

INPLASY

The effects of discontinuing GLP-1 receptor agonists on body habitus - A systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - N/A.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202420004

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 February 2024 and was last updated on 01 February 2024.

INTRODUCTION

Review question / Objective This systematic review aims to evaluate the sustainability of weight loss in obese or overweight patients who took GLP-1RAs following the discontinuation of the drug.

Rationale Currently, there are no systematic reviews or meta-analyses evaluating the research of weight loss maintenance following the discontinuation of GLP-1RAs.

Condition being studied Body habitus of obese or overweight persons after the discontinuation of GLP-1RAs.

METHODS

Search strategy The following Boolean/Phrase search string was developed in collaboration with a health sciences librarian: "Glp-1 agonist" OR glp-1" OR "glp-1 ra" OR "glp-1 receptor agonist" OR "glucagon-like peptide-1 receptor agonist" OR "dulaglutide" OR "exenatide" OR "liraglutide" OR "lixisenatide" OR "semaglutide" OR "Ozempic" OR "Wegovy" OR "Trulicity" OR "Byetta" OR "Bydureon" OR "Victoza" OR "Saxenda" OR "Lyxumia" OR "Rybelsus" OR "Mounjaro" OR "Tirzepatide" OR "Zepbound" AND "weight loss maintenance" OR "weight regain" OR "rebound weight gain" OR "rebound weight" OR "weight loss" OR "weight reduction" OR "lose weight" AND "discontinuation" OR "termination" OR

“withdrawal” OR “cessation” OR “off-drug follow-up.”

Participant or population Obese or overweight persons.

Intervention Discontinuation of GLP-1RA.

Comparator None.

Study designs to be included Randomized Controlled Trials.

Eligibility criteria Eligible studies were written in the English language, randomized controlled trials, and patients who have previously taken a GLP-1 drug. Studies excluded were animal studies, post-bariatric surgery patients, patients taking DDP4 inhibitors, and outcomes that did not include weight.

Information sources A literature search will use EBSCOhost to search Academic Search Premier, CINHAL Ultimate, Cochrane Central Register of Controlled Trials, MEDLINE with full text, and Cochrane Database of Systematic Reviews in addition to a separate search in PubMed. A grey literature search will be performed using similar keyword searches of clinicaltrials.gov, Google Scholar, and Cochrane Central Register of Controlled Trials.

Main outcome(s) The main outcomes were body weight change from baseline on treatment and off treatment, change in waist circumference from baseline on and off treatment, and change in BMI from baseline on and off treatment.

Quality assessment / Risk of bias analysis The risk of bias of the included articles will be evaluated using the Cochrane Risk of Bias tool for randomized controlled trials (RoB 2.0). Judgement of the articles are reported as low risk, high risk, or with some concerns.

Strategy of data synthesis Review Manager (version 5.4) was used to compare mean differences of outcomes using a Der Simonian-Laird Random Effects model. The mean difference (MD) for changes in weight, waist circumference, and BMI were calculated with a 95 % confidence interval (CI) for continuous variables to combine trials. The random effects model was applied to estimate the pooled effect for included studies. Outcome measures of $p < 0.05$ were considered statistically significant. According to the Cochrane Collaboration recommendations, an I² of 50%–90% was classified as substantial heterogeneity,

and 75%–100% was classified as considerable heterogeneity.

Subgroup analysis Outcomes related to weight, waist circumference, and BMI included sub-groups based on the time to follow-up: short-term (12 weeks), moderate-term (26 weeks), and long-term (48-52 weeks).

Sensitivity analysis A stepwise removal of studies will be performed to identify individual study-based causes of heterogeneity.

Language restriction English.

Country(ies) involved USA.

Keywords Glucagon-Like Peptide-1 Receptor Agonists; Body Weight; Weight Loss; Follow-Up Studies; Humans; Discontinuation.

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