INPLASY

Adherence to Plant-based Diets in Relation to Long-term Risk of Dementia: a Systematic Review and Meta-Analysis

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ADMINISTRATIVE INFORMATION

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

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 12 March 2024 and was last updated on 12 March 2024.

INTRODUCTION

*R*eview question / Objective A systematic review and meta-analysis of the associations between plant-based dietary patterns and the risk of dementia.

Condition being studied The number of dementia cases, estimated at 50 million people worldwide, is projected to triple by 2050. Given longer life expectancies and current absence of a cure to halt or reverse course of dementia, actions for modifiable dietary modifications are increasingly emphasized for the dementia prevention or delay.
Plant-based dietary patterns, characterized by higher intake of plant foods and lower consumption of animal foods, have been recommended by its health and environmental benefits. Previous studies have shown that greater adherence to plant-based diets were consistently associated with lower risks of major chronic diseases. However, there has been a lack of evidence regarding their associations with dementia.

METHODS

Search strategy PubMed: (((plant-based[Title/Abstract]) OR (plant based[Title/Abstract])) AND (diet*[Title/Abstract])) AND ((dementia [Title/Abstract]) OR ("Alzheimer disease" [MeSH Terms]))
WebOfScience: ((TS=(plant-based) OR TS=(PDI)) AND (TS=(diet*)) AND (TS=(dementia) OR TS=(Alzheimer's disease)))
EMBASE: ('plant-based' OR 'plant based') AND diet* AND ('alzheimer disease' OR dementia).

Participant or population Middle-aged and older adults without baseline dementia will be included.

Intervention Exposure: The overall plant-based diet index (PDI), healthful plant-based diet index (hPDI) and unhealthful plant- based diet index (uPDI) were calculated from food frequency questionnaires.

Comparator Not applicable.

Study designs to be included Prospective cohort study.

Eligibility criteria 1. Prospective cohort study; 2. Middle-aged and older adults; 3. Participants without dementia at baseline.

Information sources PubMed, WebOfScience, EMBASE.

Main outcome(s) Incident dementia.

Quality assessment / Risk of bias analysis Two reviewers will independently assess risk of bias based on the following domains from recommendations from the Cochrane handbook: 1. representativeness of the exposed cohort, 2. selection of the non-exposed cohort, 3. ascertainment of exposure, 4. outcome of interest not present at start of the study, 4. control for primary confounders, 5. control for secondary confounders, 6. assessment of outcome, 7. duration of follow-up, 8. adequacy of follow-up. Results of quality assessment will be presented in a graph.

Strategy of data synthesis Hazard Ratio (HR) and its 95% confidence intervals (95% CI) will be calculated for the incident dementia associated with three types of plant-based dietary patterns in each included cohort studies.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Country(ies) involved China.

Keywords Plant-based diet; Dementia; Nutritional epidemiology.

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