

INPLASY PROTOCOL

To cite: Xu et al.
Hypophosphatemia in Critically
Ill patients: A Systematic
Review and Meta-Analysis.
Inplasy protocol 20224000116.
doi:
10.37766/inplasy2022.4.0116

Received: 19 April 2022

Published: 19 April 2022

Corresponding author:
Hui-Bin Huang

hhba02922@btch.edu.cn

Author Affiliation:
Beijing Tsinghua Chang Gung
Hospital, Tsinghua University.

Support: None.

**Review Stage at time of this
submission:** Preliminary
searches.

Conflicts of interest:
None declared.

Hypophosphatemia in Critically Ill patients: A Systematic Review and Meta-Analysis

Xu, X¹; Yao, Y²; Zhu, YB³; Zhao, YH⁴; Huang, HB⁵.

Review question / Objective: Hypophosphatemia occurs commonly in critical illness, while research on its prognostic value in ICU patients has yielded conflicting results. Thus, we aimed to investigate the effect of hypophosphatemia on mortality and important clinical outcomes in such a patient population.

Condition being studied: Prognostic value of serum phosphate in critically ill patients. The authors of the current study come from a tertiary hospital in China and all the members have extensive experience in treating critical illnesses. Furthermore, these authors have published several meta-analyses, which can guarantee the completion of the current study.

Information sources: We will search the references in the included studies and personal files. We will request advice from experts in the field. Additionally, we will search associated articles from critical care, surgical, and infection meetings; and contacted the authors of included trials, if needed.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 April 2022 and was last updated on 19 April 2022 (registration number INPLASY202240116).

INTRODUCTION

Review question / Objective: Hypophosphatemia occurs commonly in critical illness, while research on its prognostic value in ICU patients has yielded conflicting results. Thus, we aimed to investigate the effect of hypophosphatemia

on mortality and important clinical outcomes in such a patient population.

Condition being studied: Prognostic value of serum phosphate in critically ill patients. The authors of the current study come from a tertiary hospital in China and all the members have extensive experience in treating critical illnesses. Furthermore,

these authors have published several meta-analyses, which can guarantee the completion of the current study.

METHODS

Participant or population: Adult ICU patients.

Intervention: Hypophosphatemia.

Comparator: Normal phosphate.

Study designs to be included: Any types of designs of studies.

Eligibility criteria: We will include studies focusing adults(= 18 yr or older) critically ill patients with hypophosphatemia versus. normal serum phosphate.

Information sources: We will search the references in the included studies and personal files. We will request advice from experts in the field. Additionally, we will search associated articles from critical care, surgical, and infection meetings; and contacted the authors of included trials, if needed.

Main outcome(s): The primary outcome is mortality. Secondary outcomes are mechanical ventilation free days; the length of stay in the ICU and hospital.

Quality assessment / Risk of bias analysis: We will use Newcastle-Ottawa Scale to perform quality assessment/risk of bias analysis.

Strategy of data synthesis: An overall effect estimate for all data as risk ratio (RR)/mean difference(MD) with 95% CI will be calculated. The presence of statistical heterogeneity among the studies by using the Q statistics and the heterogeneity by using the I² statistic was addressed. A p-value of less than 0.10 or an I² value of greater than 50% as indicative was considered of substantial heterogeneity.

Subgroup analysis: predefined cut-off ranges of hypophosphatemia.

Sensitivity analysis: Predefined potential influence factors.

Country(ies) involved: China.

Keywords: hypophosphatemia, critical illness, mortality, meta-analysis, prognosis.

Contributions of each author:

Author 1 - Yuan Xu.

Email: xyuan76@163.com

Author 2 - Yan Yao.

Email: 2692125411@qq.com

Author 3 - Yi-Bing Zhu.

Email: yiyi_bingbing@163.com

Author 4 - Yi-he Zhao.

Email: zyha03108@btch.edu.cn

Author 5 - Hui-Bin Huang.

Email: hhba02922@btch.edu.cn