

INPLASY PROTOCOL

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Review Stage at time of this submission:

The review has not yet started.

Conflicts of interest:

None declared.

Effects of chronic consumption of orange juice on cardiovascular risk factors in overweight and obese adults: a protocol for a systematic review and meta-analysis of randomized controlled trials

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Review question / Objective: To evaluate the effects of chronic consumption of orange juice on cardiovascular risk factors in overweight and obese adults.

Condition being studied: Chronic consumption of orange juice on cardiovascular risk factors in overweight and obese adults.

Information sources: Systematic literature search will be conducted in Cochrane Central Registry of Controlled Trials (CENTRAL), PubMed, Web of Science, and Science Direct Online (SDOL).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 December 2021 and was last updated on 18 December 2021 (registration number INPLASY2021120082).

INTRODUCTION

Review question / Objective: To evaluate the effects of chronic consumption of orange juice on cardiovascular risk factors in overweight and obese adults.

Condition being studied: chronic consumption of orange juice on

cardiovascular risk factors in overweight and obese adults.

METHODS

Participant or population: Overweight and obese adults.

Intervention: Chronic consumption of orange juice.

Comparator: Chronic consumption of control drink.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: Randomized controlled trials to investigate chronic consumption (> 1week) of orange juice on cardiovascular risk factors in overweight and obese adults.

Information sources: Systematic literature search will be conducted in Cochrane Central Registry of Controlled Trials (CENTRAL), PubMed, Web of Science, and Science Direct Online (SDOL).

Main outcome(s): Vascular function, inflammatory biomarkers, lipid profile and glycemic indices.

Quality assessment / Risk of bias analysis: Two researchers who have been trained in literature quality evaluation will carry out literature searching, screening, quality evaluation, and data extraction. If any differences arise, they will be resolved through rechecking or discussion or consultation with relevant experts. The Risk of Bias 2 tool (RoB 2) from the Cochrane Collaboration will be used to assess the risk of bias of the randomized controlled studies included in this systematic review and meta-analysis.

Strategy of data synthesis: The standardized mean difference (SMD) will be used to compare the continuous variables when different methods are used to evaluate the same outcome, whereas mean difference (MD) will be used when the same method is used. The SMD or MD of each outcome will be calculated using a random-effects model. The potential existence of publication bias will be determined by the Egger's test, with visual inspection of the distributions of the effect size on the funnel plot. All statistical results with P value <0.05 will be considered statistically significant.

Subgroup analysis: To evaluate the effects of chronic consumption of orange juice and control drink on cardiovascular risk factors in overweight and obese adults.

Sensitivity analysis: Sensitivity analysis will be performed to evaluate the influence of each study on the overall effect by eliminating them individually.

Country(ies) involved: China.

Keywords: Orange juice, CVD risk factors, overweight, obesity, RCTs, systematic review, meta-analysis.

Contributions of each author:

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