Trends in Contraceptive Use Among Reproductive-Aged Women Initiating Glucagon-Like Peptide-1 Receptor Agonists, 2014-2023: An Interrupted Time Series Analysis

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Abstract

Importance: Use of glucagon-like peptide-1 receptor agonists (GLP-1RAs) among reproductive-aged women has expanded following three regulatory milestones: liraglutide (Saxenda) for chronic weight management in 2014, semaglutide (Ozempic) for type 2 diabetes in 2017, and semaglutide (Wegovy) for chronic weight management in 2021. All three carry pregnancy-related labeling recommending discontinuation when pregnancy is planned or recognized. And clinical guideline emphasizes the need to avoid unintended pregnancy using contraceptive during treatment, given potential fetal risks. However, whether contraceptive use in routine clinical practice has kept pace with the rapid expansion of GLP-1 RA use remains unclear.

Objective: To evaluate trends in contraceptive use and pregnancy occurrence among reproductive-aged women initiating GLP-1RAs and whether trends changed after the 2017 and 2021 milestones.

Design, Setting, and Participants: Retrospective cohort study using Merative™ MarketScan® Commercial Claims and Encounters data. Women aged 15 to 49 years with a GLP-1RA dispensing during 2014-2023 were included. Interrupted time series (segmented logistic regression) used interruptions in 2017 and 2021.

Exposures: GLP-1 RA initiation and calendar period relative to the regulatory milestones.

Main Outcomes and Measures: Annual rate of concurrent GLP-1 RA and contraceptive use, pregnancy and live birth. Pre- and post-decision trend after regulatory milestones estimated by the OR per year.

Results: Among 148,361 women (mean [SD] age, 40.0 [7.3] years), annual initiators increased 12-fold, from 3,372 in 2014 to 41,034 in 2023. Overall, 15,497 women (10.4%) used prescription contraception concurrently. Oral contraceptive pills and long-acting reversible contraception are the common two accounted for 69.2% and 14.2% of the contraception. Contraceptive use significantly increased during 2014-2016 (OR per year, 1.08; 95% CI, 1.00-1.17; P=0.045), significantly but slowly increased during

2017-2020 (OR per year, 1.04; 95% CI, 1.00-1.07; P=0.027), and declined significantly during 2021-2023 (OR per year, 0.92; 95% CI, 0.90-0.95; P<0.001). The post-2021 trend change was significant (OR, 0.89; 95% CI, 0.85-0.93; P<0.001). No significant immediately level changes were observed. Among 6,903 pregnancies (65.8% live births), the annual proportion of pregnancy peaked at 5.7% in 2020, declining to 3.7% in 2023.

Conclusions and Relevance: Among reproductive-aged GLP-1 RA users, contraceptive use rose modestly during the liraglutide and early semaglutide eras but declined significantly after the 2021 approval of Wegovy. The widening gap between pregnancy-related labeling and real-world practice warrants greater attention.