INPLASY PROTOCOL

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Conflicts of interest:
None declared.

High-density lipoprotein Cholesterol Efflux Capacity and the Risk of Cardiovascular Diseases: A Systematic Review and Meta-analysis

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Review question / Objective: **Review question: many studies have indicated that a negative association between HDL cholesterol efflux capacity (CEC) and cardiovascular diseases. However, cardiovascular disease as a general term for a group of cardiovascular-related diseases, whether there are differences between diseases. Besides, it remains unknown whether HDL-CEC is dose-responsive to cardiovascular disease risk. Objective: This paper is aimed to systematically investigate the association between HDL-CEC and cardiovascular diseases.**
Condition being studied: **Risk of Cardiovascular Diseases.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 July 2021 and was last updated on 02 July 2021 (registration number INPLASY202170006).

INTRODUCTION

Review question / Objective: **Review question: many studies have indicated that a negative association between HDL cholesterol efflux capacity (CEC) and cardiovascular diseases. However, cardiovascular disease as a general term for a group of cardiovascular-related diseases, whether there are differences between diseases. Besides, it remains unknown whether HDL-CEC is dose-responsive to cardiovascular disease risk. Objective: This paper is aimed to systematically investigate the association**

between HDL-CEC and cardiovascular diseases.

Condition being studied: Risk of Cardiovascular Diseases.

METHODS

Participant or population: Cardiovascular disease or General population.

Intervention: HDL-CEC level.

Comparator: healthy population or different caro-diseases; control.

Study designs to be included: cohort studies/ case-control; prospective cohort studies.

Eligibility criteria: 1. Study population aged >18 years with a history of cardiovascular disease. 2. The exposure of study was HDL-CEC. 3. The intervention of study was different levels of HDL-CEC. 4. The control group was patients with cardiovascular disease or healthy population. 5. The study outcomes were the risk of cardiovascular-related disease.

Information sources: Web of science , pubmed, and Embase were searched from 2nd, July, 2021. In addition, previous reviews and meta-analysis were included for make full use.

Main outcome(s): The study outcomes were the risk of cardiovascular-related disease.

Quality assessment / Risk of bias analysis: The NOS items were used to assess the quality of the included studies. The risk of bias analysis were conducted by software Stata.12E.

Strategy of data synthesis: Qualitative analysis was performed by forest plot, while dose response was used for quantitative analysis.

Subgroup analysis: Subgroup analyses were performed according to the clinical characteristics of the study according to the size of the heterogeneity seen in the study.

Sensitivity analysis: Sensitivity analyses were performed by excluding each study individually and, if necessary, by trim-and-fill method.

Language: English.

Country(ies) involved: China and Germany.

Keywords: HDL;Cholesterol Efflux Capacity; Cardiovascular disease; Meta-analysis.

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