

# INPLASY

## Efficacy and safety of semaglutide compared with dulaglutide in patients with type 2 diabetes: a meta-analysis

INPLASY2023110027

doi: 10.37766/inplasy2023.11.0027

Received: 06 November 2023

Published: 06 November 2023

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### ADMINISTRATIVE INFORMATION

**Support** - Scholarship.

**Review Stage at time of this submission** - The review has not yet started.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2023110027

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 November 2023 and was last updated on 06 November 2023.

### INTRODUCTION

**Review question / Objective** Diabetes mellitus is a metabolic disease characterized by a long-term high level of blood sugar, resulting in cardiovascular disease, kidney disease, retinopathy, reproductive function damage and other complications. Semaglutide and dulaglutide as two drugs for patients with type 2 diabetes, the purpose of this study is to systematically evaluate the efficacy and safety of semaglutide compared with dulaglutide for patients with type 2 diabetes of the comprehensive results of recent literature reports.

**Condition being studied** Read the extensive literature and learned about the methods of meta analysis.

### METHODS

**Participant or population** Patients with type 2 diabetes.

**Intervention** Semaglutide vs. dulaglutide.

**Comparator** Semaglutide vs. dulaglutide, evaluate blood sugar, symptom and other indicator of two groups of patients.

**Study designs to be included** All available clinical, prospective randomized and non randomized trials and retrospective comparative studies (cohort or case control series) comparing RRP vs ORP, RPN vs OPN, RRN vs ORN and RRC vs ORC were included. Published between 2000 and 2023. No language restrictions meta analysis.

**Eligibility criteria** Inclusion criteria: (1) Clinical studies comparing the efficacy and safety of Semaglutide and Dulaglutide for patients with type 2 diabetes. Randomized and semi-randomized controlled trials are preferred, regardless of whether blinding or allocation concealment is used. If relevant randomized controlled trials are not available, non-randomized concurrent

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controlled trials, prospective cohort studies, and case-control studies will be included. (2) Study subjects: no limit on gender, age, race, or nationality.

**Information sources** Using the three databases of Pubmed, Embase and web of science ,a systematic literature search was conducted in October 2023.

**Main outcome(s)** In this systematic review and meta-analysis, we conducted a comparative study of Semaglutide and Dulaglutide for patients with type 2 diabetes.

**Quality assessment / Risk of bias analysis** We will use Egger's test and Begg's test to assess the risk of bias in the literature.

**Strategy of data synthesis** Using stata MP17 software for statistical analysis. The included data are continuous variables and the measurement methods are the same,SO we choose WMD as the effect scale.Random-effects model was used for dataanalysis. Sensitivity analysis and subgroupanalysis were used to find the sources of heterogeneity.

**Subgroup analysis** None planned.

**Sensitivity analysis** The sensitivity analysiswas performed by Stata software, which reflected the sensitivity of the study by thechange in the effect size after the deletion of one of the papers.

**Country(ies) involved** China.

**Keywords** semaglutide; dulaglutide; type 2 diabetes; meta analysis.

#### **Contributions of each author**

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