

Antidiabetic drug causes double the weight loss of competitor

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Patients with Type 2 diabetes who were prescribed SGLT2 inhibitors lost more weight than patients who received GLP-1 receptor agonists, according to a University at Buffalo-led study.

The research, which sought to evaluate the difference in [weight loss](#) caused by the antidiabetic medications—both of which work to control [blood sugar levels](#)—found that among 72 patients, people using SGLT2 inhibitors experienced a median [weight](#) loss of more than 6 pounds, while those on GLP-1 receptor agonists lost a median of 2.5 pounds.

The findings, published last month in the *Journal of the American Pharmacists Association*, represent one of the first attempts to compare the two drugs.

"Weight loss is an advantageous quality for diabetic medications as being overweight is a common characteristic of the disease, and can eventually lead to reduced [insulin sensitivity](#)," said lead author Nicole Paolini Albanese, PharmD, clinical associate professor of pharmacy practice in the UB School of Pharmacy and Pharmaceutical Sciences. "With weight loss, it is possible to regain insulin sensitivity, improve glucose control, and reduce heart risk factors and comorbidities."

Both SGLT2 inhibitors and GLP-1 receptor agonists are recommended as second-line therapies for Type 2 diabetes after use of metformin, a drug also prescribed to control [blood sugar](#), says Albanese.

The study examined records for patients with Type 2 diabetes who received either SGLT2 inhibitors or GLP-1 receptor agonists, in addition to other diabetes medications, from 2012-17. The researchers measured weight loss after six months of consecutive therapy, and differences in blood pressure, blood sugar levels and kidney function.

Canagliflozin, sold under the brand name Invokana, was the most commonly prescribed SGLT2 inhibitor. Liraglutide, sold under the brand name Victoza, was the most commonly prescribed GLP-1 receptor agonist.

No significant differences were found in [blood pressure](#), blood sugar levels and kidney function after use of the medications. The data suggest that SGLT2 inhibitors may be more protective against weight gain caused by other antidiabetic drugs than GLP-1 receptor agonists, says Albanese. The results also counter previous research that has found GLP-1 receptor agonists to be the superior antidiabetic drug for weight loss, she says.

Although the weight loss caused by the drugs is small, the findings warrant larger investigations that examine the medications' effect on weight, she says.

"These medications at doses approved for treating Type 2 diabetes are not intended for weight loss," says Albanese. "However, this should not discourage the discussion of this potential benefit, as even a small amount of weight loss is a unique advantage of these drugs, especially when compared to potential [weight gain](#) caused from other treatment options."

More information: Katherine Frieling et al, Weight loss differences seen between glucagon-like-peptide-1 (GLP-1) receptor agonists and sodium glucose cotransporter-2 (SGLT2) inhibitors for treatment of type 2 diabetes mellitus, *Journal of the American Pharmacists Association* (2021). [DOI: 10.1016/j.japh.2021.06.015](https://doi.org/10.1016/j.japh.2021.06.015)

Provided by University at Buffalo

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