

# INPLASY PROTOCOL

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## The use of metformin in patients with COVID-19: A protocol for systematic review and meta-analysis

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**Support:** None.

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

**Conflicts of interest:**  
None declared.

**Review question / Objective:** Whether the use of metformin favorably influence the COVID-19 outcomes.

**Condition being studied:** The benefits and harms of the use of metformin in patients with COVID-19.

**Information sources:** PubMed, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), Wan fang, and Chinese Biomedical Literature Database (CBM)

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 February 2021 and was last updated on 08 February 2021 (registration number INPLASY202120029).

### INTRODUCTION

**Review question / Objective:** Whether the use of metformin favorably influence the COVID-19 outcomes.

**Condition being studied:** The benefits and harms of the use of metformin in patients with COVID-19.

### METHODS

**Participant or population:** Patients with COVID-19.

**Intervention:** Patients with COVID-19 treated with metformin.

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**Comparator:** Patients with COVID-19 treated without metformin.

**Study designs to be included:** Perspective and retrospective studies.

**Eligibility criteria:** Perspective or retrospective studies that analyzed the outcomes of patients with COVID-19 treated with and without metformin.

**Information sources:** PubMed, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), Wan fang, and Chinese Biomedical Literature Database (CBM).

**Main outcome(s):** Death, intubation, admission to ICU, deterioration, the length of stay, and adverse events.

**Quality assessment / Risk of bias analysis:** Cochrane Collaboration's bias risk tool or Newcastle-Ottawa Scale (NOS) will be used.

**Strategy of data synthesis:** The odds ratio, relative risk, or hazard ratio, and its 95% confidence interval (CI), or mean difference will be calculated using Review Manager.

**Subgroup analysis:** The subgroup analysis will be performed based on age, diabetes, and obesity.

**Sensitivity analysis:** Removing 1 study each time from pooled analysis and reporting the results in a summary table.

**Language:** English or Chinese.

**Country(ies) involved:** China.

**Keywords:** COVID-19, SARS-CoV-2, metformin, clinical outcomes, efficacy, safety.

**Contributions of each author:**

Author 1 - Yin Li.

Author 2 - Tong Tong.

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