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Public Health Nursing Student Home Visit Preparation:
The Role of Simulation in Increasing Confidence

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Good morning Mr. O'Hara, I'm your public health nursing student...

Abstract

The purpose of this study is to evaluate the role of simulation in preparing senior nursing students for their first home visit and to determine comfort and confidence levels of these students as they prepare for their first home visits. This exploratory study used a convenience sample of public health nursing students (n= 115). A pretest posttest design evaluated the effectiveness of the simulation using a 5-point Likert scale to detect changes in student confidence. Significant differences were noted on the majority of mean scores ($p < .001$) post-simulation. This approach could also be used to prepare newly hired home health care nurses and inexperienced nurses who are making the transition to home care from another aspect of nursing practice.

Key Words: simulation; public health nursing education; home health care; nursing education

Introduction

Billy O'Hara (fictitious client) knows the students will be knocking at his door anytime. Mr. O'Hara has been visited by senior nursing students as part of a public health clinical practicum for several semesters now. Not far away, sitting in a classroom, students are discussing their first visit to Mr. O'Hara's house. The students know that this clinical practicum will be like no other in their careers as undergraduate nursing students. They are terrified of the challenges of home visits. No longer will learning solely occur in the classroom, or with clinical faculty onsite and available for questions, guidance, and support. These are the challenges public health faculty must help students overcome every semester during orientation to this clinical practicum.

The students know about Billy O'Hara after reviewing his chart. Mr. O'Hara is an 85-year-old man with peripheral vascular disease (PVD), uncontrolled diabetes, and severe degenerative joint disease (DJD), as well as other chronic health conditions. One student asks, "What are we supposed to do for him in his home?" Another student asks, "Are we alone with these clients?" Student anxiety is clearly high.

A primary goal of the clinical faculty is to decrease anxiety and aid in the reduction of what appears to be a very stressful situation for these senior level nursing students. In addition, it is the public health faculty's desire to assist students to be more comfortable with their home visit experiences. To help achieve this, faculty have reproduced a visit in the home setting in a controlled simulation lab at the school of nursing. The principal purpose of this simulation experience is to decrease anxiety and fear of the unknown

among the students and assist students in chartering new territory through a standardized and reproducible simulation experience.

Background

Use of simulation as a teaching strategy is well documented in the literature. Some nurse educators have advocated for its use as a substitute for a day of actual clinical experience to alleviate crowded clinical environments and enhance learning outcomes (Bearnson & Wiker, 2005). A number of state boards of nursing (16) have given nursing schools permission to use a portion of their clinical time for simulation activities with an additional 17 considering simulation substitution (Nehring, 2008). Others report the use of simulation to teach nursing students therapeutic communication (Becker, Rose, Berg, Park, and Shatzer, 2006) and the development of critical thinking and clinical judgment skills (Dearman, Lazenby, Fauk and Coker, 2001; Feingold, Calaluce and Kallen, 2004). Health promotion and pharmacology are yet other aspects of education for which simulation is being used (Rash, 2008; Thompson and Bonnel, 2008). Use of simulation in teaching physical assessment skills for beginners as well as nurse practitioner students has demonstrated value (Bramble, 1994; Bremner, Aduddell, Bennett, and VanGeest, 2006; Gibbons, Adamo, Padden, Ricciardi, Graziano, Levine and Hawkins, 2002; Scherer, Bruce and Runkawatt, 2007). While much of the literature focuses on the process of using simulation, these studies, in general, have found that students have increased levels of confidence and report positive attitudes toward the use of simulation (Bearnson and Wiker, 2005). Other measures of efficacy have proven difficult to construct which has constrained the development of valid instruments to assess the impact of simulation on student learning and retention (Nehring and Lashley, 2009).

Nehring and Lashley's (2009) review of the past 40 years of nursing simulation found 26 published research articles addressing high fidelity simulation, ten of which focus on simulation as an alternative means of teaching a particular aspect of assessment or a clinical skill. None of these articles address the use of simulation for students making home visits. A recent study by Dalton, Aber, and Fawcett (2009) did however evaluate junior and senior nursing students' perceptions regarding their first home visits. Of the junior maternity nursing students, 29% reported feeling nervous, 9% reported feeling awkward, 7% felt uncomfortable, and 5% felt anxious. Levels of anxiety and nervousness did decrease during the senior year community health home visit experience but still remained an issue for many students (Dalton et al, 2009). Would students preparing to make home visits report similar levels of increased confidence if simulation were to be used prior to their first home visits?

While simulation is not a new educational concept, simulation technology has expanded nursing educators' vision of its use. With this use are increasing calls to evaluate simulation and provide best practices and evidence of effectiveness through well designed and executed studies (Landeem and Jeffries, 2008). Therefore, this study examines the use of high fidelity simulation for a home health nursing experience.

Methods

Design and Sample

The design of this study was exploratory. A convenience sample of all students enrolled in this three credit hour public health nursing clinical practicum was utilized for the study (n=115). The study was reviewed and approved by Purdue University's Committee on the Use of Human Research Subjects.

Objectives for this clinical practicum include utilizing principles from the sciences and humanities to assess individuals, families, communities and teaching principles of disease prevention and health promotion to family and community groups. The clinical involves a rotation of community home visits, wellness screenings and health education, and a rotation working directly with a public health nurse in the community. A one-group pretest posttest design was used to evaluate the effectiveness of the simulation.

During the second week of clinical orientation students met in the school's learning lab for the simulation experience. All students were given a mock chart to review before the simulation that included several weeks of narratives from previous mock home visits. In addition the chart included a list of medications, nursing and medical diagnoses, and a profile summary of the client which reviewed nutritional status, safety factors, emotional status, socioeconomic status, and physical functioning. Students were also given a brief scenario of the client (see Table 1).

The simulation included the use of a Sim Man (AKA: Billy O'Hara) as well as conversion of a classroom to resemble a home setting. This conversion included the

addition of throw rugs, a television, clothing, etc. In order to evaluate the students' ability to assess client safety factors, the lights were turned off and a throw rug was placed in front of the client along with magazines scattered at his feet. In addition, Mr. O'Hara's walker was placed out of his reach. Furthermore, the client's television was on and turned up loudly to encourage the students to be assertive and to ask Mr. O'Hara to turn the television off. The Sim Man (Mr. O'Hara) was sitting in a chair wearing a t-shirt, sweat pants, socks, and slippers. Socks and slippers were deliberately placed on the client to assess the students' ability to remove them and perform a foot assessment for a patient with diabetes and appropriately assess for lower extremity edema.

After reviewing the client information, the students were divided into groups of 2-4 to complete the simulation. Students were instructed to work as a team and to take turns completing the client assessment and appropriate interventions. Students entered the learning laboratory as they would if it were a patient's home and were introducing themselves. Students used their standard public health nursing bag technique as part of their home visit protocol. During the assessment of the client, students were handed note cards which included information in response to their specific assessment questions. Note cards were used to help standardize the experience among groups. Faculty also provided information as needed when note cards were not available for the specific questions asked.

At the end of the simulation students were debriefed either as a group or through an on-line discussion forum. Students were also required to chart their simulated home visit experience to help familiarize them with the documentation process.

Measures

Students were asked to complete a pre and post simulation survey (see Table 2). The survey instrument was created by the researchers. Face validity was assessed by the investigators and determined to be adequate. There were no student identifiers on the survey and survey completion was required for all students in the course as an assignment. The assignment was not graded but was used as a learning tool.

A 5-point Likert scale was employed to evaluate changes in students' confidence in their ability to gain access to a client's home, apply the nursing process, exit the client's home and document appropriately. The post-simulation survey was also used to seek feedback about the simulation process and its effectiveness as a learning tool. Two open-ended questions (see figure 1) were included which assessed what the students expected to learn during the simulation as well as for any unexpected learning which occurred. This was done to further evaluate the simulation experience.

Results

Paired t-tests were performed to determine the effectiveness of the simulation based on student ratings of several statements from the pre-simulation and post-simulation surveys concerning confidence in their abilities to make a home visit. Significant differences ($p < .001$) were noted in the mean scores in the areas of students' confidence in their ability to:

- gain entrance into a client's home
- assess a client in the home setting
- determine a client's health priorities
- utilize the nursing bag
- exit the client's home

Overall, student comments indicated satisfaction with the simulation and the belief that confidence in their ability to successfully complete a home visit was increased by the simulation. (See Table 3 & 4).

Discussion

Researchers hoped to better understand how a home visit simulation experience for senior nursing students beginning a public health clinical rotation would influence student confidence. A pre-survey was administered to explore how students felt about the simulation, confidence levels while performing a home visit, and how a home visit simulation would influence the level of confidence during home visits. Pre-survey student responses were largely neutral to positive concerning the simulation activity. Student pre-survey responses to specific questions about their ability to perform nursing skills such as assessing a client in the home setting and determining a client's health priorities during a

home visit demonstrated a higher level of confidence than expected. Possible reasons for the over confidence may stem from previous home visit experience, group efforts, and saving face among peers.

During the simulation faculty noted that despite the fact that students were provided with information that the fictitious client had uncontrolled diabetes, peripheral vascular disease, and recent history of a foot wound, many did not perform an assessment of the client's feet (which required them to remove the client's socks and shoes). Other areas of assessment such as respiratory status were often not completed in as much detail as would be expected for a client with issues similar to Mr. O'Hara. Some students performed the respiratory assessment through the sweatshirt the client was wearing. Many of the students also began to immediately educate Mr. O'Hara about the various things they believed he needed to know before assessing what he did know concerning the care of his chronic illnesses. During the debriefing after the simulation, students were embarrassed to find that Mr. O'Hara did indeed have a significant wound on his right foot. In discussion, students revealed that they were unsure as to how thorough of an assessment they should complete on a client in the home setting. They felt that asking him to take off his shoes and socks or his sweatshirt was "too" intrusive. Some stated that it made them feel uncomfortable to ask the client to do certain things in the home setting.

During the debriefing, students reported that they made the decision not to ask the client to take articles of clothing off for a more thorough assessment due to the informality and

lack of privacy in the home setting. Many stated that it would be “embarrassing” for both themselves and the client. This provided faculty with the opportunity to discuss this aspect of home care which is vastly different from the hospital setting. Hospital patients are seldom dressed in clothes and access to clients requires no effort on the part of the student nurse which is not the norm for a client treated in the home. Discussion centered on the roles and responsibilities of the nurse and how they could be carried out in the home in such a way to provide privacy and allow the nurse to obtain the necessary assessment information. One student commented that, “I learned that no matter if the patient is in their home or the hospital, we still are doing an assessment.”

Responses were mostly positive for summarizing visit content and exiting the home. Responses by students demonstrated a concern about their ability to bring the visit to closure and exit the home. Students were then asked about the home visit simulation and confidence levels after the experience. Again students felt the experience would increase their confidence (see Table 4) with one stating, “Today gave me a better idea of what is done during the actual home visit. It decreased my anxiety about future visits.”

Post simulation survey questions were aimed at gaining information about the simulation preparation and post simulation activities, the home visit scenario, and student confidence. Questions were developed to determine if students felt that participation in the simulation was sufficient preparation for actual home visits. Student responses indicated that the simulation preparation was appropriate, including post simulation debriefing and faculty feedback. Responses regarding confidence about entering the

client's home were slightly improved as a result of the simulation, but were not statistically significant.

Limitations

Completion of the survey was required of all students and self report was used for the pre and post simulation surveys which could lead to bias. However, anonymity was used to minimize this. Furthermore, a convenience sample of a small number of students was used for data collection. Lastly, two of the survey questions were worded slightly differently in the pre and post simulation survey which could have lead to differing results.

Implications

Because of this simulation experience, public health faculty have an increased awareness of the stress and anxiety that routine home visits create for their students. The purpose of the study was to make the home visit experience for students less stressful and for the students to be more comfortable providing care in a non-hospital environment. Decreased hospital stays by patients have altered the home care environment as well as increased the need for homecare nurses. New graduates are typically not well prepared to work with clients in the home. The student response noted "that working alone with a client" was a stress factor possibly demonstrating a lack confidence either in her/his ability or having no one to confer with when the situation could be overwhelming is clearly a stressor. Another student response "What are we to do for the client" may indicate a lack of knowledge of the client, chronic illness management, or skills needed to provide competent care. Implications for nursing education is to increase the exposure of nursing

students to community clients while supported by seasoned nurses who can demonstrate the nursing process, share their knowledge of the nursing disciplines, and support the student in the acquisition of the skills needed to provide care in the home.

Since practitioners often interact with students in the field, it is important to understand how students respond to home health experiences. This study reveals what some students find difficult with home care, knowing this can help guide educators and practitioners.

The success of this educational process could be useful in the home health agency setting. Simulation could be used to orient new clinicians to home care and assist in evaluating clinical competencies of staff.

Conclusion

This study sought to determine if student confidence would be increased as a result of a home visit simulation. Senior nursing students often report being anxious before their initial home visit experiences. Expressed student anxieties are due to the unknowns involved in home care. Such unknowns for the student are related to potentially getting lost in unfamiliar areas, fear of being unable to develop a relationship with the client or provide appropriate nursing care, and being presented with a problem which they cannot handle. The simulation scenario was designed to reflect a typical home visit with a client who has several chronic illnesses, multiple medications, limited mobility, and the presence of environmental hazards for the students to assess and develop a plan of care.

Public health clinical faculty need to enable students to feel competent and comfortable in the home care environment. Students find it difficult to apply the skills they have previously only used in acute care settings to home care settings. The use of simulation allows faculty to assess, teach and evaluate students prior to the student's initial visit in the home. The home visit simulation can be an educational tool that enables clinical faculty to ease the transition for senior nursing students from an environment abundant with healthcare personnel available for advice and guidance to the solo visit in the home.

References

- Bearnson, C.S. & Wiker, K.M. (2005) Human patient simulators: A new face in baccalaureate nursing education at Brigham Young University. *Journal of Nursing Education, 44*(9), 421-5.
- Becker, K., Rose, L., Berg, J., Park, H., & Shatzer, J. (2006). The teaching effectiveness of standardized patients. *The Journal of Nursing Education, 45*(4), 103-111.
- Bramble, K. (1994). Nurse practitioner education: Enhancing performance through the use of the objective structured clinical assessment. *Journal of Nursing Education, 33*(2), 59-65.
- Bremner, M.N., Aduddell, K., Bennett, D.N. & VanGeest, J.B. (2006). The use of human patient simulators: best practices with novice nursing students. *Nurse Educator, 31*(4), 170-174.
- Dalton, J., Aber, C., Fawcett, J. (2009). Students' perceptions of home visiting. *Home Healthcare Nurse, 27*(4), 253-261.
- Dearman, C., Lazenby, R., Faulk, D., & Coker, R. (2001) Simulated clinical scenarios: faculty-student collaboration. *Nurse Educator, 26*(4), 167-169.
- Feingold, E., Calaluce, M. & Kallen, M.A. (2004). Computerized patient model and simulated clinical experiences: Evaluation with baccalaureate nursing students. *Journal of Nursing Education, 43*(4), 156-163.
- Gibbons, S., Adamo, G., Padden, D., Ricciardi, R., Graziano, M., Levine, E. & Hawkins, R. (2002). Clinical evaluation in advanced practice nursing education: Using standardized patients in health assessment. *Journal of Nursing Education, 41*(5), 215-221.

- Landeen, J. & Jeffries, P. (2008). Simulation. *Journal of Nursing Education, 47*(11), 487-488.
- Nehring, W.M. (2008). US boards of nursing and the use of high-fidelity patient simulators in nursing education. *Journal of Professional Nursing, 24*(2), 109-117.
- Nehring, W. & Lashley, F. (2009). Nursing simulation: A review of the past 40 years. *Simulation and Gaming, 40*(4), 528-552.
- Rash, E. (2008). Simulating health promotion in an online environment. *Journal of Nursing Education, 47*(11), 515-517.
- Scherer, Y., Bruce, S., & Runkawatt, V. (2007). A comparison of clinical simulation and case study presentation on nurse practitioner students' knowledge and confidence in managing a cardiac event. *International Journal of Nursing Education Scholarship, 4*(1), 1-14.
- Thompson, T. & Bonnel, W. (2008). Integration of high-fidelity patient simulation in an undergraduate pharmacology course. *Journal of Nursing Education, 47*(11), 518-521.

Table 1
Simulation Scenario

Billy O'Hara is an 85 year-old-man with peripheral vascular disease, diabetes, and severe degenerative joint disease. Recently his blood sugars have been consistently above 200 so his primary care provider changed his medication on Wednesday and asked him to check his blood sugars four times a day. Mr. O'Hara ambulates with a walker (when he remembers to use it). He has a personal care aide every morning who helps him with personal care and activities of daily living.

Medications:

Cilostazol (Pletal) 50mg daily by mouth	Humulin R U100 Sliding Scale:
Nabumetone (Relafen) 500 mg daily by mouth	FBS 151-200 give 2 units
Lantus 20 units SQ every evening	FBS 201-250 give 4 units
Lisinopril (Zestril) 20 mg daily by mouth	FBS 251-300 give 6 units
Hydrochlorothiazide (HCTZ) 12.5 mg daily by mouth	FBS 301-350 give 8 units
Hydrocodone 5mg/Acetaminophen 500 mg (Lortab) PRN Q 4-6 hours by mouth	
Metformin (Glucophage) 500 mg twice a day by mouth	

Table 2
Simulation Survey

NUR 403 Home Visit Simulation Scenario Survey					
<i>For the following statements please circle one of the five alternatives:</i>					
<i>Confident(5), Somewhat Confident(4) Undecided(3), Reasonably Confident (2), Not Reasonably Confident (1)</i>					
1) How confident are you in your ability to:					
a) gain entrance into a client's home?	5	4	3	2	1
b) assess a client in the home setting?	5	4	3	2	1
c) determine a client's health priorities?	5	4	3	2	1
d) summarize the content of the visit at the end of the visit?	5	4	3	2	1
e) competently use my nursing bag?	5	4	3	2	1
f) exiting the home?	5	4	3	2	1
2) These patient simulations of home visits will increase my confidence in my ability to :					
a) conduct home visits	5	4	3	2	1
b) apply my knowledge base to the home visit process	5	4	3	2	1
c) care for clients in the home	5	4	3	2	1
d) prioritize my actions in the home	5	4	3	2	1
3) Have you made home visits in the past, either as a student or as an employee? If so, please explain.					

Figure 1. Open-ended Post Survey Questions

What did you learn that you expected to learn?
What did you not learn that you expected to learn?

Table 3

Changes in Mean Confidence Scores Pre-Survey to Post-Survey

Survey Statement	Pre-Survey Mean Score	Post-Survey Mean Score	Mean Change	P
How confident are you in your ability to:				
a. gain entrance into a client's home?	3.72	4.18	.46	<.001
b. assess a client in the home setting?	3.62	4.07	.45	<.001
c. determine a client's health priorities?	3.70	3.96	.27	<.001
d. summarize the content of the visit at the end of the visit?	3.94	4.11	.17	>.05
e. competently use my nursing bag?	3.54	3.85	.31	<.001
f. exiting the home?	4.07	4.36	.29	<.001
These patient simulations of home visits increased my confidence in my ability to:				
a. conduct home visits.	3.95	4.04	.09	>.05
b. apply my knowledge base to the home visit process.	3.97	4.09	.12	>.05
c. care for clients in the home.	3.91	4.04	.13	>.05
d. prioritize my actions in the home.	4.04	4.00	-.04	>.05

Table 4

Post Simulation Student Comments

“I learned how to start the assessment and get comfortable with the patient. I learned some reasons and situations that would require additional help. I learned how to handle different situations such as calling the physician and consulting the PCP.”

“I learned strategies to make the home visit go smoother and tips that will help in the future.”

“I learned how to be more confident and comfortable, the flow of the visit. I also learned that my interventions were worthwhile and I was able to think of them!”

“I learned the differences between assessments performed in the hospital and in the home.”

“Today gave me a better idea of what is done during the actual home visit. It decreased my anxiety about future visits.”

“I need to practice my assessment order before going on my home health visits”.
