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Disclosure

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Integrating a Cystic Fibrosis Simulation Scenario to Enhance PreLicensure Educational Genomic Understanding: A Qualitative Perspective

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Objectives

Discuss/Explore:

- Simulation and Nursing
 - Innovative and Creative Simulation Scenario Integrating Genomic Component
 - Brief overview of integrating genomics into nursing curricula
- Simulation Case Scenario with Genomic Component
 - Discussion of Cystic Fibrosis simulation scenario
- Findings of Student Perception
 - Students' perception of simulation with genomic component
 - Qualitative aspect of findings
- Future integration possibilities

Simulation Case Scenario with Genomic Component

- Brief overview of larger study:
 - Mixed method pre/post assessments with qualitative description
 - Explored integration of genetic component to a SBLE of a newly diagnosed CF patient [3 week old infant]
 - IRB approval obtained for data collection during Fall 2018
 - 10 qtn survey [based on information from the University of Rochester Medical Center Health Encyclopedia (2019)]: What Do You Know About Cystic Fibrosis?
 - Multiple-choice assessment: asks basic information regarding CF
- One senior experienced clinical educator with 3 separate clinical groups
 - All participants were 3rd yr (junior level) pre-licensure baccalaureate students
 - Simulation case scenarios written to coordinate to students' educational knowledge level and abilities
 - 24 students participated (females=21; males=3; mean age 21.5)

Purpose

- As part of a larger study, this presentation will explore the findings of one open-ended question
 - How simulation scenario in Cystic Fibrosis (CF) enhanced pre-licensure baccalaureate nursing students' self-perceived ability to integrate genomics into their knowledge base of nursing and nursing care
- One open-ended simplified critical incident statement asked participants to explore
 - Do you feel that this scenario enhanced your overall ability to integrate genomics into your knowledge base of nursing and nursing care?

Methodology

- Data analyzed with thematic interpretation of commonalities
 - emerged with theme clustering according to conceptual similarities from this self-perception survey
- Data managed in an objective and systematic approach
 - leading to construction of correlating suppositions
- Initially, several clusters identified
 - eventually collapsed into the four expounding themes

Results

- Four major themes emerged, each with 3 sub-themes identified
 - Genomics and nursing [n=12]
 - Experience, confidence, nurse education
 - Patient education [n=9]
 - understanding and explaining, applying patient-centered care and education teaching and teaching & communication
 - Patient-nurse relationship [n=5]
 - Advocacy, empathy and therapeutic communication
 - Teamwork exercise [n=3]
 - group interaction, pre & post conference experience and communication

Theme Sub-Theme Student Perspective "Simulation allowed me to Experience experience what it is like to In simulation, students have the provide care ... to a family benefit of experiencing genomics in affected by a genetic condition." nursing. They see first hand how the field is important in many ways to patient care. "It gave me the experience [needed] to explain the components of CF." "I was able to understand why the patient was experiencing certain Confidence symptoms." Students improved on their Genomics & nursing skills and they gained confidence in doing so., They "I definitely feel more confident about Nursing my knowledge of CF." learned how to confidently speak about genomics in the nursing field. "I found it easier to explain the disease process and how we would implement this knowledge within the treatment plan." Nurse Education Students are able to employ The scenario enhanced my therapeutic communication overall ability to integrate skills. genetics/ genomics into [my] knowledge base of nursing and nursing care.

Theme

Sub-Theme

Understanding & Explaining

Students embrace the importance of thoroughly understanding the pathophysiology and disease process. In this way, they learn to effectively explain the process of CF to family. The experience provides a sense of confidence.

Patient Education

Applying Patient Centered Care & Education

Through simulation, students see first hand the importance of educating the entire family and not solely the patient. Educating the family encourages the best possible outcome for the patient.

Teaching & Communication

Students are able to employ therapeutic communication skills in order to educate family about CF and the genetic/genomics components

Student Perspective

"I was able to help explain to the parent the way genetics play a role in the diagnosis of CF."

"It gave me a chance to figure out how to explain genetics in the most understandable and non intimidating way."

"...I learned more on what to educate a parent with children with CF."

"I was able to understand the underlying cause of the disorder and explain it to the mother of the patient."

"It was the first scenario...in which it was important to understand genetics to explain the disease to the family members."

"I was able to teach the family how it is passed down and how one child may be affected and the other not."

"I was able to help explain to the parent the way genetics play a role in the diagnosis..."

"I learned to be able to educate patients on all aspects of genetics."

"I was able to help explain to the parent the way genetics play a role in the diagnosis of CF."

"It helps me to explain to the patient about the disease in an easy way..."

Sub- Theme Theme Student Perspective "Yes, specifically how to speak with Advocacy parents about [genetic] testing" In simulation, student s experience first hand how to advocate for their "I was able to integrate the information patients by obtaining the resources in a concise manner to the patient." and needed information for the patient and their family. "This scenario offered the opportunity to learn how to teach patients about the genetic informations relevant to the disorders." "Simulation allowed me to Empathy experience what it is like to Students improved on the ability provide care ... to a family Patient-Nurse to establish a therapeutic affected by a genetic condition." relationship with family and Relationship patient. "I was able to understand the situation from both the patient and caregiver point of view." Therapeutic Communication "I found it easier to explain the disease Students are able to employ process and how we would implement this therapeutic communication knowledge within the treatment plan." skills.

1	Theme	Sub- Theme	Student Perspective
		Group Interaction In simulation, student embrace the opportunity of working together in a patient care team. Because they are often separated in the clinical placements, this provide one of the only chances students have to practice critical thinking within team of peers.	"It was very helpful to have the input of my group mates. They filled in all the gaps I couldn't"
	Teamwork Exercise	Pre & Post Conference Experience The before and after feedback involved in simulations offers students the experience of, firstly, learning what to expect	"Post conference furthered my perspective it was a very positive experience."
		and, secondly, hearing constructive criticism and strengths from the instructor.	Preparation before simulation helped me to understand autosomal recessive disorders."
	\	Communication Students are able to employ therapeutic communication skills.	"I found it easier to explain the disease process and how we would implement this knowledge within the treatment plan."

Conclusions

- Simulation has proven to be an effective educational methodology
 - enhancing student learning outcomes
 - development of critical thinking
 - skill performance
 - medical condition comprehension
- Integrating a genetically-based condition into a simulation
 - students expected to research the condition
 - engage in patient education
 - facilitate effective and appropriate nursing care
 - enriches their confidence, skills and knowledge acquisition
- Professional confidence and experience, clinical reasoning and judgement and reflective practice coalesces into a nurse who can fully engage in the healing-caring process of their patients and family

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Future Exploration of Genomic Integration

- This pilot study demonstrated that genomic education can be successfully integrated into a simulation
 - positive student learning outcomes
- Based on the success of this study, the researcher developed 3 additional evolving sim scenarios pertaining to this factitious patient, implemented in Spring 2019
 - 6 yr old; 21 yr old & 47 yr old
- As genetically-based health care continues to expand how nurses participate in patient care, nurse educator needs to
 - stay current and competent to prepare the 21st Century student as they become the future of the nursing workforce

- Thank you for your time
 - If anyone has any questions, please do not hesitate to contact me

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