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**Sepsis: Identification & Recognition**

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Sepsis: Identification & Recognition

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- KT Scholar: Stephanie Assad
- QIC: Andrea Raymond
- Children’s Mercy SIM lab educators
- Dr. Stephanie Burrus
A3 Overview

A3 for Problem Solving

Focus: Septic Recognition and Early Treatment

Owner: Nursing Leadership Program

Date: 1/1/2018

Approver: 1/1/2018

Department: Director's Signature

Objective: To improve septic recognition and early treatment among hospital staff.

Clarify the Problem

- Septic shock is a serious complication of infection that can affect the entire patient population.
- Literature review found that septic shock is identified too late in many cases.
- The goal is to develop an education plan to improve recognition and treatment of sepsis.

Break Down the Problem

- Only 2% of nurses identified risk factors.
- Lack of education on the signs and symptoms of sepsis.
- Lack of communication between nurses.

Set a Target

- Increase the percentage of nurses trained on the signs and symptoms of sepsis from 15% to 75% by January 2019.

Identify Root Cause

- Majority of sepsis cases were diagnosed in ED or ICU.
- Lack of education in the signs and symptoms of sepsis.
- Lack of open communication between nurses.
- Lack of open communication with physicians.

Current State

- Only 2% of nurses identified risk factors.
- Lack of education on the signs and symptoms of sepsis.

Develop and Implement Countermeasures

- Primary Drivers: Education, Communication.
- Secondary Drivers: Knowledge, Motivation.

Check Results and Process

- Percentage of nurses trained on the signs and symptoms of sepsis.

Conclusion

- All information on sepsis should be shared with all medical/surgical units to increase the comfort level in identifying sepsis.
- All employees should be prepared and encouraged to use a sepsis bundle buddy to aid in identification and treatment of sepsis.
- All nurses employed will be given a sepsis case study during orientation to increase education and awareness of sepsis and increase their comfort level of identifying sepsis.
- Future possibilities of bringing a morning huddle for nurses for patients with triggers for sepsis.

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KANSAS CITY
Clarify the Problem

- Sepsis is a serious complication of infection that can affect the pediatric population.
- Literature review found that simulation and additional educational tools improve the early recognition/treatment of sepsis.
- On 4 Sutherland (a medical/surgical unit), the Summer 2017 Nurse Resident Cohort implemented an education bundle (including flyers, posters, huddle education, and simulation) on the signs, symptoms, and treatment of sepsis. They had significant results.
- Only 15% of nurses surveyed on 5 Sutherland felt “very comfortable” identifying sepsis.
Breakdown the Problem

5S Nurse Comfort Level Recognizing Sepsis

- Very Comfortable
- Comfortable
- Somewhat comfortable
- Not Comfortable
Breakdown the Problem

Only 12 percent of these 75 patients with sepsis on general floors were seen on 5S.
Set a Target

To increase the percentage of 5S nurses feeling “very comfortable” recognizing sepsis from 15 percent to 75 percent by January 29, 2019.
Only 15 percent of 5S nurses feel “very comfortable” identifying the signs/symptoms of sepsis

Majority of sepsis cases seen/diagnosed in ED or ICU

Lack of open communication with physicians

Lack of confidence in nursing knowledge regarding sepsis

Lack of exposure to signs/symptoms of sepsis

Lack of education to 5S nurses on the signs/symptoms of sepsis
Develop and Implement Countermeasures

**Aim Statement**
Increase the percentage of SS nurses feeling "very comfortable" recognizing sepsis from 15% to 75% by February 27, 2019.

**Primary Drivers**
- RN comfort level & recognition of signs & symptoms of sepsis
- RN to physician communication

**Secondary Drivers**
- Simulation and/or case study
- Educational materials around the unit (flyers, huddle boards, emails, etc.)
- Charting prompts & flags within Cerner
- Practice communication scenarios with physicians

Dates:
- 1/23/2019
- 11/18/2018
- 1/23/2019
Develop and Implement Countermeasures

SEPSIS

B- Blood cultures before antibiotics
L- Line placed within 15 minutes
A- Antibiotics completed within 1st hour
S- 1st Saline Bolus of 20 ml/kg given within 20 minutes (Saline bolus of 60 ml/kg completed within 1 hour)
T- Timely identification of patients at risk for severe sepsis

TREATMENT
Develop and Implement Countermeasures

Do you know the clinical signs in order to identify SEPSIS?

- **Heart Rate** → **Bradycardia or Tachycardia**
- **Blood Pressure** → **Early Onset: Hypertension**
  - Late Onset: Hypotension
- **Inadequate Urine Output**
- **Mental Status** → **Lethargic, confusion, and/or agitation**
- **Capillary Refill** → **Flash capillary refill (warm shock) or delayed capillary refill (cold shock)**

GOAL:
- < 30 kg: > 1 ml/kg/hr
- ≥ 30 kg: ≥ 30 ml/hr
Develop and Implement Countermeasures

SEPSIS CASE STUDY

Situation: 9 yr old female is admitted to the floor at 0930 for severe abdominal pain mild fever and a cloudy PD. She has had nausea and vomiting for 1 day prior to admission. Pt was given Zofran and Tylenol in the ED and an IV was placed but no fluids were started yet. When entering the room for an initial assessment the RN notices the pt is showing her grandma her new comic book she had created with great enthusiasm. Vitals are all within normal limits, pt PEWS score is at a 0. When the RN returns for a noon assessment the pt seems very sleepy, and grandma mentions that she has been mumbling for the past 15 minutes. Upon assessment RN notices that pt is hard to arouse, mottled, cool to touch, pulses are +1, and cap refill are 4.5 seconds.

Vitals
- Temp: 35.8 degrees C
- BP: 90/65
- HR: 145
- RR: 40

What Signs and Symptoms make you think it could possibly be sepsis?

- A. Temp abnormality
- B. Heart Rate abnormality
- C. Altered Mental Status
- D. Perfusion abnormality
- E. All of the above

Would you activate a Situational Awareness?

- A. Yes
- B. No

How you would communicate with a physician using SBAR

- Situation: This is (introduce yourself) and I am the nurse taking care of Patty Joe Sue in room 8 on 5 sutherland and I am concerned she is showing signs of Sepsis
- Background: She was admitted for 1 day of nausea and vomiting, severe abdominal pain and cloudy PD, and presenting signs of possible peritonitis.
- Assessment: I am concerned for sepsis due to current signs and symptoms of: pt is mottled, cool to touch, altered mental status, hard to arouse, with a temp of 35.8, RR of 40 and a HR of 145, cap refill of 4.5.
- Recommendation: I feel as though we should activate a situational awareness and should follow the guidelines of sepsis to treat in a timely manner by: BLAST

Blast
- Blood Cultures before antibiotics
- Line within 15 minutes
- Administer high flow O2 if indicated
- Antibiotics completed within the first hour
- Saline Bolus 60ml/kg completed within the 1st hour (must be given in 20 min increments)
- Timely identification of pts at risk for severe Sepsis

How to recognize sepsis
- Children suggestive of infection or inadequate tissue perfusion.
- Temp Abnormality: <36 or >38.5
- Heart rate abnormality: follow algorithm
- Plus one of the following:
  - Altered mental status, perfusion abnormality, high risk conditions (hypotension)
  - Pulsates: decreased, weak, or bounding
  - Cap refill: >3 seconds or <1 second
  - Skin: mottled, cool, flushed, ruddy
  - Mental status: decreased, irritability, confusion, inappropriate crying, drowsiness, poor interaction with parents, lethargy, decreased arousability
Check Results and Process

5 Sutherland Comfort Level Recognizing Sepsis

<table>
<thead>
<tr>
<th>Education Timeframe</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Case Study Education</td>
<td>95%</td>
</tr>
<tr>
<td>Post-Huddle Education</td>
<td>31%</td>
</tr>
<tr>
<td>Pre-Huddle Education</td>
<td>15%</td>
</tr>
</tbody>
</table>

Percentage of Nurses Who Felt "Very Comfortable" Recognizing Signs and Symptoms of Sepsis

Variables
(# of nurses who filled out the survey)
- Pre-Huddle Education: 13 nurses
- Post-Huddle Education: 16 nurses
- Post-Case Study Education: 57 nurses
Standardize and Follow Up

- All information on sepsis should be shared with all Medical/Surgical units to increase the comfort level in identifying sepsis.

- All employees should be provided and encouraged to use a sepsis badge buddy to aid in identification and treatment of sepsis.

- All new employees will be given a sepsis case study during their orientation to increase education and awareness of sepsis and increase their comfort level of identifying sepsis.

- Future possibility of firing a nursing task list alert on Cerner for patients with triggers for sepsis.
References


Questions?