

Effects of GLP-1 Receptor Agonists on Body Composition and Dietary Behaviors: A Mini-Systematic Review

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Background: The growing use of glucagon-like peptide-1 receptor agonists (GLP-1s) has transformed diabetes and obesity treatment in recent years. Although these medications are well established for improving glycemic control and promoting weight loss, their broader effects on health outcomes remain unclear. GLP-1 RAs reduce fat mass and energy intake but may also influence lean body mass and dietary behaviors. Therefore, this mini-systematic review was conducted as a learning experience using a single bibliographic database to examine the impact of GLP-1s on body composition and dietary behaviors.

Methods: Guided by the Cochrane Handbook for Systematic Reviews of Interventions and PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, a systematic review was conducted using the PubMed database. A search strategy was developed with a research librarian using terms including “GLP-1,” “diet,” “eating,” “body composition,” “adiposity,” and “adults.” Following duplicate removal, two independent reviewers screened titles and abstracts against established eligibility criteria. Articles considered potentially relevant underwent full-text review. Full-text articles were independently evaluated by the same reviewers to determine final eligibility. Disagreements at each screening stage were resolved through discussion with a third reviewer. Eligible studies included adults (≥ 18 years) using GLP-1s, were published in English, and reported outcomes related to body composition and dietary behaviors. Data extracted included study and participant characteristics, GLP-1 medication type, and assessment measures and outcomes for body composition and dietary behaviors.

Results: 304 records were identified, with 3 duplicates removed. Following title and abstract screening, 45 articles underwent full-text review, and 28 studies were included in the final mini-systematic review.

Conclusion: Preliminary evidence suggests that GLP-1s influence body composition and dietary behaviors; however, additional research is needed to determine their significance and evaluate strategies that support preservation of lean body mass and healthy dietary behaviors.