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Association of premature ovarian insufficiency with cardiovascular outcomes and all-cause mortality: A meta-analysis

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ADMINISTRATIVE INFORMATION

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

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 04 March 2024 and was last updated on 04 March 2024.

INTRODUCTION

Review question / Objective To assess the strength for the association of POI with major cardiovascular outcomes and all-cause mortality.

Condition being studied Women who transition into menopause have a high risk of cardiovascular disease. However, whether cardiovascular outcomes associate with premature ovarian insufficiency (POI) requires further elucidation.

METHODS

Participant or population Studies in which all participants were free of CVD at initial examination.

Intervention studies in which participants had POI (defined by menopause occurring at an age of <40 years).

Comparator Studies in which participants had age at menopause in the normal range.

Study designs to be included Prospective cohort studies.

Eligibility criteria (1) studies in which all participants were free of CVD at initial examination; (2) studies in which participants had POI (defined by menopause occurring at an age of <40 years); (3) studies in which participants had age at menopause in the normal range; (4) studies in which participants had coronary heart disease, cardiac death, stroke, or all-cause mortality; and (5) prospective cohort studies.

Information sources MedLine, EmBase, and Cochrane Library databases.

Main outcome(s) Coronary heart disease, cardiac death, stroke, or all-cause mortality.

Quality assessment / Risk of bias analysis The methodological quality of the included studies was evaluated using the Newcastle–Ottawa scale (NOS), which has already been partially validated for assessing the quality of observational studies in meta-analyses.

Strategy of data synthesis Notably, the pooled analyses were calculated using the random effects model with inverse variance weighting, which considered the underlying differences among the included studies.

Subgroup analysis Subgroup analyses were conducted for the association of POI with major cardiovascular outcomes and all-cause mortality according to the region, follow-up duration, adjusted body mass index (BMI), adjusted hormone replacement therapy (HRT), or study quality, and the differences between subgroups were assessed using an interaction t-test.

Sensitivity analysis Sensitivity analysis was performed to assess the robustness of the pooled conclusion by sequentially removing one study at a time.

Country(ies) involved China.

Keywords premature ovarian insufficiency; coronary heart disease; stroke; cardiac death; meta-analysis.

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