INPLASY PROTOCOL

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None declared.

The association of malnutrition with risk of acute kidney injury: a systematic review and meta-analysis

Xiang, X[1]; Zhu, XC[2].

Review question / Objective: **Given the contradictory relationship between malnutrition and risk of AKI in previous studies, there was urgent need that the evidence of meta-analysis was conducted to assess the association between malnutrition and risk of incident AKI. Therefore, the present systematic review and meta-analysis based on current evidence provides information on the association between malnutrition and risk of AKI according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)guidelines.**
Condition being studied: **Acute kidney injury (AKI) is a complex clinical syndrome caused by a range of factors in various clinical settings, which was characterized by a sudden and often reversible decline in estimated glomerular filtration rate(eGFR) and resultant accumulation of metabolic waste products.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 February 2023 and was last updated on 14 February 2023 (registration number INPLASY202320062).

INTRODUCTION

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Condition being studied: Acute kidney injury (AKI) is a complex clinical syndrome caused by a range of factors in various clinical settings, which was characterized by a sudden and often reversible decline in estimated glomerular filtration rate(eGFR) and resultant accumulation of metabolic waste products.

METHODS

Participant or population: Inpatients.

Intervention: Patients with malnutrition

Comparator: Patients without malnutrition.

Study designs to be included: Observational study.

Eligibility criteria: (1) cohort studies or cross-sectional studies, (2) studies investigating the association of malnutrition with AKI risk, (3) populations of any sex or ethnicity, (2) studies with clear diagnosis of malnutrition and AKI.

Information sources: We searched potential publications in PubMed, OVID (Medline), Embase, Web of Science, and Cochrane Library, and abstracts from database inception until May 29, 2022.

Main outcome(s): The malnutrition is significantly associated with an increased prevalent AKI.

Quality assessment / Risk of bias analysis: An assessment of study quality was performed by two independent reviewers based on Agency for Healthcare Research and Quality (AHRQ).

Strategy of data synthesis: Data analysis was performed by statistical software (STATA, version 14.0, Stata Corp, College Station, TX, U.S.). For dichotomous data, the odds ratio (OR) and 95% confidence interval (CI) were calculated. Heterogeneity was assessed using the chi-square test for Cochrane's Q statistic and calculating I2. The random-effects model was conducted when there was a significant heterogeneity with I2 > 50% or p < 0.10. Otherwise, the fixed-effects model was used.

Subgroup analysis: Subgroup analysis was performed to explore the source of heterogeneity, and subgroup was defined according to region, diagnosis of malnutrition, CKD definitions, study quality.

Sensitivity analysis: We conducted sensitivity analysis by removing any study of included studies.

Country(ies) involved: China.

Keywords: malnutrition; acute kidney injury; meta-analysis.

Contributions of each author:
Author 1 - Xiang Xiang.
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