

No Rise in Pregnancy Rates in the Year Following GLP-1 Prescription

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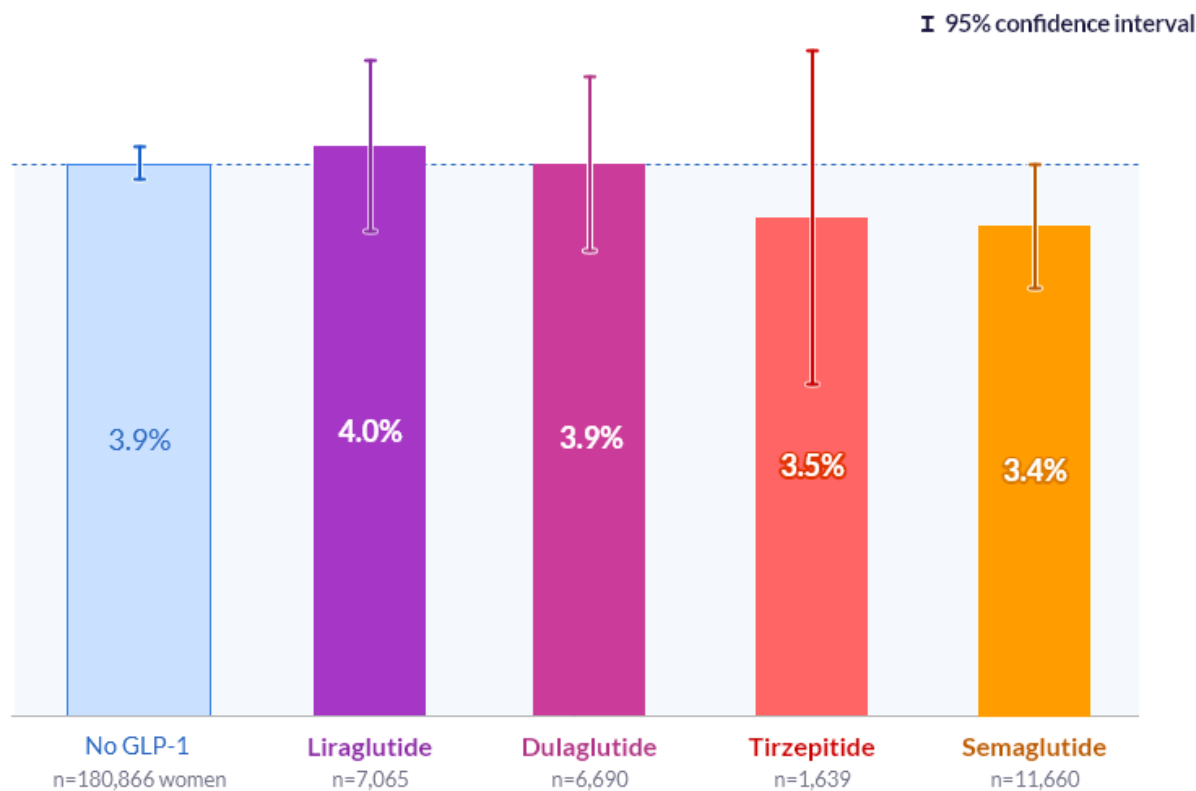
Key Findings:

- Pregnancy rates for women aged 18 to 50 who are prescribed GLP-1 medications are similar to those for women who are not prescribed GLP-1 medications.

There have been anecdotal reports of women unexpectedly becoming pregnant while taking or soon after being prescribed a GLP-1 medication.^{1,2} While some studies have suggested that GLP-1 medications that delay gastric emptying may make oral contraceptives less effective², little is known about whether GLP-1 medications are correlated with increased rates of pregnancy.

To better understand whether women prescribed GLP-1 medications have an increased rate of pregnancy, we studied 27,054 women aged 18 to 50 who were prescribed a GLP-1 medication and matched them by age, BMI, conditions affecting fertility, and history of diabetes to 180,866 women who were not prescribed a GLP-1 medication. We found that the rate of pregnancy in the year following GLP-1 treatment, or a matched visit for women not prescribed a GLP-1 medication, was similar for women who were not prescribed a GLP-1 medication and those who were prescribed semaglutide, liraglutide, tirzepatide, exenatide, or dulaglutide, as shown in Figure 1.

Pregnancy Rate Within One Year by GLP-1 Treatment



"Pregnancy Rate Within One Year by GLP-1 Treatment," 2024. EpicResearch.org

Figure 1. Rate of pregnancy in the year following GLP-1 treatment by medication type compared to women without GLP-1 medication use.

These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 274 million patient records from 1,500 hospitals and more than 35,500 clinics from all 50 states, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Camero, K. (2024, March 21). "Ozempic babies" are surprising women taking weight loss drugs. Doctors think they know why. USA Today. <https://www.usatoday.com/story/life/health-wellness/2024/03/21/ozempic-pregnancy-weight-loss-drugs-fertility/73032645007/>.
2. Pawlowski, A. (2023, April 24). Ozempic babies: Weight loss drugs, pregnancy risks, fertility benefits. TODAY. <https://www.today.com/health/womens-health/ozempic-pregnancy-fertility-rcna81104>.

Data Definitions

Term	Definition
Study period	1/1/2017 to 6/19/2024
Study population	Female patients between 18 and 50 years of age at index.
	Index:

	- Case: Patients who were prescribed a GLP-1 medication for at least 90 days and who reached a maintenance dose on the medication. - Control: Visit where vitals were measured where patient matched a case Exclusions: Hysterectomy - Patients on multiple GLP-1 medications Menopause Sterility
GLP-1 medications	Semaglutide: 7 mg ,14 mg (Oral) 1 mg, 2 mg, 1.7 mg, 2.4 mg (SubQ) Dulaglutide: 1.5 mg, 0.75 mg, 3 mg, 4.5 mg (SubQ) Exenatide: 2 mg, 0.01 mg, 0.005 mg (SubQ) Liraglutide: 0.6 mg, 3 mg (SubQ) Tirzepatide: 5 mg, 10 mg, 15 mg (SubQ)
Pregnancy	One of the following: - A recorded birth or pregnancy episode - An encounter with indication the patient was pregnant - An encounter with a diagnosis with ICD-10-CM code O*
Matching	BMI value Age in years Diabetes Infertility
Infertility	Infertility: ICD-10-CM code N97* PCOS: ICD-10-CM code E28.2 Primary ovarian insufficiency: ICD-10-CM code E28.3*, E28.8*, or E29.9* Hyperprolactinemia: ICD-10-CM code E22.1 Pelvic inflammatory disease: ICD-10-CM code N73* Endometriosis: ICD-10-CM code N80* Uterine fibroids or polyps: ICD-10-CM code N84.0, C54.3, C53*, D06*, or D07.0 Cervical stenosis: ICD-10-CM code N88.2 Pituitary dysfunction: ICD-10-CM code E23*
Diabetes	A diagnosis with ICD-10-CM code E11*
Sterility	A diagnosis with ICD-10-CM code Z90.7*, E89.4*, E34.5*, or Z30.2*, evidence of menopause , or a procedure with one of the following CPT codes: - Hysterectomy: 58150-58289 - Salpingectomy: 58661 or 58670 - Tubal ligation: 58600 or 58605 - Major resection of reproductive organs: 58954
Menopause	A diagnosis with ICD-10-CM code N95* or E28.31

Table 1. Pregnancy Rate Within One Year by GLP-1 Treatment

Study Ingredient	Count	Rate	Lower CI	Upper CI
None	180,866	3.86%	3.74%	3.98%
Semaglutide	11,660	3.42%	2.99%	3.85%
Liraglutide	7,065	3.98%	3.38%	4.57%
Dulaglutide	6,690	3.86%	3.25%	4.46%
Tirzepitide	1,639	3.48%	2.31%	4.64%