The Teaching and Learning Benefits of Simulation “SimBABY” High-Fidelity Mannequin and “CHILDVitaSim” Mannequin in Baccalaureate Nursing Program: Nursing Care of Children Clinical Practicum Course

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July 14 , 2011

2010 IBHE Nurse Educator Fellowship Award Recipient
Abstract

**Purpose:** The purpose of this project included the development of clinical simulated case studies and implementation of simulated learning skills/experiences for baccalaureate pediatric nursing students. Pediatric clinical simulation is emerging technology and requires faculty expertise to integrate into clinical teaching. Nursing students always have the fear of hurting the patient or making an error. This project incorporated laboratory clinical learning experiences use of “SimBABY” high-fidelity mannequin, “CHILDVitaSim” mannequin, and simulated pediatric cases studies.

**Methods:** The method included Senior one Nursing students enrolled in the Nursing care of Children Course Theory and Practicum participated in this project. This project included the use of laboratory “SimBABY” high-fidelity mannequin and “CHILDVitaSim” mannequin in clinical teaching and learning. The faculty arranged four sessions two hours each of simulation lab experiences for the students in the clinical section. The students were taught how to assess a healthy infant/child and infant/child with acute or chronic illness such as a child with asthma.

**Results:** The results and outcomes of this project included application of critical thinking, demonstration/return demonstration of pediatric nursing skills, analysis, interpretation, and prioritization of nursing interventions, documentation, and multidisciplinary communication. Students were evaluated for their competency level at the end of the clinical rotation. The goal of this project was to build confidence in the nursing student when caring for pediatric patients and to apply critical thinking skills.

**Conclusion:** In conclusion this project created a clinical simulation situation in a nonthreatening environment and with the use of high-fidelity mannequin students were able learn essential assessment skills and become competent in giving care to their assigned pediatric patients.
Objectives

- Describe the process for the use of simulation case study in a pediatric clinical rotation.

- Discuss the teaching and learning strategies faculty may use in implementing simulated learning experience with undergraduate nursing students.
The purpose of this project included the development of clinical simulated case studies and implementation of simulated learning skills/experiences for baccalaureate pediatric nursing students.
Significance

- Pediatric clinical simulation is emerging technology and requires faculty expertise to integrate into clinical teaching.

- High acuity of pediatric population—Nursing students always have the fear of hurting the patient or making an error.

- Simulation can be used to teach skills and apply the skills in a non threatening environment.
Methods and Sample

- Pilot Project – Phase I
- Phase II in progress

- Senior one Nursing students enrolled in the Nursing care of Children Course Theory and Practicum participated in this project.
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The students were taught how to assess a healthy infant/child versus an infant/child with acute or chronic illness such as a child with asthma.

The skills included were assessments of vital signs, head to toe assessment, lung sounds, heart sounds and identification of abnormal assessments.
Implementation

- Seven week Clinical Pediatric Rotation
- Week 1–clinical skills
- Week 2–Simulation Case study–Infant
- Week 5–Simulation Case study–Child
- Week 7–Simulation Case study–Competency
How SIM BABY Was Used—Infant Scenario
How VITASIM CHILD Was Used—Child Scenario
Functioning Device—VITASIM CHILD
Results

- Application of critical thinking–case study
- Demonstration/return demonstration of pediatric nursing skills
- Analysis, interpretation, and prioritization of nursing interventions
- Students were evaluated for their competency level at the end of the clinical rotation.
The outcome of this project was to build confidence in the nursing student when caring for pediatric patients and to apply critical thinking skills in a nonthreatening environment.

- Skills Competency
- Critical Thinking
- Confidence
Debriefing Session

- Did you find the scenario helpful?
- Identify what you learned from the scenario.
- What did you do well in the scenario?
- Give examples of the challenges you faced in the application of the scenario.
- Did you practice competently in the assessment, vital signs measurement and medication administration skills?
Often students have difficulty in assessing a sick child and differentiating between normal and abnormal lung and heart sounds. Overall this project had an effective teaching and learning outcome upon students assessment skills.
The goal/outcome of this project was to build confidence in the nursing student when caring for pediatric patients and to apply critical thinking skills throughout all phases of nursing care. The students verbalized that they were more confident in their nursing assessment skills based upon the simulation experiences.
Future Direction

- The use of Simulation as clinical teaching strategy has great benefit and is becoming very essential to bridge theoretical learning into clinical practice.

- Increase students learning accountability.

- Completed Phase II implementation and research studied the effectiveness of pediatric simulation and student learning.
I am currently a senior nursing student at Saint Xavier University, and I will be graduating. The previous semester I had the opportunity to have my Pediatric clinical experience with Dr. Zepure Samawi. One very important aspect regarding this clinical experience was the stimulation lab. Personally, I thought the stimulation lab was an excellent resource for my own learning. The case studies and Sim-Child truly expanded my critical thinking and knowledge of certain aspects in pediatric nursing. One simple example that I can recall is listening to Sim-Child for adventitious breath sounds. In some of the early nursing courses, professors and textbooks have described to students certain breath sounds, but in the stimulation lab, it was the first time that I was able to correlate the adventitious breath sounds to what they actually sounded like in a person, or in this case Sim-Child. I found that this exercise actually helped me in differentiating between the different types of crackles and wheezes. I was able to use the skills that I learned in the stimulation lab and bring them into my nursing practice in the clinical setting. I found this experience to be very beneficial for my future in nursing, especially since one of my ultimate career goals and passion is to become a pediatric nurse. I applaud Dr. Samawi for using intriguing and arousing teaching methods and knowledge to motivate her students to become better at not only their nursing skills and critical thinking, but also become excellent nurses no matter what field their careers may take them.
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Thank You

I am very thankful to

- IBHE that granted me the privilege of receiving this honoring award and supporting this project.
- Sigma Theta Tau International Alpha Omicron Chapter for funding me to attend this Sigma Theta Tau International's 22nd International Nursing Research Congress
Thank You

- Questions