INPLASY

Systematic Review on the Association Between Tirzepatide and Gastroparesis in Diabetic and Non-Diabetic Populations

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ADMINISTRATIVE INFORMATION

Support - Self-funded.

Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 November 2024 and was last updated on 30 November 2024.

INTRODUCTION

Review question / Objective Does the use of tripeptide contribute to the occurrence of gastroparesis in diabetic patients and non-diabetic individuals?

Rationale Gastroparesis, or stomach paralysis, is a severe condition that disrupts gastrointestinal function, diminishes quality of life, and poses significant clinical challenges. Emerging reports suggest a potential link between gastroparesis and the use of tirzepatide, a dual GIP/GLP-1 receptor agonist primarily prescribed for type 2 diabetes management. Beyond diabetes, tirzepatide is increasingly used in non-diabetic populations for weight management. Given fragmented reports regarding gastroparesis, trending self-treatment among the population, and the limited systematic reviews confirming this issue's significance, it was necessary to investigate this matter and contribute to the safety of treatment therapeutic management.

Condition being studied Gastroparesis, or stomach paralysis, is a severe condition that disrupts gastrointestinal function, diminishes quality of life, and poses significant clinical challenges. Emerging reports suggest a potential link between gastroparesis and the use of tirzepatide, a dual GIP/GLP-1 receptor agonist primarily prescribed for type 2 diabetes management.

METHODS

Search strategy The current systematic review conducted a comprehensive search across PubMed, Scopus, and Cochrane Library, analyzing studies published in English from May 2022 to October 2024. The search main keywords were Mounjaro, tirzepatide, gastroparesis, stomach paralysis, GLP-1 receptor agonist, diabetes, Non-diabetics, weight loss, glycemic control, paralysis, plegia, side effect, adverse effect, safety, abdomen, Gut.

Inclusion and exclusion criteria are applied. Data extraction and quality assessment will be performed.

Participant or population The target population is any individual that used tirzepatide whether a diabetes or non-diabetes patient.

Intervention The intake of tripeptide, whether for weight loss or glycemic control.

Comparator NA.

Study designs to be included Original research such as RCTs, case studies and reports , and observational studies. Forward and backward citation maybe checked if necessary. Experts' opinion maybe taken and also additional references to lawsuits may be investigated to strengthen the overall findings.

Eligibility criteria 1- The target population is any individual that used tirzepatide whether a diabetes or non-diabetes patient.
2- The intake of tripeptide, whether for weight loss or glycemic control.
3- Original research such as RCTs, case studies and reports , and observational studies. Forward and backward citation maybe checked if necessary.
4- Full-text open-access studies published in English language.
5- Studies published May 2022 to October 2024.

Information sources The current systematic review conducted a comprehensive search across PubMed, Scopus, and Cochrane Library databases.

Main outcome(s) The results are in progress. The expected outcome is to investigate whether the use of tripeptide contributes to the occurrence of gastroparesis in diabetic patients and non-diabetic individuals.

Additional outcome(s) NA.

Data management The data collection is done by two individual authors and obtained studies are subjected to inclusion and exclusion criteria. A third author was set for arbitrary role for non-agreement. This managements contributes to the reduction of selection bias.

Quality assessment / Risk of bias analysis The current systematic review will include these quality and risk assessment tools such as RoB 2: Cochrane risk-of-bias tool for randomized trials, ROBINS-I: Cochrane risk-of-bias tool for non-randomised studies of interventions, JBI Critical Appraisal Checklist for Case Reports for Case reports, and AXIS Cross-sectional/prevalence studies. Additional and more precise tools may be added based on the detailed design of obtained studies.

Strategy of data synthesis The obtained results will be represented to include both quantitative data indicating mainly the association between the two main variables and also include any mention for the doses. Moreover, qualitative data including suggestions provided in included studies may be added.

Subgroup analysis NA.

Sensitivity analysis Will be decided at further phases of the study.

Language restriction Only studies published in English language.

Country(ies) involved The study is carried out in United Arab Emirates.

Other relevant information NA.

Keywords The search main keywords were Mounjaro, tirzepatide, gastroparesis, stomach paralysis, GLP-1 receptor agonist, diabetes, Non-diabetics, weight loss, glycemic control, paralysis.

Dissemination plans The manuscript is planned to be finalized within less than 6-12 months.

Contributions of each author

Author 1 - Sabrina Ait Gacem - Dr. Sabrina Ait Gacem contributed to conceptualizing the idea, drafted the methodology, data analysis, supervisory role for the project, and the revision of the drafted and final manuscript.
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