INPLASY PROTOCOL

To cite: Chen et al. Effects of vitamin D supplementation on body composition, glucose metabolism, and inflammation in obese or overweight patients: a systematic review and meta-analysis. Inplasy protocol 202230152. doi: 10.37766/inplasy2022.3.0152

Received: 27 March 2022

Published: 27 March 2022

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Support: **None to declare.**

Review Stage at time of this submission: **Piloting of the study selection process.**

Conflicts of interest:
None declared.

Effects of vitamin D supplementation on body composition, glucose metabolism, and inflammation in obese or overweight patients: a systematic review and meta-analysis

Chen, HP[1]; Zhao, YQ[2].

Review question / Objective: **P: obese or overweight patients I:vitamin D supplementation C: Placebo or intervention in addition to vitaminD supplementation O:body composition, glucose metabolism, and inflammation S: Randomized controlled trial.**
Condition being studied: **A meta-analysis was conducted to evaluate the effects of vitamin D supplementation on body composition, glucose metabolism, and inflammation in obese or overweight patients.**
Information sources: **Pubmed, Embase, Medline, Cochrane, CNKI, WanFang, Sinomed, ViP.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 March 2022 and was last updated on 27 March 2022 (registration number INPLASY202230152).

INTRODUCTION

Review question / Objective: **P:obese or overweight patients I:vitamin D supplementation C: Placebo or intervention in addition to vitaminD supplementation O: body composition, glucose metabolism, and inflammation S:Randomized controlled trial.**

Condition being studied: **A meta-analysis was conducted to evaluate the effects of vitamin D supplementation on body composition, glucose metabolism, and**

inflammation in obese or overweight patients.

METHODS

Participant or population: Obese or overweight patients.

Intervention: Vitamin D supplementation.

Comparator: Placebo or intervention in addition to vitaminD supplementation.

Study designs to be included: Randomized controlled trial.

Eligibility criteria: P:obese or overweight patients I:vitamin D supplementation C:Placebo or intervention in addition to vitaminD supplementationO:body composition or glucose metabolism or inflammation S:Randomized controlled trial1.Randomized controlled trial.

Information sources: Pubmed, Embase, Medline, Cochrane, CNKI, WanFang, Sinomed, ViP.

Main outcome(s): Body composition or glucose metabolism or inflammation.

Quality assessment / Risk of bias analysis: The Cochrane Collaboration's tool for assessing risk of bias.The funnel plot with the user written "metabias" command was used to assess publication bias. $P < 0.05$ was considered as a significant level.

Strategy of data synthesis: Stata software (version 16) was applied to perform all statistical analyses. The mean and SD of changes in body composition, glucose metabolism or inflammation from baseline was used to conduct meta-analysis in RCTs.

Subgroup analysis: Vitamin D3 dose, region, study design.

Sensitivity analysis: We performed a sensitivity analysis using Stata software for this study.

Country(ies) involved: China.

Keywords: obese; overweight patients; vitamin D supplementation; body composition; glucose metabolism.

Contributions of each author:
Author 1 - HongPeng Chen.
Author 2 - YuQian Zhao.