Valuing Caring Behaviors Within Simulated Emergent Nursing Situations

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Abstract

This study was conducted to explore how students come to know persons as caring and how caring is expressed using a high-fidelity human simulator in emergent nursing situations. Using a caring teaching framework of briefing, encountering, and debriefing to structure a simulated experience grounded in a caring nursing situation, this qualitative research study used a focus group method to generate data. Themes and thematic categories that emerged from the data included knowing persons from significant others, utilizing ways of knowing in nursing, and nursing calls and responses. Implications for nursing education, research, and practice are presented and discussed.

Key Words: Caring behaviors, simulation, nursing education, nursing situations

Introduction

Simulation technology as a pedagogical instrument for learning caring nursing is paramount, critical, and necessary for today's nursing education. Two influential aspects in simulation technology are realism and artificiality, where simulation experts are attempting to create a "real world" in the midst of an artificial environment (Locsin, 2008). How do nurse educators ensure that students view the simulator as person and demonstrate caring behaviors within an artificial technological space? An additional concern in simulation technology hinges on the focus of nursing as knowing persons as participants in their care rather than as objects of our care (Locsin, 2007). Within this technological knowing, persons need to be appreciated as whole and complete in the moment (Locsin, 2005).

Eggenberger and Keller (2008) provided an initial theoretical grounding for a teaching-learning innovation using simulation technology in caring nursing. A framework for creating a simulated environment that focused on teaching competency in the practice of caring nursing was described. In this article, the process was delineated, including definitions, descriptions, and explanations of the theoretical perspective of caring in nursing. Three processes were described: briefing, encountering, and debriefing. Briefing situates the learner in a specific scenario in which mutual knowing is expected and includes the appreciation of that which matters most to the patient. Encountering provides the living of the "caring between" the nurse and nursed (Boykin & Schoenhofer, 2001). In this teaching-learning situation, the scenario is the nursing situation, the shared lived experience in which the caring between the nurse and nursed enhances personhood. The critical aspect of this process is the nurse or student being fully present with the intention to know the other as person. In this process, Mayeroff's (1971) caring ingredients of knowing, alternating rhythms, patience, honesty, trust, humility, hope, and courage can be found in the shared experience of the nursing situation. The third process is debriefing, in which students and teachers are provided the opportunity to reflect on their knowing, focusing on their mutual growth in the learning of caring nursing within the simulated nursing situation. Learning from reflecting on the simulated experience reinforces the use of technologies as critical to the teaching and learning of caring nursing.

Literature Review

In reviewing the nursing literature since publication of the Eggenberger and Keller (2008) article, *Grounding Nursing Simulations in Caring: An Innovative Approach*, there were no studies found that linked the use of simulation technology to the study of caring in nursing. The article by Eggenberger and Keller provided a review of literature pertinent to nursing education and simulation technology published between 2000 and 2007. Since this article, the literature pertaining to simulation technology and nursing has been primarily focused on the use of learning theories (Sinclair & Ferguson, 2009; Wong et al., 2008), program development, and the implementation of simulation in laboratory settings (Hawkins, Todd, & Manz, 2008; Kardong-Edgren, Starkweather, & Ward, 2008; Rothgeb, 2008; Sportsman et al., 2009). There are a small number of studies that have addressed the evaluation of simulation. However, no studies were found that were specifically directed at the evaluation of caring behaviors during simulated experiences with nursing students.

Nevertheless, some published studies focused on the evaluation of aspects of interpersonal human interactions. Todd, Manz, Hawkins, Parsons, and Hercinger (2008) utilized a rigorous approach to develop and test a simulation evaluation tool with students. The categories for this instrument included assessment, communication, critical thinking, and technical skills. Although communicating with the patient and the provider is evaluated within this tool, this communication encompasses very concrete items, such as the use of Situation-Background-Assessment-Recommendation,

a framework for interdisciplinary communication, and demonstrating effective delegation and professionalism. The instrument does not address whether or not the students are able to engage in relationship with the patient. Similarly, other evaluative researchers, including Elfrink, Nininger, Rohig, and Lee (2009) focused on the human reactions of the students as participants. This group conducted formative evaluation research midway through an acute care course simulated experience in order to assess the level of apprehension among students. Based on the findings, the researchers revised the simulation environment and pedagogical process to enhance the student learning experience.

Whereas these types of evaluation offer a unique niche in the evaluative process, the researchers do not specifically evaluate caring within the simulation experience. However, the article by Todd and colleagues (2008) provided an excellent introduction into the work of Dieckmann, Gaba, and Rall (2007), which presented insight into the theoretical underpinnings of simulation as a social practice. Within this framework, simulation is seen as a complex social endeavor. This social interaction involves persons interacting with each other, a simulated patient, and technology. The dialogue offered within this body of work has potential for framing and guiding future simulation development for educators/researchers committed to conducting caring simulations.

Theoretical Considerations

A dearth of studies that focus on simulation technology and caring exist in nursing. Nevertheless, Locsin (2005) offered a foundational perspective of technological competency as caring in nursing in which technological knowing (Locsin, 2007), the process of using technologies for nursing and health in order to know persons more fully as whole and complete in the moment, exemplifies the focused attention that the nurse makes toward persons as participants in their care rather than as objects of their care. As Eggenberger and Keller (2008) proposed that linking technological competency to the actual human experience promotes caring nursing responses.

Part of the simulation experience is the student's quest to master technology, including the machines and the procedures of care. A student may be technologically capable yet not know the patient fully as person. Technological competency must be presented in such a way that the humanistic implications are appreciated and understood. Only then will technological competency be expressed as caring nursing. Nurses must focus on caring and knowing person, so that they can see beyond the technological competencies (Eggenberger & Keller, 2008). Simulation experiences can use high-fidelity mannequins that provide the highest level of realism possible and can be used to create situational context for the student. The nurse's knowing of the person is heightened by being fully engaged with the person, while at the same time enhancing his/her technological competency. This view of competence is fundamental to the simulation experience.

Significance of the Study

There is not much data assuring the quality of teaching and learning caring within simulated nursing scenarios. Yet, there is a critical demand for teaching nursing using simulation technology; therefore, it behooves nurse educators to consider the teaching-learning that transpires when traditional clinical practice settings are replaced with simulation. Various factors need to be recognized when considering methodologies for educating the next generation of nurses. This includes the expansion of technological methods to include podcasts, web pods, and the current iPhone® phenomenon, in which instantaneous web-browsing and data mining are available. How can the current nurse educator adapt to the teaching-learning needs of this generation of students, whose expectation is instant gratification of information delivery? Gone are the days of return demonstrations in the laboratory setting as the sole mechanism for preparing students for proficiency in clinical practice.

Nursing education has entered the new era of the simulated teaching-learning environment. Adapting simulation technology is an efficient alternative to meet some objectives previously experienced in real-time nursing practice. But what about caring nursing practice? How can a student be taught caring nursing using simulation technology? Moreover, can caring nursing be taught using simulation technology?

Methodology

The study utilized a qualitative focus group research method. This technique uses a semi-structured group session, moderated by a group leader, with the purpose of obtaining opinions, beliefs, and attitudes about a designated topic (Morgan, 1998; Plummer-D'Amato, 2008a). This qualitative approach offers a powerful means by which to explore a wide variety of phenomena of interest to nurses (DiIorio, Hockenberry-Eaton, Maibach, & Rivero, 1994).

Approval to conduct the study was obtained from the university's Institutional Review Board. In addition to the focus groups, anonymous program evaluations were completed by the participants. One section of this evaluative form contained an open-ended question area where students could write what they felt about the simulation experience. These responses provided additional evaluative data, which is recommended as a way of enhancing trustworthiness of focus group data (Plummer-D'Amato, 2008b).

Aims of the Study

The study had two main aims: (a) to describe how students come to know the person being nursed as caring and (b) to explore how caring is expressed within an emergent nursing situation using a high-fidelity simulator.

Description of Participants

A purposeful sample of participants (N = 77) was obtained from an adult acute care nursing practice course at a southeast Florida university, which was scheduled to require a simulation experience as part of their curriculum. The eight clinical groups from which this sample was derived were composed of four traditional undergraduate cohorts (n = 36), and four accelerated student undergraduate cohorts (n = 41) of students who had a bachelor's degree in another discipline.

Demographic information revealed that 26 of the traditional students were between the age of 18 and 25, seven were between the age of 26 and 35, and the remaining three were between the age of 36 and 45. A third of this group had previous healthcare experience, varying from nursing assistants, pharmacy techs, unit secretaries, a respiratory therapist, and a licensed practical nurse. Nineteen of the accelerated students were between the age of 18 and 25, 15 were between the age of 26 and 35, five were between the age of 36 and 45, and two were between the age of 46 and 60. Only seven had any previous healthcare experience, most as nursing aides. The majority had a previous degree in biology, psychology, or business.

Process of Data Collection

At the start of the class, students were asked whether or not they would be interested to participate in a study focused on evaluating caring behaviors using simulation technology. The study process was explained and students were asked to voluntarily participate. A verbal script was read as an introduction to the focus group discussion by the primary investigator who was not their faculty member of record for the course. It was made clear that participation was not a criterion for obtaining a grade, nor would non-participation influence their course grade. Students were given the opportunity to seek clarification about any unclear aspects of the research study.

An emergent situation was created as the scenario for the teaching-learning experience. All simulation groups received the same verbal introduction to set the stage for the scenarios. In each nursing situation scenario there were several faculty participants in addition to the students, including a charge nurse, a physician who responded by telephone, a wife at the bedside, and a doctoral student who operated the computer and provided the voice for "Mr. Silver."

Three processes provided the structure for the simulation experience: briefing, encountering, and debriefing. Briefing is a teaching experience directed toward appreciating the nursing situation, encountering is "experiencing" the scenario in a situation created to be as realistic as possible, and debriefing is the occasion for allowing the sharing of experience in order to understand the caring nursing between the nurse and nursed (Eggenberger & Keller, 2008).

The verbal briefing included setting the scene for this specific patient, "Mr. Silver," as well as an overview of the 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Orientation to the crash cart, simulation room, and equipment were conducted.

Encountering evolved in a nursing situation that included a male patient who was experiencing chest pain. His wife was present and his condition deteriorated rapidly, requiring the students to respond with technological competencies, which included cardiopulmonary resuscitation, pharmacological intervention, and defibrillation. Students who were not engaged with the patient were involved in Laerdal's Micro Sim (Laerdal Medical, n.d.) computerized simulation technology while they awaited their opportunity to care for "Mr. Silver."

Debriefing took place in two stages. Prior to leaving the simulated patient's room, each small group of students was guided through a short discussion and reflections about their scenario-specific clinical effectiveness. Later, after all three groups had completed the simulated nursing experience, the large group, which ranged from 9 to 11 participants, gathered in a focus group to dialogue about how they had come to the know the person being nursed as caring and how caring was expressed within the nursing situation using a high-fidelity simulator. The focus group began with the question, How did you come to know the person nursed? Examples of additional questions were: What nursing interventions were grounded in caring? Which theoretical concepts were you able to link to the situation? How does studying nursing in this situation enhance your competencies in caring? Unstructured questions were also used to facilitate dialogue and seek clarification. The focus group discussions were audiotaped and transcribed. No identifying information was used that could be connected to the students as names were deleted and pseudonyms were used.

Data Analysis

In analyzing the data, the researchers subscribed to the qualitative process of identifying words, phrases, and statements that clearly described how students ground nursing actions in caring in emergent situations. Using the two exploratory aims of the study, while being immersed in the data, the researchers focused on appreciating the words, phrases, and statements that described the phenomenon being studied. Each researcher read and analyzed the data using conventional content analysis (Hsieh & Shannon, 2005; Plummer-D'Amato, 2008a).

In the immersion process, while reading and rereading the transcribed narratives, the researchers highlighted the words, phrases, and statements that described how students come to know the person being nursed as caring and the expressions of caring within a nursing situation using a high-fidelity simulator. From these highlighted words, phrases, and statements, themes emerged that reflected how the students ground nursing actions in caring in emergent situations using a high-fidelity simulator. Peer review of the data was used to verify the consis-

tency of findings, thus establishing confirmability. Furthermore, discussion of the analysis and conclusions with colleagues was initiated as a way to increase credibility (Plummer-D'Amato, 2008b).

The thematic categories that emerged from the data included knowing persons through descriptions from significant others, utilizing ways of knowing in nursing, and identifying nursing calls and responses. In reflecting on the themes related to the ways of knowing present in the student dialogue, researchers recognized Carper's (1978) fundamental patterns of knowing in nursing; empirical, aesthetic, ethical, and personal. Thus, the data related to ways of knowing were organized using Carper's framework. Utilizing ways of knowing in nursing, nursing calls and responses were heard and appreciated as illustrating how students ground nursing actions in caring. Calls for nursing are identified as the nurse endeavors to come to know "the other as caring person" (Carper, 1978, p. 13). The nurse then affirms the "person living caring" (Carper, 1978, p. 13) with caring nursing responses. Evidence of coming to know the person being nursed as caring and how caring was expressed with the nursing situation within a caring framework was exhibited in the following situations.

Knowing Person

Participants described "knowing the patient" through his significant other (wife). By coming to know the patient and wife in relationship to each other, they began to respond with caring nursing to the wife as well. The following quotes reflect this relationship, "Seeing how caring they were about each other you know his needing her, her needing to be there and reassuring him. We came to know them." "She [wife] was very helpful in actually being there with the patient. Because she knows the patient best and she helped us through." "Hearing his fears, his anxieties, and then turning to the wife when he can no longer communicate for himself, and hearing from her as well." "The wife's reaction, she knows him better than anybody so she is going to know if this is even semi normal limits, or she'll know probably before anybody when he is starting to head into more serious trouble."

Ways of Knowing

Ongoing evidence of the student's ability to connect theory to practice within a caring framework was illustrated by the following statements regarding the ways of knowing.

Empirical knowing. "First and foremost empirical, knowing what medicines, knowing what to look for, what to do, when to synchronize the shock…that kind of thing." "It's where we are in the learning curve. We're taking everything out of the textbook and out of lecture and we are applying it in practice."

Aesthetic knowing.

> I think there is the aesthetic way of knowing, where you are just trying to sort of synthesize everything together, your trying to pull together everything you know about people and interactions and how the wife's reacting. You're trying to just blend all that and synthesize it together so you are pulling in all you know.
>
> It's a way of being in this very critical situation and that is the art in nursing, it's an almost panic situation and you have to maintain the sense of composure and find that way of being in that moment.

When a student stated that aesthetic knowing was used within the simulation scenario, the moderator sought clarification and the student responded with the following description, "The patient's surroundings affects them you know…the amount of people in the room…little things like the sounds of the monitors and everything like that, to someone who's never in a hospital, it's very scary."

Personal knowing. "You become very interconnected with this other person in caring for them and wanting to help them." "So every time I would hear the patient speak, I was more engaged with him, so I could know what next move to go with." "I know for me…if that was my relative in that bed, I need to do the best I possibly can and draw on every possible knowledge I have and expertise."

Ethical knowing. "Respecting his rights, the family's rights. Make sure he is treated, because that's his right to be treated."

> Making sure you are respecting the wife's wishes and his wishes cause there are people who have DNRs and you have to respect their wishes and still do things to save them, but not the chest compressions, the CPR. You have to listen to their wishes and what they do and don't want.

Nursing Calls and Responses

Student focus group data also identified various calls for nursing that were present within the nursing situation. The knowing of nursing occurs within the context of the unique nursing situation (Boykin & Schoenhofer, 2001). These nursing calls included the patient's need for the nurse to be fully present in the moment with him, for the nurse to engage in relationship with the wife, and to offer hope. Nursing responses included providing information to the patient and to the wife, effectively managing the patient's pain, and remaining hypervigilant to changes in vital signs, monitors, and patient verbalizations so that the patient and wife feel that the nurse recognizes them as caring persons. One participant stated:

> Well, I think like in this case you are called to stabilize that patient because the person who is there with the patient, like his wife, would have deteriorated more if you weren't able to stabilize him so you have to let her know what is going on as opposed to keeping her in the dark the whole time.

Students went on to describe being able to express caring within a nursing situation using a high-fidelity simulator in a variety

of ways, including being present with the other, entering the world of the other, anthropomorphizing, and by prioritizing care from a safety perspective.

Being present with the other. Being present with the other included listening, supporting, and comforting, In the following statements students described not being "task-oriented" and anticipating needs: "In our simulation he was conscious and we were going to shock him and somebody said you know that might be painful."

> You're not treating the monitor, your treating the patient…you know you are listening, you are looking at the vital signs, but your main focus is that patient, getting that patient stable and caring for that patient. You definitely come to care for that patient.

Student comments also illustrated responding with Mayeroff's (1971) caring ingredients. Alternating rhythms, the ability to move "back and forth between a narrower or wider framework" (p. 22) were present in the interactions with the patient and wife, with each member of the team, and with the faculty and students:

> I tried to just get in where I fit in, and I am listening more to the patient, because I am just so caught up in the stress…So every time I would hear the patient speak, I was more engaged with him, so that…I was engaged more with where he was so I could know what next move to go with.

Contrary to current recommendations for fidelity, in a rare circumstance when there was a need for a "teaching moment" due to a potential concern for safety, faculty responded with alternating rhythms and allowed the students to step back and reflect, "I enjoyed the step back for us. I really did…it showed that you cared and understood and just for me it was so panicky, so I think it helped. I realized I could do it."

Entering the world of the other. One unanticipated finding was that on entering the world of the other, students described caring for other, caring for self, and caring for the patient. They verbalized recognizing the importance of treating the patient and not the monitor. They reflected on the importance of caring for colleagues and being sensitive to other and where they were situated. The following statement is an example of caring for other, "She wanted to help, she wanted to touch him. It's hard to say no when it's their loved one. They have to give over control and then it's you that is responsible. For me that would be really difficult."

The following quote is an example of caring for patient and other:

> The presence of his wife makes sure we understand that he is not alone in this world and he has somebody who cares for him; therefore, we need to be really attentive to his needs and make sure that we do the same for the wife.

The following quote represent caring for colleagues:

> Pairing people together was nice because I might not know what to do…and she said okay, I think this is what needs to be done, then…together we were able to help each other more than just doing it by ourselves.

Trying to help each other. "I mean we were paying attention to each other…trying to learn how to coordinate our activities. You know we're still pretty new at that but working on it."

A quote from the open-ended evaluative data supports data from the focus groups on caring for colleagues, "I was able to gain competence without harming the patient and I had peers around to help me critically think."

Other quotes from the evaluation data represent caring for other, in these cases faculty caring for student is represented, "The non-judgmental attitude of our professors, the encouragement on what we did well." "You experience caring while in simulation with the instructors, assisting you." "The non-judgmental purely learning experience."

This quote reflects one student's dialogue about caring for self within the situation:

> Sometimes you forget things when you are under pressure and you are not making connections…here…you have time to think about it, to sort of, okay, I need to calm down so I can make the right decisions. I can make the connections that I need to. You are not frantic and if you make a mistake you're not like freaking out.

Anthropomorphizing. Bringing the mannequin alive clearly enhances caring and made "Mr. Silver" just as vulnerable as any human being. Whereas, SimMan® is an inanimate object, when he exhibits human characteristics and behaviors, the results are anthropomorphizing the technology: "Yeah, I removed his glasses, you know just to keep him comfortable, placed them on the bedside stand to prevent harm if they fell. They may be particular about their glasses." "His was completely exposed, his genitals were completely exposed to everyone, and I just lifted the covers up so that he had dignity."

Prioritizing care-safety. Many students discussed the importance of "saving the patient" and thinking out loud with their colleagues to ensure safety and that they were on the right track. They also described the benefit of being able to learn what the consequences would be within a real patient situation, "I think that goes along with prioritizing care based on Maslow's hierarchy of needs, because the patient's physiological need way outranked the wife's non-physiological call." "Patient safety is number one. That's logical."

> If someone was more stable, than you could allow other calls to come in, but if the patient is unstable, I can't think about it…we can't really multi-task like you can. When you are just starting out you've got to focus. It's hard to pull it all together.

The above examples demonstrate how students recognized the complexity of the nursing situation. At this level, the students

are already beginning to identify that their confidence and competence will increase with repetitive experiences with similar situations.

Discussion and Implications for Nursing Education

Learning and growing in caring nursing is guided by the assumptions from nursing as caring (Boykin & Schoenhoefer, 2001), which included that all people are caring by virtue of their humanness. The nurse or students come to know the patient as they are heard and appreciated utilizing Carper's ways of knowing (1978). Students came to know "Mr. Silver," a simulated patient, through his significant other, through Carper's ways of knowing, and through nursing calls and responses.

Although it is logical that students that are in a program which is grounded in a caring philosophy would demonstrate some knowing of caring, there is no guarantee that this knowing will be evident in their practice. There is a great deal of nursing theory that does not get translated to practice. It is gratifying to see that students have absorbed this way of being and caring for the persons they nurse, particularly in a simulated environment.

There have been previous discussions of the role of the faculty as facilitators in the simulation process (Jeffries & Rogers, 2007). These discussions must be extended to include the facilitation of caring behaviors. Faculty who will have the requisite experience to lead these endeavors must be grounded in caring science and must support students in being intentionally present with patient's and family's. Historically, nursing student responses to emergent situations have focused on technological competency, much like Locsin's (1995) intensive care nurses focused on machines. Evidence-based best practice standards have emerged from nursing research that recognizes the importance of family presence in emergent situations (AACN, 2004). To truly nurse one must engage in relationship with the patient and their significant others.

Recognizing that the ability to know persons through significant others is important to caring nursing and makes it essential to create simulation scenarios where family and significant others can be involved in the nursing situation. Simulated environments can be and should be designed that support caring-based nursing responses within emergent nursing situations.

Results from this study indicate that not only is it possible to value caring behaviors within emergent situations, but that there is great potential for evaluating caring behaviors in simulated nursing situations. In addition, unanticipated findings of caring behaviors that extended among the students and to the faculty indicates great potential for simulation as a method to study caring in nursing in a variety of ways.

The Threads in Indra's Web: Furthering the Understanding of Caring Nursing

Caring nursing behaviors that were extended within the nursing situation were much like the threads in Indra's mythical web (Karl, 1992). The God Indra tied strands to all the critical elements that existed, such as the earth, sky, stars, clouds, mountains, sea, and all animals and plants so that everything was connected and formed Indra's net. The idea was that if there was movement in one location, it caused movement in another. Then Indra placed a bell in the center of this net that rang when those movements occurred, so that all would be intentionally aware and connected.

In this study, the framework for the web within nursing simulation includes caring theory, nursing situations, and faculty that are vested in the students' living and growing in caring (Boykin & Schoenhoefer, 2001). Connecting knots in the web are present in the three processes of briefing, encountering, and debriefing. When there are caring behaviors or movement in one stand or thread of the nursing situation, those behaviors are then reflected in other movements or nursing calls and responses. Nurse researchers are privileged to study caring movements and be present in nursing situations that are intentionally grounded in caring, thus sounding the bell for caring nursing.

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