

**Ozempic (semaglutide) versus Nonpharmacologic Interventions For Weight Management
in Overweight Individuals**

Callie Gilmore, Emily Kane, Emma DiGirolamo, Elena Jacey, and Lily Jennings

School of Nursing, University of Maine

NUR 456: Professional Practice Through the Lifespan

Dr. Valerie Herbert

February 27, 2024

Abstract

Ozempic (semaglutide) is a medication prescribed for individuals managing Type 2 Diabetes Mellitus by mimicking the action of a hormone called GLP-1, helping to regulate glucose levels by stimulating insulin secretion and reducing glucagon secretion. Many patients with Type 2 Diabetes Mellitus rely on Ozempic (semaglutide) as a weight loss aid as opposed to implementing healthy lifestyle changes. This information proposes the question: in overweight individuals taking Ozempic (semaglutide), a medication prescribed for those with Type 2 Diabetes Mellitus, for the management of weight loss, does the use of Ozempic (semaglutide) compared to non-pharmacologic weight loss strategies exaggerate the occurrence of adverse effects? A literature search was conducted using CINAHL and PubMed employing the following search terms: *ozempic, semaglutide, weight loss, non-pharmacologic weight loss, adverse effects, and obesity*. A total of 12 articles met the inclusion criteria. The research shows that Ozempic (semaglutide) is an effective but short-term weight management aid, as most individuals regain the weight lost within one year. Though Ozempic (semaglutide) demonstrated the highest percent weight loss achieved of any anti-obesity medication (11.85%), it also results in augmented adverse effects. Commonly experienced adverse effects of Ozempic (semaglutide) include vomiting, diarrhea, hypoglycemia, cholelithiasis, tachycardia, thyroid carcinomas, reproductive complications, and stomach paralysis. Nonpharmacologic interventions like diet and exercise were found to be sustainable and have significantly fewer adverse effects, with exercise causing on average a 20% weight reduction. Based on these findings, evidence exists to support implementing nonpharmacologic strategies over Ozempic (semaglutide) for weight loss in overweight individuals.

Keywords: ozempic (semaglutide), nonpharmacologic, weight loss

References

- Chao, A. M., Tronieri, J. S., Amaro, A., & Wadden, T. A. (2022). Clinical insight on Semaglutide for chronic weight management in adults: Patient selection and special considerations. *Drug Design, Development, and Therapy*, *16*, 4449–4461.
<https://doi.org/10.2147/DDDT.S365416>.
- Chao, A. M., Tronieri, J. S., Amaro, A., & Wadden, T. A. (2023). Semaglutide for the treatment of obesity. *Trends in Cardiovascular Medicine*, *33*(3), 159–166.
<https://doi.org/10.1016/j.tcm.2021.12.008>
- Chiappini, S., Vickers-Smith, R., Harris, D., Papanti Pelletier, G. D., Corkery, J. M., Guirguis, A., Martinotti, G., Sensi, S. L., & Schifano, F. (2023). Is there a risk for Semaglutide misuse? focus on the food and drug administration’s FDA adverse events reporting system (FAERS) pharmacovigilance dataset. *Pharmaceuticals*, *16*(7), 994.
<https://doi.org/10.3390/ph16070994>
- Grant, K. (2023, August 1) *Using Ozempic for ‘minor’ weight loss: Fair or foul?* WebMD
<https://www.webmd.com/obesity/news/20230801/using-ozempic-for-minor-weight-loss-fair-or-foul>
- Kushner, R. F., Calanna, S., Davies, M., Dicker, D., Garvey, W. T., Goldman, B., Lingvay, I., Thomsen, M., Wadden, T. A., Wharton, S., Wilding, J. P. H., & Rubino, D. (2020). SEMAGLUTIDE 2.4 mg for the treatment of obesity: Key elements of the Step Trials 1 to 5. *Obesity*, *28*(6), 1050–1061. <https://doi.org/10.1002/oby.22794>

- Phillips, A., & Clements, J. N. (2022). Clinical Review of subcutaneous semaglutide for obesity. *Journal of Clinical Pharmacy and Therapeutics*, 47(2), 184-193.
<https://doi.org/10.1111/jcpt.13574>
- Rosenbaum, M., & Foster, G. (2023). Differential mechanisms affecting weight loss and weight loss maintenance. *Nature Metabolism*, 5(8), 1266–1274.
<https://doi.org/10.1038/s42255-023-00864-1>
- Smits, M. M., & Van Raalte, D. H. (2021). Safety of semaglutide. *Frontiers in Endocrinology*, 12. <https://doi.org/10.3389/fendo.2021.645563>.
- Tan, H., Dampil, O., & Marquez, M. (2022). Efficacy and safety of Semaglutide for weight loss in obesity without diabetes: A systematic review and meta-analysis. *National Library of Medicine*, <https://doi.org/10.15605/jafes.037.02.14>
- Weghuber, D., Boberg, K., Hesse, D., Jeppesen, O. K., Sørrig, R., Kelly, A. S., & STEP TEENS Investigators (2023). Semaglutide treatment for obesity in teenagers: A plain language summary of the step teens research study. *Journal of Comparative Effectiveness Research*, 12(2), e220187. <https://doi.org/10.2217/cer-2022-0187>.
- Wilding, J. P. H., Batterham, R. L., Calanna, S., Davies, M., Van Gaal, L. F., Lingvay, I., McGowan, B. M., Rosenstock, J., Tran, M. T. D., Wadden, T. A., Wharton, S., Yokote, K., Zeuthen, N., & Kushner, R. F. (2021). Once-weekly Semaglutide in adults with overweight or obesity. *New England Journal of Medicine*, 384(11), 989–1002.
<https://doi.org/10.1056/nejmoa2032183>

Xie, Z., Yang, S., Deng, W., Li, J., & Chen, J. (2022). Efficacy and safety of liraglutide and Semaglutide on weight loss in people with obesity or overweight: A systematic review. *Clinical Epidemiology*, *14*, 1463–1476. <https://doi.org/10.2147/CLEP.S391819>.