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Prediction models for intradialytic hypotension in dialysis patients: a protocol for systematic review and critical appraisal

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ADMINISTRATIVE INFORMATION

Support - None.

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

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023110081

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 November 2023 and was last updated on 20 November 2023.

INTRODUCTION

Review question / Objective The purpose of this systematic review is to assess Prediction models for intradialytic hypotension in dialysis patients based on a comprehensive literature review.

Condition being studied The current incidence of intradialytic hypotension (IDH) is relatively high among hemodialysis patients. IDH can lead to complications such as arrhythmias, thrombus formation in arteriovenous fistulas, fistula occlusion, inadequate dialysis, and in severe cases, even death. The occurrence of IDH is mainly associated with four factors: patient demographics (age, gender, race, etc.), comorbidities (diabetes, cardiovascular diseases, malnutrition-related conditions, etc.), dialysis-related factors (interdialytic weight gain, ultrafiltration rate, duration of dialysis, etc.), and other factors (antihypertensive medication before

dialysis, pre-dialysis blood pressure, serum phosphorus, etc.). Through a preliminary literature review, it was found that although some scholars have conducted original research on predictive models for intradialytic hypotension in hemodialysis patients, the results of their studies are not consistent.

METHODS

Search strategy Pubmed database, The Cochrane Library, Web of Science, China National Knowledge Infrastructure, Wangfang database. will be searched from database establishment to Dec 31st, 2023.

Participant or population Studies reporting on prediction models for intradialytic hypotension in dialysis patients will be considered for inclusion.

Intervention Prediction model development studies with and without external validation and

external model validation studies with or without model updating will be considered for inclusion if they are intended to inform clinicians' therapeutic decision making regarding the management of a intradialytic hypotension by dialysis patients.

Comparator Not Applicable.

Study designs to be included Unrestricted.

Eligibility criteria Inclusion and exclusion criteria are categorized by population, index prediction model, comparative model, outcomes to be predicated, timing and setting (PICOTS). The year of publication is restricted from database establishment to 2023 and there were no restrictions regarding the language of the article.

Information sources Web of Science, PubMed and The Cochrane Library will be been comprehensive searched. Given China's extensive research on dialysis, we will search the following Chinese databases: China National Knowledge Infrastructure and the Chongqing VIP Chinese Science establishment to 2022.

Main outcome(s) Intradialytic hypotension.

Additional outcome(s) Not Applicable.

Data management Retrieved studies will be imported into Endnote reference manager software. (Version X8.2, Clarivate Analytics, Philadelphia, USA. Available at <https://endnote.com/>) Duplicate records will be identified and excluded using a systematic, rigorous and reproducible method utilising a sequential combination of fields including author, year, title, journal and pages.

Two review authors will independently extract data on methods, population, index prediction model, comparative model, outcomes to be predicated, timing and setting, using a preformulated data collection form.

Quality assessment / Risk of bias analysis The corresponding assessment tools were used according to the types of included studies. Disagreements will be resolved by discussion or by involving another reviewer.

Strategy of data synthesis Not Applicable.

Subgroup analysis Not Applicable.

Sensitivity analysis Not Applicable.

Country(ies) involved China.

Keywords Dialysis, Intradialytic Hypotension, Prediction Models, Systematic Review.

Dissemination plans The results of this study will be published in peer-reviewed journals.

Contributions of each author

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Author 2 - Luhuan Yang.

Author 3 - Zuyang Xi.

Author 4 - Dongling Ma.

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