**BACKGROUND**

1. Early-Onset Neonatal Sepsis (EONS)
   - A. Group B streptococci (GBS) (CDC, 2019)
   - B. Escherichia coli (E. coli) (CDC, 2019)
2. Occurs in neonates less than 7 days of life (DOL) (Simonsen, Anderson-Berry, Delair, & Davies, 2014)
3. Leading cause of neonatal mortality and morbidity (Simonsen, Anderson-Berry, Delair, & Davies, 2014)
4. Antibiotic Stewardship
   - A. Challenge for perinatal healthcare professionals (CDC, 2019)
   - B. Timely initiation of antibiotics reduces mortality and morbidity (CDC, 2019)
   - C. Clinicians prescribe antibiotics unnecessarily (IT, 2008 (Shane & Stoll, 2014))

**SIGNIFICANCE**

1. Incidence of EONS in the U.S. between 2005-2008 (Shane & Stoll, 2014)
   - A. CDC reported 3,300 cases (Shane & Stoll, 2014)
   - B. Overall rate of EONS is 0.77/1,000 live births (Shane & Stoll, 2014)
   - C. Overall rate of death associated with EONS is 10.9% (Shane & Stoll, 2014)
   - D. 410 deaths were attributed to EONS (Shane & Stoll, 2014)

2. Interprofessional Collaboration aids in improved patient outcomes (Busari, Moll, & Duits, 2017)

**PROBLEM**

1. Inconsistent identification of neonates at risk for EONS
2. Inconsistent treatment of neonates with EONS
3. Delayed initiation of antibiotics when ordered
4. Absence of standardized protocols for identifying EONS

**OBJECTIVES**

1. Develop a process to increase compliance with early identification of neonatal risk for EONS
2. Develop and implement interprofessional collaborative protocols
3. Develop and provide education for the healthcare team in the perinatal setting

**METHODOLOGY**

**Kotter’s Steps 1-3**

- Meet with stakeholders
- Identify WHO, WHAT, WHEN (chart reviews)
- Begin spreading the word

**Kotter’s Steps 4-6**

- Education campaign
- Develop EONS interprofessional committee team and meet monthly
- Establish perinatal nurse champions
- Demonstrate benefits

**Kotter’s Steps 7-8**

- Ongoing evaluation and data analysis
- Improve practices based on evaluation of results

**INSTITUTIONAL ALGORITHM**

- **Sepsis**
  - WBC ≥10,000/mm³
  - Positive blood culture
  - Sepsis within 72 hours of birth

- **Sepsis**
  - WBC <5,000/mm³
  - Positive blood culture
  - Sepsis within 72 hours of birth

**RESULTS**

**Pre-AlGORITHM Data (Retrospective)**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>1st WBC ≥30</th>
<th>1st IT ≥0.2</th>
<th>Should get 2nd CBC</th>
<th>Got 2nd CBC</th>
<th>2nd CBC ≥10</th>
<th>NICU ADMIT</th>
<th>Should get Antibiotic</th>
<th>Received Antibiotic</th>
<th>Blood Cultures Positive</th>
<th>Followed Algorithm</th>
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**Post-AlGORITHM Data (Prospective)**

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**IMPLICATIONS**

- The Chorioamnionitis Institutional Algorithm:
  1. Supports interprofessional collaboration
  2. Provides a standardized protocol for identification, management, and treatment for EONS
  3. Promotes antibiotic stewardship
  4. Integrates a diverse set of variable using variety of criteria

**BARRIERS**

- The Chorioamnionitis Institutional Algorithm:
  1. Challenges for perinatal healthcare professionals
  2. Difficulty in implementing standardized protocols
  3. Resistance from prescribers
  4. Resource limitations

**FACILITATORS**

- Promotes antibiotic stewardship
- Ensures timely antibiotic administration
- Improves patient outcomes

**LIMITATIONS**

- The Chorioamnionitis Institutional Algorithm:
  1. Cost implications
  2. Need for ongoing evaluation and data analysis
  3. Limited data

**RECOMMENDATIONS**

1. Ongoing training and awareness of the impact of EONS on neonates
2. Development of discharge instructions packet to include: A. Signs and symptoms of EONS B. Signature to confirm teach-back of discharge instructions
3. Develop a short phone survey to evaluate neonatal status at 7 DOL post-discharge
4. Develop process for tracking and evaluating post-discharge call data
5. Initiate follow-up phone calls at 7 DOL to evaluate neonatal status utilizing short survey
6. Expand the EONS Institutional Algorithm to other perinatal units within hospital system
7. Perform a cost-analysis for decrease in antibiotic administration
8. Ongoing data collection