Towards Comparable Outcomes in Antimicrobial Stewardship Studies: An Umbrella Review

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KEYWORDS: Antibiotic stewardship (AMS), Outcomes, and Research integrity.

BACKGROUND & AIM

THE CHALLENGE OF COMPARABILITY: While ASPs are essential interventions against resistant bacteria, the lack of comparable impact data complicates high-level evidence based decision-making.

RESEARCH AIM: This study describes and categorizes the reported outcomes in reviews focused on Antimicrobial Stewardship interventions.

METHODS

SYSTEMATIC SEARCH STRATEGY: Searches were conducted across PubMed, Scopus, Cochrane Library, and Google Scholar from inception to May 2024.

RIGOROUS SCREENING & QUALITY TOOLS: The team utilized peer-based data screening, the PRISMA-ScR procedure, and modified AMSTAR-2 tool for quality assessment.

PROTOCOL TRANSPARENCY: The study protocol is registered and available at osf.io/qy9r5.

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RESULTS

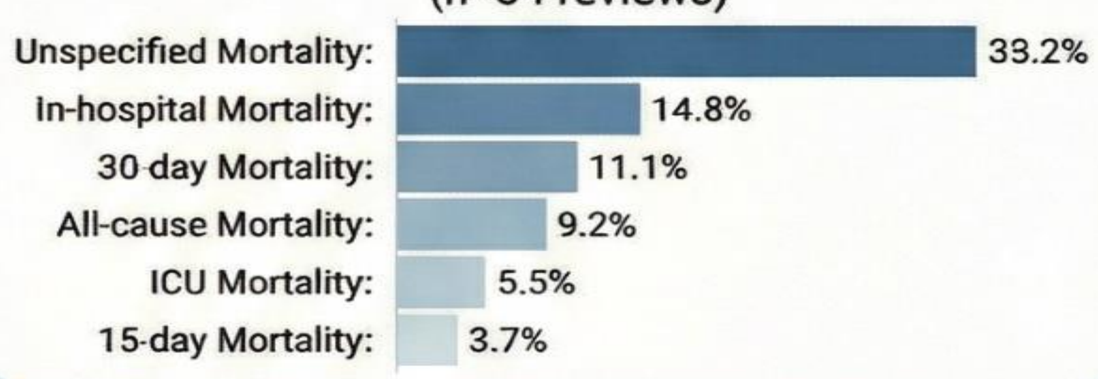
MORTALITY OUTCOMES

PREVALENCE OF MORTALITY REPORTING: Out of 54 summarized articles, "hard outcomes" like mortality were reported in 35 (64.8%) of the reviews.

SIGNIFICANT REDUCTION IS RARE: Only 14 (25.9%) of the reviews identified studies where a significant reduction in mortality was actually observed.

HIGH INCONSISTENCY IN DEFINITIONS: Significant inconsistencies were found across outcome definitions and measures related to prescription appropriateness and process indicators.

TYPE OF MORTALITY REPORTED
(n=54 reviews)



OTHER CLINICAL OUTCOMES & STUDY QUALITY

SECONDARY CLINICAL METRICS: Reviews frequently reported Length of Stay (57.4%), Adherence to Guidelines (27.4%), Readmission Rates (20.4%), and Adverse Events (16.7%).

COMMON METHODOLOGICAL FAILURES: Major weaknesses included a lack of Risk of Bias (RoB) measurement and failure to explicitly state established review methods.

ABSENCE OF PATIENT INVOLVEMENT: No statements regarding patient or public involvement were identified across the included reviews.

QUALITY OF ARTICLES

CONCLUSION AND RELEVANCE

CALL FOR HARMONIZATION: To accurately assess ASP impact, future research must focus on harmonizing outcome definitions and fostering research integrity.