Do GLP-1 Receptor Agonists Increase the Risk of Smell and Taste Disturbances?

Key Takeaways

- TriNetX EHR analyses excluded pre-existing chemosensory disorders and used propensity matching to balance demographic, clinical, and socioeconomic covariates across 438,474 patients per cohort.
- Hazard was elevated for incident smell/taste disturbances with GLP-1 RAs (HR 1.48), driven by larger relative increases in smell disturbance (HR 1.81) than taste (HR 1.52).
- Mechanistic hypotheses include GLP-1 receptor expression in neural tissues, but confounding from weight loss, dietary shifts, and increased symptom awareness cannot be excluded in retrospective designs.
- Pharmacist-led management should include proactive symptom queries, documentation in medication profiles, and dietary counseling to prevent sensory-related diet quality erosion and undernutrition risk, particularly in older adults.

Findings from a multicenter cohort study suggest glucagon-like peptide-1 (GLP-1) receptor agonist therapy may be associated with an elevated risk of sensory disturbances.

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have become a cornerstone of treatment for patients with type 2 diabetes (T2D) and obesity, valued for their ability to improve glycemic control and promote significant weight loss. However, a new large-scale retrospective cohort study published in *JAMA Otolaryngology-Head & Neck Surgery* raises an important clinical question: do GLP-1 RAs increase the risk of smell and taste disturbances?[1,2]

The findings suggest the answer may be yes—and that pharmacists and clinicians should be prepared to recognize and discuss these sensory side effects with patients.[1]

"These findings matter because GLP-1 receptor agonists are now prescribed to an enormous number of individuals, so even a moderate increase in risk translates into a large number of affected patients," Hana Kahleova, MD, PhD, MBA, director of clinical research at the Physicians Committee for Responsible Medicine and endocrinologist, said in an interview with *Pharmacy Times*.

Kahleova noted that the study is retrospective in nature and does not prove causation; it is possible that "patients losing weight or changing their eating patterns simply notice and report sensory changes more often." However, "the signal was consistent across 2 years of follow-up and was stronger for smell than for taste, which makes it worth taking seriously," Kahleova said.

Study Design and Population

Researchers conducted a multicenter retrospective cohort study using electronic health records from the TriNetX Global Collaborative Network, with data spanning from December 5, 2017, to April 20, 2026. The study enrolled adults aged 18 years or older with a documented T2D diagnosis and no prior history of smell or taste disturbances.[1]

Patients were divided into 2 groups: those prescribed a GLP-1 RA following their initial T2D diagnosis (exposure group) and those prescribed other antidiabetic medications without any GLP-1 RA exposure (control group). Propensity score matching was applied to balance demographic, clinical, and socioeconomic differences between the 2 cohorts. After matching, each group included 438,474 patients.[1]

Elevated Risk of Sensory Disturbances

The primary outcome of the study was incident smell and taste disturbances, identified using International Classification of Diseases (ICD) codes over a follow-up period of up to 2 years after treatment initiation.[1]

Overall, patients in the GLP-1 RA group had a 48% higher risk of developing smell and taste disturbances compared with matched control patients (hazard ratio [HR], 1.48; 95% CI, 1.37–1.61).[1]

When outcomes were evaluated separately, the risk was even more pronounced for smell disturbances alone (HR, 1.81; 95% CI, 1.58–2.07) and remained elevated for taste disturbances (HR, 1.52; 95% CI, 1.35–1.71). These findings were consistent throughout the 2-year follow-up period.[1]

Implications for Clinical Practice and Patient Counseling

The mechanisms underlying the association between GLP-1 RAs and sensory disturbances are not yet fully understood, and the authors call for future research to explore the biological pathways that may be involved. GLP-1 receptors are expressed throughout the body, including in neural tissues, which may play a role in altered sensory perception.[3]

The study's authors emphasize that these findings highlight the need for closer monitoring and greater public health awareness surrounding GLP-1 RA use. For pharmacists counseling patients who use semaglutide (Ozempic, Wegovy; Novo Nordisk), liraglutide (Victoza, Saxenda; Novo Nordisk), tirzepatide (Mounjaro, Zepbound; Eli Lilly and Company), or other agents in this class, proactively discussing the possibility of smell and taste changes may be an important component of medication therapy management.[1]

“The concern isn't only that someone eats less; it's that the quality of the diet can quietly erode. In older adults especially, sensory loss is also a known driver of undernutrition,” Kahleova explained.

Kahleova offered practical counseling guidance to pharmacists and health care professionals. She noted that asking a direct question about any sensory or taste concerns a patient has been experiencing helps to unearth potentially hidden adverse effects or ones that may not be easily volunteered by the patient. Next, proper nutrition should be framed proactively, with an emphasis on “protein adequacy and a varied, plant-forward diet so that reduced intake doesn't become reduced quality.” Lastly, pharmacists must document and monitor so that if any disturbances appear, they can be accurately marked alongside the prescription in a patient’s profile.

This large-scale cohort study adds to the growing body of literature characterizing the adverse effect profile of GLP-1 RAs. While these medications offer substantial clinical benefit for patients with T2D and obesity, the association with smell and taste disturbances warrants increased vigilance among prescribers, pharmacists, and patients alike. The authors note that future prospective studies will be needed to validate these findings and clarify the underlying mechanisms.[1]

“The benefits of these medications for glycemic control and weight are real and substantial; the goal is to preserve those benefits while making sure patients don't drift toward a poorer diet in the process,” Kahleova concluded.

REFERENCES

1. Zontag J, Zontag N. Smell and taste disturbances among glucagon-like peptide-1 receptor agonist users. *JAMA Otolaryngol Head Neck Surg*. Published Online June 25, 2026. Accessed June 29, 2026. doi:10.1001/jamaoto.2026.1498
2. Davies MJ, Aroda VR, Collins BS, et al. Management of hyperglycemia in type 2 diabetes, 2022. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetes Care.* 2022;45(11):2753-2786. doi:10.2337/dci22-0034
3. Zheng Z, Zong Y, Ma Y, et al. Glucagon-like peptide-1 receptor: mechanisms and advances in therapy. *Sig Transduc Targ Ther*. 2024;9:234. doi:10.1038/s41392-024-01931-z

News Source:

https://www.pharmacytimes.com/view/do-glp-1-receptor-agonists-increase-the-risk-of-smell-and-taste-disturbances-