Reduction Staphylococcus Bacteremia in ICU Patients: a Quality Improvement Project
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**Introduction**

- Staphylococcus aureus is the leading health care associated pathogen in hospitals worldwide.  
- Most common bloodstream infection associated with poor outcomes, secondary infections, hospitalization, and death.  
- Decolonization “Gold” standard.  
- Evidence supports CHG bath, with or without mupirocin reduces all cause bacteremia.  
- Despite interventions implemented by hospitals; mortality from staphylococcus aureus bacteremia continues in hospitals worldwide.  
- Need for higher quality hospital preventative interventions to reduce HAI.  
- Education improves practice, compliance, knowledge, skills, and ultimately the quality and safety of patient care.  
- In literature audits positively impact compliance of health care workers by supporting the target implementation and improves practice.  

**Purpose & Aims**

1. This DNP Project evaluated, educated, and implemented an audit tool decrease staphylococcus rates in the ICU.  
2. Implement an infection audit tool to measure decolonization adherence.  
3. Measure nurse’s knowledge of staphylococcus bacteremia prevention.

**Methods**

- Project design: Prospective, pre and posttest study design  
- Setting: 10-bed ICU in Mid Atlantic urban tertiary community hospital  
- Intervention: CDC Infection Audit Tool, established education from HealthStream learning  
- Measurement: CDC Audit Tool, Qualtrics pre and posttest  
- Limitations: COVID 19, Reassigned ICU, low sample size, PPE reduction, decreased MRSA surveillance testing  
- Sample: 13 nurses

**Results**

- Table 1. Demographic Characteristics

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Sample group(N=13)</th>
</tr>
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<tbody>
<tr>
<td><strong>Age Range</strong></td>
<td></td>
</tr>
<tr>
<td>age 21-29</td>
<td>5 (35.5%)</td>
</tr>
<tr>
<td>age 30-39</td>
<td>2 (15.4%)</td>
</tr>
<tr>
<td>age 40-49</td>
<td>2 (15.4%)</td>
</tr>
<tr>
<td>age 50-59</td>
<td>2 (15.4%)</td>
</tr>
<tr>
<td><strong>Experience Yrs.</strong></td>
<td></td>
</tr>
<tr>
<td>0-1 year</td>
<td>1 (7.7%)</td>
</tr>
<tr>
<td>1+ to 4 years</td>
<td>1 (7.7%)</td>
</tr>
<tr>
<td>4+ to 9 years</td>
<td>1 (7.7%)</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>1 (7.7%)</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
</tr>
<tr>
<td>ASN</td>
<td>4 (30.8%)</td>
</tr>
<tr>
<td>BSN</td>
<td>7 (53.8%)</td>
</tr>
<tr>
<td>MSN</td>
<td>1 (7.7%)</td>
</tr>
<tr>
<td>missing</td>
<td>1 (7.7%)</td>
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</tbody>
</table>

- Figure 1. Wilcoxon Signed Rank Test Knowledge Scores

- Figure 2. CHG Compliance Rates

- Figure 3. Mupirocin Compliance Rates

**Conclusion**

- The Project findings showed no change or new incidence in SAB rates.  
- Nurses Knowledge scores increased post intervention.  
- Compliance scores range less than 100% with no change in SAB or new incidence.  
- Combination of CHG/ Mupirocin audits and reeducation together prevented any new incidence of staphylococcus bacteremia.  
- Further studies are needed to determine if decolonization audits, and education will decrease SAB

**Dissemination**

- This project findings shared with the infection control department, mentor and ICU.  
- Findings shared with educational and safety committee.  
- Submission of abstract sent to MNA annual convention  
- Sustainability Future use of audit tool to measure compliance

**Reference**

See reference list attached

**Acknowledgements**

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Reference


