Abstract

Introduction
This poster addresses the use of pediatric medical simulation during a SIM month rotation as a way for students to acquire additional exposure and skills to the pediatric patient.

Objective
To assess the impact on learning by including a pediatric patient simulation in a simulation clerkship. Evaluate the learner's perception of their ability to treat a pediatric patient with dehydration related to a gastrointestinal etiology. Evaluate the learners ability to initiate intravenous fluid resuscitation at the appropriate weight based dosing.

Methodology
One hundred fifty-six third year medical students participated in a pediatric dehydration simulation encounter prior to clerkship rotations. A pretest-posttest study design was used.

Conclusion
Medical students' knowledge and application skills improved through use of pediatric simulation encounter. Students communicated that the learning experiences were positive, helpful and realistic.

Learning Outcomes
1. Initiates appropriate interventions
2. Orders appropriate laboratory or radiographic testing
3. Appropriately interprets tests that have been ordered
4. Reassess after intervention has been completed
5. Provides attending physician with verbal report
6. Communicate treatment plan with patient and family

Methods
A Laerdal simulation case was modified to meet objectives of the encounter. Prior to participation each student completed a pre-assessment survey which included three Likert Scale questions. Two questions revolved around general pediatric concepts and the third question that was content specific related to gastrointestinal etiology. Evaluate the learners ability to initiate intravenous fluid resuscitation at the appropriate weight based dosing.

Assessment and Results

Figure 1: Greatest changes in the poor and fair demonstrating a combined improvement of 58%.

Understanding of Fluid Resuscitation in the Pediatric Population

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Figure 2: Greatest change in the poor and fair category demonstrating a 23% and 18.5% change respectively.

Understanding of Pediatric Gastrointestinal Disease

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Figure 3: Demonstrates that relevant content material was understood prior to the pediatric simulation, however there was a 11.4% improvement post simulation leading to 97.3% of the class comprehending the material.

Student Comments

Q: What components of the Pediatric SIM were functioning well?
"Liked team based approach with defined roles" 
"Orientation to the room before the SIM and how equipment works"

Q: What could have been done differently to enhance the Pediatric SIM?
"Facilitator in the room" 
"More SIMs through out curriculum"

"Great interaction with mother" 
"Continue to randomly draw the roles for each encounter"

"Brief orientation to the room" 
"Nothing, think that what was done was perfect for a future learning experience"

"Debrief was great, expectations high but feedback very positive and constructive" 
"This SIM was as good as it gets, in my opinion"

Acknowledgements

Our special thanks to Ms. Amy Lucas for her assistance in the daily operation of the Simulation Lab and coordination of students throughout SIM Month.

Discussion and Conclusion

Student understanding of pediatric dehydration was improved by having integrated pediatric simulation within the SIM month rotation. Self-reported understanding of pediatric gastrointestinal disease and pediatric fluid resuscitation was markedly improved for this cohort.

Medical students' knowledge and application skills improved through use of pediatric simulation exercises.

The components of simulation enhanced the student learning experience and provided faculty the opportunity for assessment of the MS1 and MS2 clinical skills curriculum.

Simulation exercises with a pediatric focus might allow growth of application activities and support pediatric didactic curriculum.

Medical students' development of critical thinking and problem-solving skills through the application of case studies, guided group discussions, and simulations should be an integral component of medical school education.

Simulator and Scenario

- Laerdal Sim Jr: Pediatric Simulator
- Simulation in Nursing Education – Pediatric Scenario, Dehydration Vomiting and Diarrhea – Complex Case, National League for Nursing, Product Number SMS3970 (Version 7)

References

6. For more information about Campbell University School of Osteopathic Medicine – http://www.campbell.edu/cusom/