High Fidelity Simulation in Graduate Nurse Education

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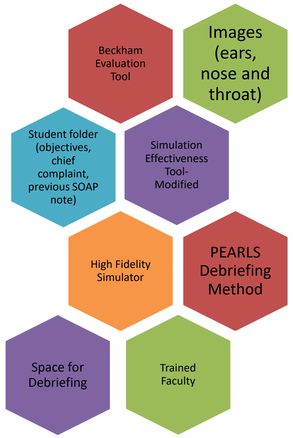
Introduction

Nurse practitioner students are evaluated by clinic based preceptors. Clinical site rotations, hopefully, provide students with a variety of clinical presentations and experiences leading to clinical competency. Simulation offers scheduled, systematic, valuable learning experiences that are difficult to obtain in real life. By experiencing mistakes and effectively debriefing, simulation allows the student to gain insight into their performance.

DNP Project PICOT Question: With graduate nursing students, is high fidelity simulation (HFS) an effective teaching modality?

Simulation Activity



Measures

Beckham Evaluation Tool: This tool divided student performance into five categories; general, history, physical examination, presentation, and critical thinking and application of advanced clinical nursing practice. Each section of the tool offered the evaluating faculty member a description of student behavior. Each category could receive up to four points; making the entire simulation worth 20 points total. According to lead course faculty , a score of 80% (16 points) was considered passing for the first simulation experience (Beckham, 2013)

Simulation Effectiveness Tool Modified: Students were asked to score the areas of pre-briefing, scenario and debriefing on a three point Likert scale. The category of scenario evaluated both student learning and confidence (Leighton et al., 2015)

Recorded Debriefing sessions to gain qualitative themes from simulation activity. Using the Promoting Excellence and Reflective Learning in Simulation (PEARLS) debriefing model. This model guides faculty through four phases; reaction, description, analysis and summary. Eppich and Cheng (2015) provides faculty with questions in each category to guide faculty through a debriefing in a consistent manner.

Results

Beckham Evaluation Tool Category Scores

Items	All	FNP	PNP	AGNP
General	3.8	3.83	3.8	3.75
History	3.07	3.11	2.8	3.38
Physical Exam	3.44	3.22	3.3	3.89
Presentation	3.3	3.22	3.4	3.25
Critical Thinking	3.26	2.89	3.6	3.25
TOTAL Score	16.8 (84%)	16.28 (81.4%)	16.6 (83%)	17.5 (87.5%)

Simulation Effectiveness Tool –Modified Results

Items (possible score)	All	FNP	PNP	AGNP
Pre-briefing (6)	**5.11**	5.33	4.9	5.13
Scenario-Learning (15)	**12.6**	13.33	12.1	12.38
Scenario-Confidence (18)	**14.26**	14.89	13.9	14
Debriefing (15)	**14.11**	14.44	13.5	14.5
Total (54)	**46.1**	48	44.4	46

Qualitative Themes

1. Simulation is a beneficial component to graduate education
2. Student expectations should be clear
3. Pre-briefing is essential
4. Simulation environment impacts satisfaction
5. Students desired use of live patients as well within the curriculum

Implications

1. Results of the SET-M and debriefing discussions illustrate the value students felt towards use of HFS within this course. The students expressed an interest in mannequin capabilities and acknowledged the unique learning opportunity it offers.
2. During the debriefing sessions, many students reported anxiety related to feeling unprepared and unsure of what student expectations were for this simulation activity. Student anxiety decreases the efficacy of the activity, and is remedied fairly easily with specific instructions and explanations. For future HFS activities. Faculty should discuss student expectations, role within the simulation, and preparation for the activity a week prior to the activity. A tour of the simulation room and mannequin orientation would also be appropriate prior to the simulation day.
3. For future HFS activities, faculty are encouraged to allow students to practice auscultating various heart and lung sounds utilizing mannequins and become familiar with how communication during a simulation is conducted. Although many students found value in practicing assessment skills through HFS, the mannequin capability seemed to impact satisfaction.
4. It takes more than a general statement that a student is in the clinic environment; more care must be taken to visually represent a clinic location to enhance the simulation experience.
5. Although students verbalized value and benefit of this HFS activity, many stated they would prefer a live patient which provides insight through nonverbal feedback. Students thought that assessment data may have been overlooked due to the lack of nonverbal communication.

References:
Beckham, N.D., 2013. Objective structured clinical evaluation effectiveness in clinical evaluation for family nurse practitioner students. Clin. Simul. Nurs. 9. doi:10.1016/j.ecns.2013.04.009
Leighton, K., Ravert, P., Mudra, V., Macintosh, C., 2015. Updating the simulation effectiveness tool: Item modifications and reevaluation of psychometric properties. Nurs. Educ. Perspect. 36, 317–323. doi:10.5480/15-1671
Eppich, W., Cheng, A., 2015. Promoting Excellence and Reflective Learning in Simulation (PEARLS): Development and Rationale for a Blended Approach to Health Care Simulation Debriefing. Simul. Healthc. 10, 106–115. doi:10.1097/SIH.0000000000000072