Acceptance Rate of Pharmacist Driven Fluid Stewardship Recommendations in Critically Ill Adults with and without COVID-19

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BACKGROUND

- Intravenous fluids (IVFs) are frequently administered in the intensive care unit (ICU) to maintain organ perfusion and hemodynamic stability.
- During the last year, majority of patients in the ICU were diagnosed with coronavirus disease 2019 (COVID-19).
- Inappropriate use of IVFs in ICU patients can negatively impact outcomes.
- Fluid stewardship plays an essential part in optimizing patient care by promoting medication safety.
- With the expanding role of a pharmacist that comes with implementing fluid stewardship, the proportion of pharmacist recommendations accepted by providers has yet to be described.

Figure 1. ROSE Phases of Fluid Administration

METHODS

- Study Design: IRB-approved, retrospective, single-center cohort study
- Time Frame: June 2016 – September 2020
- Setting: 450-bed community teaching hospital
- Inclusion Criteria: Adult (≥18 years old) Critically ill Followed on academic rounds All pharmacy recommendations for each patient day were reviewed for relevance to fluid stewardship and the electronic medical record (EMR) was evaluated for acceptance of recommendations.
- Comparator Groups: Patients were divided into categories based on diagnosis of COVID.
- Statistical Analysis: Chi-squared and Mann-Whitney U tests were used to analyze outcomes. Data were assumed to be non-parametric.

OUTCOMES

- Primary Acceptance rate of fluid stewardship recommendations between COVID and non-COVID patients
- Secondary Acceptance rate of recommendations based on the ROSE phases of fluid administration between both groups

RESULTS CONTINUED

Table 3. Overview of Recommendations

<table>
<thead>
<tr>
<th>Total Patients</th>
<th>179</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Patient-days</td>
<td>668</td>
</tr>
<tr>
<td>Total Pharmacy Recommendations</td>
<td>2,089</td>
</tr>
<tr>
<td>Fluid Stewardship Recommendations</td>
<td>313 (15% of total)</td>
</tr>
<tr>
<td>Fluid Stewardship Recommendations Accepted</td>
<td>236 (75%)</td>
</tr>
</tbody>
</table>

Figure 2. Percentage of Recommendations Accepted Overall and Broken Down by ROSE Phases

CONCLUSIONS

- There was a higher acceptance rate of pharmacist driven fluid stewardship recommendations in critically ill patients with COVID-19.
- The acceptance rate was higher across all phases of the ROSE model in COVID-19 patients except for the optimization phase which had a higher acceptance rate in non-COVID patients.

Limitations: Uneven distribution of patient groups; retrospective, single-center design

Future Direction: Determine the impact of pharmacist recommendations on patient outcomes

REFERENCES