
Ryan Bok, Pharm.D. Candidate; Diana Dang, Pharm.D. Candidate; W. Anthony Hawkins, Pharm.D., BCCCP; Rachel Rikard, Pharm.D.; Susan E. Smith, Pharm.D., BCCCP, BCPS

REFERENCES


Study Purpose: To determine whether the rate of pharmacist-driven FS recommendations differs between COVID-19 and non-COVID-19 patients in the ICU

METHODS

• Design: IRB-approved, retrospective, single-center cohort study
• Time Frame: June 2016-June 2019 and May 2020-September 2020
• Setting: Community teaching hospital
• Inclusion Criteria:
  • Adult (≥18 years old)
  • Critically ill
  • Followed by academic rounding team
• Groups:
  • Patients with COVID-19
  • Patients without COVID-19
• Recommendations for each patient day were extracted from pharmacy notes in TheraDoc.
• Recommendations were reviewed for relevance to fluid stewardship and classified based on the Four Rights.

RESULTS

Pharmacists made fluid stewardship recommendations more often in critically ill patients without COVID-19 than with COVID-19.

This difference was due largely to recommendations related to the Right Patient and Right Drug.

OUTCOMES

Primary Outcome: Number of FS recommendations per patient day

Secondary Outcome: Number of FS recommendations related to each Right per patient day

• Statistics: Outcomes were analyzed in SPSS using two-sided, independent t-tests with an alpha level of 0.05.

BACKGROUND

• Intravenous fluids (IVFs) are essential medications in the intensive care unit (ICU) to avoid dehydration.
• Volume overload leads to adverse outcomes, including increased mortality, in critically ill patients.1-3
• Fluid stewardship (FS) can be used by pharmacists to balance the risks of volume overload and dehydration.4
• Pharmacist recommendations regarding IVFs can be categorized into one of the Four Rights of FS.4

• The extent to which the coronavirus disease 2019 (COVID-19) pandemic has affected recommendations related to the Four Rights of FS has yet to be studied.

DISCUSSION

• Risk of acute respiratory distress syndrome in COVID-19 highlights the need to avoid volume overload in infected patients.
• Given the importance of FS in COVID-19 pathophysiology, the lower recommendation rate in COVID-19 patients is surprising.
• One possible explanation for the difference between the groups is that pharmacists had limited direct contact with COVID-19 patients.

• Limitations:
  • Results from one institution have limited generalizability.
  • Retrospective design depended upon pharmacists to document recommendations and upon reviewers to interpret this documentation.
  • Recommendation acceptance and patient outcomes were not considered.

• Research Needs:
  • Determine whether a relationship exists between FS recommendation rate and patient outcomes that could justify standardization of FS at bedside in ICU pharmacy practice.

For complete results, check here: