Objective

The first purpose of this project was to increase nurse and patient care technician knowledge, confidence, and skill in caring for this population.

The second purpose of this project was improved sepsis outcomes by implementing a quality improvement program.

Background

Pediatric screening compliance was not being met in the emergency department on a consistent basis. After investigation, it was determined that it was related to lack of knowledge and skill by RNs and PCTs.

It was identified that there were lack of knowledge, skill and confidence in RN’s and PCT’s providing care to the pediatric population.

It is an Advocate Aurora Health priority as well as nursing and emergency professional teams. In this study with 53 physicians and 75 nurses, both professionals reported a high need for training of basic procedures and emergency algorithms.

Within those emergencies, it was recognized the most frequently experienced emergencies were related to respiratory failure, resuscitation, seizure, shock/sepsis and arrhythmias.

Mortality has improved from 10.3% to 8.9% with timely intervention. One study with 54 hospitals and 1,179 pediatric patients identified that completion of the sepsis bundle within 1 hr experienced significantly lower mortality.

The department was not meeting the standard bundle time to complete treatment and transfer. In addition to misidentifying vital signs and proper screening tool to follow.

There was significant evidence to make change to current education practices.

A decision was made to implement variety of educational methods to ensure comprehension.

After project implementation RN’s and PCT’s were evaluated, and chart audits indicated significant improvement.

Implementation Plan

Registered Nurses (RN) and Patient care technicians (PCT) - Pre-survey to obtain baseline for nurses and patient care technicians self-evaluation of confidence and knowledge in caring of pediatric patients concerning of sepsis.

Skills days for nursing to practice IV/IO starts with variety of methods and supplies. Skills days for nursing to practice urinary catheterization on pediatrics.

Simulation of pediatric patient mannequin presenting with symptoms of sepsis with post discussion.

Post-survey for RNs and PCTs self-evaluation of confidence and knowledge in caring of pediatric patients concerning of sepsis.

The project was implemented over 8 weeks.

There was not any exclusive training being implemented for pediatric patients prior to project.

Search Strategy

Key words used in literature search included pediatric sepsis, simulation, hands on learning, barriers in caring for pediatric population and Quality Improvement Learning Collaborative to improve Pediatric Sepsis Outcomes.

The number of Pediatric patients that who triggered sepsis presenting to Sherman emergency department in the past 12 months was 195. Within the last 12 months, an average of 7% of pediatric sepsis screening tools were not completed during triage.

In the months prior to project, an audit was performed for pediatric sepsis positive screening, specifically patients aged 5 years or younger presenting to Emergency Department, only 1 out of 7 patients had full compliance of sepsis bundle checklist, suggesting multiple barriers.

Results

Synthesis of Evidence

Pediatric emergencies have been found to be challenging for emergency professional teams. In this study with 53 physicians and 75 nurses, both professionals reported a high need for training of basic procedures and emergency algorithms. Within those emergencies, it was recognized the most frequently experienced emergencies were related to respiratory failure, resuscitation, seizure, shock/sepsis and arrhythmias.

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Post-survey for RNs and PCTs self-evaluation of confidence and knowledge in caring of pediatric patients concerning of sepsis.

Measurements used was Histograms to measure outcome of Pediatric sepsis compliance, length of stay, RN and PCT knowledge, confidence, and skill.

The project was for 8 weeks of implementation and education. It has now continued to be implemented over the past year with consistent results.

Outcomes

The length of stay in the ED was decreased by 24 minutes (187-163 min) compared to the previous year, which is surpassing the standard of 3 hrs to meet best patient outcomes (Health stream, 2022).

Patient care technician confidence improved by 10%, knowledgeable care improved by 10%, and skill improved by 90%. This finding is similar to what has been found in the literature with improvement in critical thinking, decision making skills, and self-confidence through simulation experience (Umair, V et al, 2018).

In comparison to a year prior there was 9% improvement in screening compliance, 15% improvement in sepsis huddle compliance. 10.5% improvement accuracy in screening, which improvement to the standard as it is a law in Illinois that all emergency departments must screen for sepsis and complete a huddle when there is a concern of sepsis. Since implementation of education the department is currently the month of September, at 100% compliance in huddles positive screened sepsis pediatric patients.

Randomly selected patients at 50% for chart audits to identify barriers, length of stay and accuracy of identification.

Improvement from 36% to 100% answered correctly on proper age and technique in emergency departments.

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Implications for Practice

Based on the evidence, it is suggested that continuing education is implemented with hands on practice, simulation experience and PowerPoint.

It was found that practice change should be implemented and continuing education with hands on skills and simulation are essential to safe practice.

It would be recommended that if there is a decrease in pediatric sepsis screening and proper identification to evaluate the knowledge, confidence and skill to identify the barriers.

Current measures in place to sustain successful practice is continuing the education implemented in the project as standard in the unit.

References


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