



Presentation Abstracts

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Evaluating the quality of systematic reviews on the use of balanced crystalloids *versus* saline in fluid resuscitation of critically ill patients

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Introduction: Intravenous fluid therapy is a fundamental aspect of critical care, yet the optimal choice between balanced crystalloids and saline solutions remains a subject of ongoing debate. This debate is fueled by the significant impact fluid choice can have on patient outcomes, particularly in critically ill individuals. Systematic reviews aiming to clarify this issue by synthesizing existing evidence have yielded varying conclusions, likely due to differences in methodological rigor. **Objective:** This study aimed to evaluate the methodological quality of systematic reviews comparing balanced crystalloids to saline for fluid resuscitation in critically ill patients, ultimately clarifying the strength and reliability of existing evidence. Understanding the quality of these reviews is crucial for informing evidence-based clinical decisions regarding fluid management in critical care settings. **Methods:** A comprehensive meta-research approach was employed, systematically searching databases such as MEDLINE, EMBASE, Web of Science, and the Cochrane CENTRAL Register

of Controlled Trials (up to December 2019), ensuring a broad capture of relevant literature. Inclusion criteria were stringent, requiring studies to be systematic reviews with or without meta-analysis, focusing on adult critically ill patients, and comparing balanced crystalloids to saline. The primary outcomes of interest were mortality and renal replacement therapy (RRT), while secondary outcomes included ICU length of stay and incidence of acute kidney injury (AKI). Each systematic review's quality was assessed using the AMSTAR (A Measurement Tool to Assess Systematic Reviews) tool, and the certainty of the evidence was evaluated using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach. The extracted data were synthesized and will be presented in a tabular format, summarizing the number of randomized controlled trials (RCTs) included, the quality of evidence, and the consistency of the findings across the reviews, in a manner that provides a clear and concise comparison of the evidence base. **Results:** Six systematic reviews, encompassing 19,105 to 35,456 participants across diverse critical care settings, were analyzed. Considerable variability in methodological quality and conclusions regarding the comparative effectiveness of balanced crystalloids and saline was found. While some evidence suggests benefits for balanced crystalloids (e.g, reduced mortality, lower AKI incidence), the overall quality and consistency of this evidence remains limited. **Conclusions:** The variability in systematic review quality significantly impacts the reliability of conclusions and subsequent clinical decision-making. Future research must prioritize rigorous methodological standards, including adherence to established protocols (e.g, PRISMA), thorough risk of bias assessments, and GRADE assessments, to generate high-quality evidence for informing clinical practice.