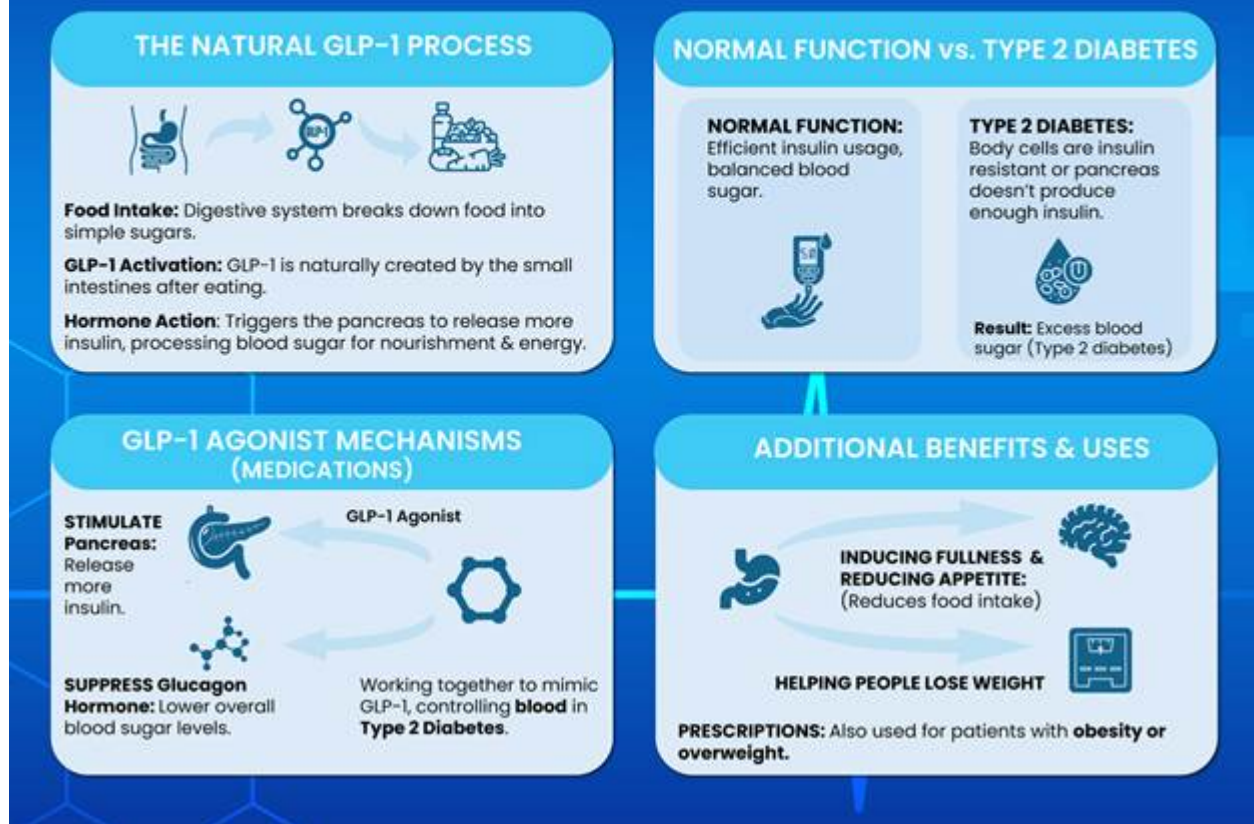
When we eat, the digestive system breaks food down into simple sugars that enter the bloodstream. GLP-1 is activated in response, triggering the pancreas to release insulin, which moves glucose out of the bloodstream and into cells, where it is used for energy.

The hormone also suppresses glucagon, preventing the liver from releasing additional glucose into the bloodstream. These two actions bring blood sugar back to normal levels.

GLP-1 agonist medications work by mimicking this hormone and trigger the same effects for longer. They stimulate the pancreas to release more insulin, suppress glucagon hormone – together working as a replacement of the GLP-1 hormone to control blood sugar levels in people with type 2 diabetes.

This process keeps food in the digestive system for longer – making people feel fuller for longer, thus reducing appetite and inducing weight loss. Hence the drugs are also prescribed to people with obesity.

Understanding GLP-1 & GLP-1 Agonist Medications



What are the GLP-1 drugs in the market?

While the first GLP-1 medication was approved by the United States' Food & Drug Administration in 2005, many new ones have recently become very popular in treating diabetic and obese patients.

Below are the some GLP-1 medications available in the market currently.

GLP-1 medication name
Semaglutide injection
Semaglutide tablets
Liraglutide
Tirzepatide
Dulaglutide
Exenatide
Exenatide extended release

Most of these medications are administered via pre-filled injection pens, although some (like oral semaglutide) are available in tablet form.

What are the side-effects of GLP-1 drugs?

GLP-1 drugs must be taken under medical supervision. The misuse of GLP-1 drugs without clinical oversight can lead to severe health complications.

There are various side-effects – both mild and serious – to taking GLP-1 drugs, including nausea and dizziness to pancreatitis and medullary thyroid cancer.



GLP-1 medications may also complicate various health conditions.



POTENTIAL HEALTH COMPLICATIONS OF GLP-1 DRUGS



ALLERGIC REACTIONS (ANAPHYLAXIS)

- Shortness of Breath
- Red Rash
- Hives
- Abdominal Pain
- Difficulty Swallowing
- Chest Tightness
- Shortness Breathing
- Feeling of Doom

Low Blood Sugar (Hypoglycemia)

- Shaking or Trembling
- Sweating & Chills
- Dizziness
- Weakness
- Faster Heart Rate



- Intense Hunger
- Difficulty Thinking
- Pale Skin
- Nausea



Developmental Abnormalities in the Fetus (For Pregnant Women)



Regulation of GLP-1 drugs

To ensure ethical pharmaceutical practices in the supply chain of GLP-1, the Drug Controller General of India has intensified its regulatory surveillance against the drug's unauthorised sale and promotion. In India, the drug can be prescribed only by endocrinologists, internal medicine specialists and cardiologists.

To ensure that people do not take GLP-1 drugs without medical prescription and to curb malpractices, Drug Controller General of India, in collaboration with State Drug Controllers, took the following actions:

- On 10th March 2026, a comprehensive advisory was issued to all drug manufacturers to stop misleading advertisements and any promotion that could encourage people to use GLP-1 drugs without a prescription.
- In recent weeks, 49 businesses were audited and inspected across the country, including online pharmacy warehouses, drug wholesalers, retailers, and weight loss clinics. These inspections spanned multiple regions across India and focused on identifying violations related to unauthorised sale, improper prescription practices, and misleading marketing. Notices have been issued to those found breaking the rules.

Stricter inspections and surveillance will continue in the coming weeks. Businesses that break the rules will face license cancellation, fines, and legal action.

Conclusion

GLP-1 drugs are a significant medical breakthrough in treating type 2 diabetes and obesity, but they are not without risk. The drugs carry a wide range of side effects - from common symptoms like nausea and vomiting to severe complications including pancreatitis, kidney injury, and bowel obstruction. These risks make it essential that GLP-1 drugs are only taken under the supervision of registered medical practitioner/specialists.

India's regulatory authorities have taken firm steps to prevent unsupervised use and malpractices in the supply chain. Patients and the public are strongly advised to consult a qualified medical specialist before use, and to obtain these medications with prescription only through legitimate, regulated channels.

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