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EP685 - ECE_1281 - Public concern about GLP-1 analogues: a google trends analysis of global search patterns

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Introduction: GLP-1 receptor agonists, notably semaglutide (Ozempic) and tirzepatide (Mounjaro), are increasingly used for type 2 diabetes and weight loss. Despite a favorable safety profile, rare adverse effects such as pancreatitis and vision loss have raised concern. Internet search data offer insights into public health anxieties and can inform clinical and regulatory communication.

Aim: To assess global public interest in GLP-1 analogues using Google Trends data, focusing on pancreatitis, vision loss, diet, and exercise.

Methods: Weekly Relative Search Volumes (RSVs) were obtained from Google Trends for "Mounjaro," "Ozempic," "Diet," "Exercise," "Pancreatitis," and "Blindness," from Dec 26, 2021, to Jun 22, 2025 (183 weeks). Trends were analyzed using the Mann-Kendall test, Loess smoothing, and autocorrelation functions. Synchrony was assessed via cross-approximate entropy (Cross-ApEn), with normalized RSVs. Temporal relationships were evaluated with cross-correlation analysis using differenced series to ensure stationarity.

Results: Search interest rose significantly for Mounjaro ($\tau = 0.30$, $P < .001$) and Ozempic ($\tau = 0.38$, $P < .001$), peaking at RSVs of 31 and 41. Diet showed a mild downward trend ($\tau = -0.05$, $P = .001$), with seasonal peaks; Exercise was stable but also seasonal. Searches for Pancreatitis and Blindness remained low and stable, with occasional spikes (eg, Pancreatitis RSV = 21). Cross-ApEn indicated high synchrony between Mounjaro and Ozempic (0.85), moderate with Diet and Exercise (1.22-1.32), and low with Blindness and Pancreatitis (1.35-1.45). Cross-correlation analysis showed strong contemporaneous correlation between Mounjaro and Ozempic ($r = 0.68$), weak inverse correlations with Diet and Exercise (r: −0.3), and non-significant positive correlations with Blindness and Pancreatitis (r: 0.15-0.20).

Discussion: Public interest in GLP-1 agonists is rising, likely reflecting expanding use and media coverage. Stable interest in

traditional methods (Diet, Exercise) with weaker associations suggests a shift toward pharmacological weight loss. Limited correlation with side-effect terms implies that public concern about adverse events is event-triggered rather than sustained. Limitations include the relative nature of RSVs and possible influence of unmeasured events. Future work should focus on media-driven search spikes to enhance real-time pharmacovigilance.

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