INPLASY PROTOCOL

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Corresponding author:
Alexander Flannery

alex.flannery@uky.edu

Author Affiliation:
University of Kentucky College of Pharmacy.

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Conflicts of interest:
None declared.

Pharmacist Involvement in Sepsis Response and Time to Antibiotics: A Systematic Review

Atkins, PE[1]; Thompson Bastin, ML[2]; Laine, ME[3]; Flannery, AH[4].

Review question / Objective: **Does pharmacist involvement in a sepsis response team decrease the time to antibiotics in patients presenting with sepsis or septic shock compared to a standard of care without pharmacist involvement at the bedside?**
Information sources: **Databases searched: PubMed, Embase, CINAHL, and Web of Science Bibliographies of relevant articles will be hand-searched. In the event that additional information is required, corresponding authors of manuscripts will be contacted.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 July 2022 and was last updated on 07 July 2022 (registration number INPLASY202270039).

INTRODUCTION

Review question / Objective: **Does pharmacist involvement in a sepsis response team decrease the time to antibiotics in patients presenting with sepsis or septic shock compared to a standard of care without pharmacist involvement at the bedside?**

Rationale: **Every hour delay in antibiotic administration in sepsis is associated with a 7% increase in mortality. Pharmacists are uniquely equipped to advise medical teams on appropriate antibiotic selection as well as assist other healthcare professionals in navigating the logistics of obtaining appropriate antimicrobials for rapid administration.**

Condition being studied: **sepsis; septic shock.**

METHODS

Search strategy: Databases searched: PubMed, Embase, CINAHL, and Web of Science Search terms (PubMed version): ((((((((((((((((((("Sepsis"[Mesh]) OR ("Shock, Septic"[Mesh])) OR ("Bacteremia"[Mesh])) OR ("Fungemia"[Mesh])) OR ("Systemic Inflammatory Response Syndrome"[Mesh])) OR (sepsis[Title/Abstract])) OR (septic[Title/Abstract])) OR ("septic shock"[Title/Abstract])) OR (septicaemia*[Title/Abstract])) OR (septicemia*[Title/Abstract])) OR ("bloodstream infection"[Title/Abstract])) OR ("bloodstream infections"[Title/Abstract])) OR ("blood poisoning"[Title/Abstract])) OR ("blood poisonings"[Title/Abstract])) OR ("systemic inflammatory response syndrome"[Title/Abstract])) OR (SIRS[Title/Abstract])) OR (bacteremia*[Title/Abstract])) OR (pyemia*[Title/Abstract])) OR (septicopyemia*[Title/Abstract])) OR (toxemia*[Title/Abstract])) OR (toxaemia*[Title/Abstract])) AND ((((((((("Pharmacies"[Mesh]) OR ("Pharmacy Service, Hospital"[Mesh])) OR ("Pharmacists"[Mesh])) OR (pharmacist*[Title/Abstract])) OR ("pharmacy service"[Title/Abstract])) OR ("pharmacy services"[Title/Abstract])) OR (pharmacy[Title/Abstract])) OR (pharmacies[Title/Abstract])) OR ("pharmaceutical service"[Title/Abstract])) OR ("pharmaceutical services"[Title/Abstract])).

Participant or population: Hospitalized patients with suspected or confirmed sepsis or septic shock.

Intervention: A sepsis response team that includes a pharmacist with defined roles in the sepsis response.

Comparator: Standard of care without inclusion of a pharmacist in the sepsis response team.

Study designs to be included: Cohort studies or randomized controlled trials.

Eligibility criteria: Inclusion: Studies that evaluated a sepsis response team with pharmacist involvement and a defined role for the pharmacist in the sepsis response team. Exclusion: Review articles, Editorials, Abstracts/conference presentations, Articles not related to the care of sepsis patients, Sepsis evaluations not including time to antibiotics, Sepsis bundles without inclusion of a pharmacist.

Information sources: Databases searched: PubMed, Embase, CINAHL, and Web of Science Bibliographies of relevant articles will be hand-searched. In the event that additional information is required, corresponding authors of manuscripts will be contacted.

Main outcome(s): Time to first dose antibiotic administration.

Additional outcome(s): ICU length of stay, hospital length of stay, and in-hospital mortality.

Data management: EndNote will be used to sort and de-duplicate record found from the systematic search.

Quality assessment / Risk of bias analysis: Anticipating mostly observational cohort studies, the Newcastle-Ottawa scale will be used to assess quality.

Strategy of data synthesis: The following baseline data will be extracted from studies and reported in table format: reference name, study design, time period, sample size, patient population, specific sepsis bundle elements, specific pharmacist intervention and associated activities, comparator group, and specific definitions employed regarding time to antibiotics (i.e. time from order, time from admission, time from sepsis diagnosis, etc). An outcomes table will display the extracted data regarding time to antibiotics (either reported continuously or as a percentage of patients that received antibiotics within a defined time frame), ICU length of stay, hospital length of stay, in-hospital mortality, and other notable findings deemed relevant by the investigators.

Subgroup analysis: Since a meta-analysis is not anticipated, no subgroup analysis is planned.

Sensitivity analysis: Since a meta-analysis is not anticipated, no sensitivity analyses are planned.

Language: English.

Country(ies) involved: United States.

Keywords: pharmacist; pharmacy; sepsis; septic shock; bundle; antibiotic; time.

Dissemination plans: Submission to peer-reviewed journal.

Contributions of each author:

Author 1 - Payton Atkins.
Email: payton.atkins@uky.edu
Author 2 - Melissa Thompson Bastin.
Email: mlthompson@uky.edu
Author 3 - Melanie Laine.
Email: melanie.laine@uky.edu
Author 4 - Alexander Flannery.
Email: alex.flannery@uky.edu