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PHARMACOLOGY IN NURSING COMES ALIVE THROUGH SIMULATION: A TEACHING INNOVATION

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Many students would agree that pharmacology can be a dry subject as well as overwhelming in terms of the numbers of drugs to learn (Sears, Goldsworthy & Goodman, 2010). Students in the first year of a baccalaureate nursing program in the Middle East take a course about pharmacologic therapy as nursing intervention. As a teaching innovation, a simulation activity was created whereby nursing students actively engaged in specific scenarios in the roles of patient, nurse, nurse assistant, and observer, giving them an opportunity to experience how pharmacology as intervention can come alive and be relevant to nursing practice. Using simulation in nursing to facilitate the development of nursing skills in students has long been recognized as valuable (Cant & Cooper, 2009; Cioffi, Purcal & Arundell, 2005). Simulation offers as close to real life clinical experiences for students in which to prepare for practice and develop skills safely without the stress of the real nursing environment (Medley & Horne, 2005). As a formative assessment teaching strategy, the simulation offered the teacher insight into students' depth of understanding of the pharmacology material, their ability and motivation to apply what they learned in class. In the debrief session, the teacher noticed students' enthusiasm for the simulation experience. They were reflective about their feelings and learning with respect to, for example, what it was like to be a patient giving a medication history, what it was like to be a nurse taking a medication history and being responsible for knowing and finding medication information, and finally what it was like to implement patient medication teaching.

Keywords: Nursing, Simulation, Pharmacology, Teaching innovation.

Introduction

Pharmacology may be seen as a boring and overwhelming subject by nursing students. Faced with hundreds of drugs, students may wonder about its relevance to their future as nurses (Sears, et al., 2010). Administering drugs safely and effectively is an important component of nursing care. In first year nursing, a student's understanding of the role of the nurse in pharmacology interventions is limited because of no or minimal prior experience in a nursing practice setting. Simulation activities can be valuable for providing active student-centered learning, especially with Middle East students who tend to lack practical real-life experiences. The purpose of this innovative teaching strategy was to formatively assess using simulation with humans as patients for first year nursing students to practice applying their pharmacology knowledge and skills in real life case scenarios.

Background

Nurses must ensure that medications are delivered to clients in a safe manner. Given the large number of different drugs and the potential consequences of medication errors, the nurse has an enormous responsibility. Giving medications safely to clients requires a comprehensive knowledge of drugs, their adverse effects, disease conditions, growth and development, capabilities of clients, and many other factors (Sears et al., 2010). Simulation in nursing to promote the development of nursing skills in students has been recognized as an effective teaching strategy for many years (Cant & Cooper, 2009; Cioffi et al., 2005). In a safe learning environment without the distractions of a complex clinical setting, simulation offers as close to real life patient experiences for students in which to prepare for practice and develop skills (Medley & Horne, 2005). Simulation can result in increased clinical reasoning, greater clinical knowledge, and added self-confidence (Cioffi et al., 2005).

Methods

Simulation scenarios were designed to the level of the first year nursing student with a specific focus on pharmacology content. Scenarios related to drugs covered in class, with few client concerns, and employed scripted responses. Since this was the students' first exposure to a simulation activity, students acted as patients rather than using volunteers from the general public. It was felt this would provide a more relaxed learning experience for students. The simulation set up was arranged to fit the case scenarios. Personalized Digital Assistants (PDAs), drug handbooks and nursing textbooks were made available. Assigned in groups of four, students negotiated their roles as patient, nurse, assistant to the nurse, or observer. The student (as patient) was given a scenario that described a health history, a medication history, as well as other information relevant to the case. The student (as nurse) was given the client's medical condition, expected to conduct a health history, and determine the major concerns of the patient. The student (as nurse assistant) worked in partnership with the nurse to confer about the health and medication data collected, identify client concerns, and make decisions about the plan of care. Students were expected to use the PDAs, drug resources, and textbooks. The student (as nurse) returned to the bedside to review the medication with the client, its action, safe dose, adverse effects, and how to take the medication safely. The student (as observer) was to provide feedback during the debriefing session on the performance of the both the nurse and nurse assistant, and comment on the role as observer. Debriefing occurred immediately after the simulation experience was completed. Students commented on their experience and feelings regarding the simulation activity as contributing to their learning of pharmacology.

Reflections

As a formative assessment teaching strategy, the simulation offered the teacher insight into the students' depth of understanding of the pharmacology material, and their ability and motivation to apply what they learned in class. The teacher noticed the students' enthusiasm for the simulation, sensing it was a positive experience for learning pharmacology. The simulation appeared to raise students' awareness of the knowledge, skills, and attitudes required of a nurse in using pharmacology as intervention. Pharmacology became more than 'just giving a pill' and the seriousness of a nurse's responsibility in giving drugs safely became a topic of the debriefing session. The simulation was felt to be relevant to nursing practice since students saw nurses in clinical settings searching for drug information using PDAs and drug books. Practicing taking a medication history, applying drug knowledge to a specific case, and teaching a client about medications and safety issues not only gave students the opportunity to put pharmacology content and intervention skills together, but seemed to make pharmacology content easier to understand and more meaningful. Students seemed to relax as they progressed through the simulation and become more

confident in addressing the client scenarios. Practicing with classmates versus strangers as patients was observed to be a friendly, non-threatening, fun, and safe first experience with simulation.

Conclusion

Pharmacology can come alive through simulation. First year nursing students appeared to benefit from this teaching innovation. It bridged pharmacology theory to nursing practice, increased students' comfort level and confidence with pharmacology as nursing intervention, and provided immediate responsive, constructive, and reflective feedback on student performance.

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