

# The Efficacy and Long-term Safety of the Use of Semaglutide for Cosmetic Weight Loss

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## BACKGROUND

Globally, adult obesity has more than doubled since 1990 with 2.5 million adults being overweight (WHO, 2024). Additionally, while this research project focuses on adults, adolescent obesity has quadrupled with over 390 million children and adolescents being overweight (WHO, 2024). Obesity is a chronic condition that worsens an individual's morbidity and mortality rate (Bergmann et al., 2022). Obesity increases the risk for developing cardiovascular disease (high blood pressure, high cholesterol, heart failure), type II diabetes, osteoarthritis, systemic inflammation, and depression to a list a few complications (Dampil et al., 2022). Economically, in the United States nearly \$173 billion dollars is accredited to annual obesity related medical costs (CDC, 2022).

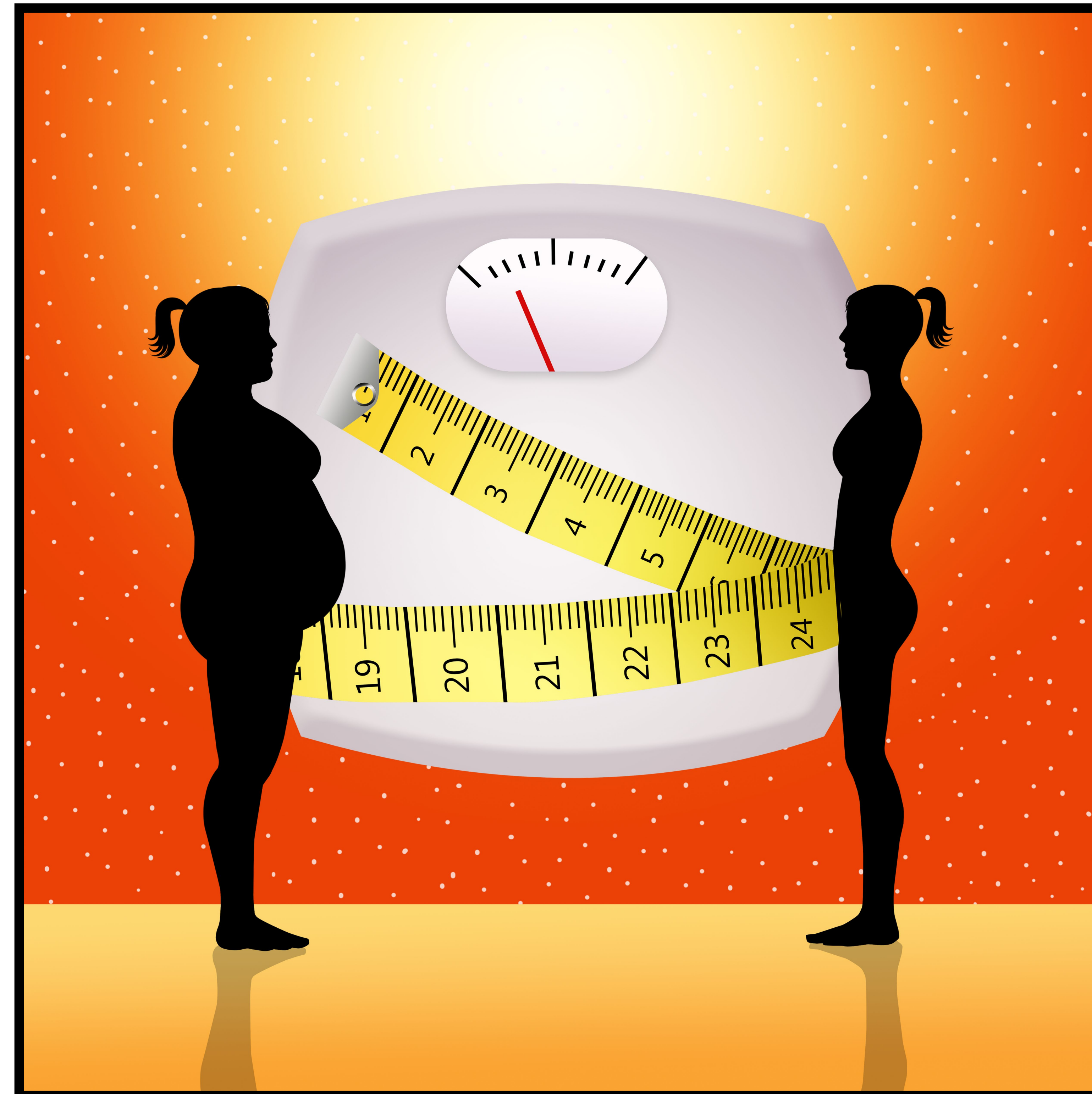
A recent surge in the use of once-weekly anti-obesity medications (AOM) such as Semaglutide (brand names: Ozempic, Wegovy) and Tirzepatide (brand names: Mounjaro, Zepbound) has caused an increase in use among uneducated and uninformed individuals.

## PURPOSE

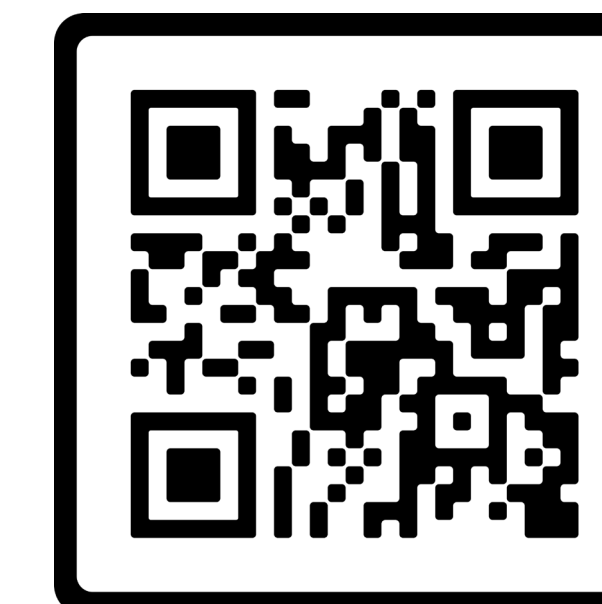
The purpose of this research project is to increase public awareness of the risks and benefits of using once-weekly AOMs and to provide resources to individuals considering it as a method for cosmetic weight loss.

## METHODS

This is a mixed systematic review of seven peer-reviewed articles that focus on evaluating the efficacy, safety, and long-term side effects of glucagon-like peptide-1 receptor agonist (GLP-1) AOMs such as Semaglutide and Tirzepatide. Baseline study participant characteristics were similar between all seven articles: adults  $\geq 18$  years old, BMI of  $\geq 30 \text{ kg/m}^2$  or  $\geq 27 \text{ kg/m}^2$ , at least one untreated or treated weight-related comorbidity, and presenting with or without diabetes.



Scan QR code to view chart comparing methods and results of the 7 peer reviewed articles.



## RESULTS

- GLP-1 mechanism of action:
  - Gastrointestinal peptides that stimulate insulin secretion, inhibit glucagon release, slows down digestion, and increases satiety.
- Adverse effects:
  - Nausea, vomiting, constipation, diarrhea, dizziness, headache.
- Severe life-threatening effects:
  - Acute pancreatitis, cholelithiasis, Ileus
- Weight loss efficacy:
  - Semaglutide: 11 - 17% weight reduction from baseline compared to placebo (2 - 6%)
- Psychiatric results:
  - No evidence that indicates use of GLP-1RA leads to increased suicidal thoughts or actions.
- Cardiovascular results:
  - Increase in HR by 1-4 beats per minute
  - Improvement in cardiometabolic risk factors (A1c, triglycerides, SBP, DBP, LDL, HDL, CRP)

## CONCLUSIONS

Self-image and body awareness are critical factors that contribute to overall health and well-being. Providing information regarding the health risks and benefits of AOMs such as Semaglutide will increase cultural and social awareness, which is fundamental to physical and mental wellness.

## REFERENCES

Scan QR code for list of references.

