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Utilizing simulation to prepare nursing students to coordinate care through transitions

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\textbf{A B S T R A C T}

Effective care coordination and transitions are critical factors for patients to improve health outcomes. Providing prelicensure nursing students with the opportunity to demonstrate practical application of these concepts will assist in preparing them for entry into practice. This article discusses how an associate degree nursing program instituted a simulation that focused on coordination of care for a patient transitioning through multiple settings. This realistic experience allowed students to engage in clinical reasoning and judgements through the role of the observer and the nurse. Changes since COVID-19 pandemic are discussed.

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\textbf{Background}

Many people within the United States struggle with multiple chronic health issues that require different healthcare providers and settings to be involved (Swan et al., 2019a). Individuals could benefit from care coordination as navigation through the fragmented and disjointed healthcare system is difficult. To assist in improving health outcomes, there is a necessity for nurses to engage in effective care coordination across the health care continuum for all patients but especially those with chronic conditions (Haas et al., 2019). The integration of care coordination into prelicensure nursing curriculum is imperative as appropriate care coordination has been linked to better quality of care and outcomes for patients which can further result in improved health status (Swan et al., 2019a). Failure to have effective care coordination can lead to gaps and errors in care. This can result in adverse events such as medication errors, preventable admission to hospital or readmissions within 30 days, and suboptimal therapy which all lead to an increase in the cost of care (Swan et al., 2019b). The need for every nurse to engage in care coordination is further supported with the American Nurses Association’s (ANA) position statement regarding the essential role of care coordination for registered nurses across all settings to promote quality, safety, efficiency, and holistic-based care (2012).

In a world where change is constant and inevitable, so is experiencing a transition. The need for care coordination is no greater than when a patient is experiencing a transition. A care transition is “the movement patients make between health care practitioners and settings as their condition and care needs change during the course of a chronic or acute illness” (Haas et al., 2019, p. 3). The healthcare environment presents multiple transitions for the patients to encounter; the way that a transition is approached by nurses can directly influence outcomes for patients and families (Kang et al., 2020).

A crucial care transition for many clients is discharge from an acute care setting to return home and engage with the outpatient environment. It has long been drilled into nursing students that discharge is a process that starts on admission. However, challenges exist when there is lack of communication regarding discharge and meeting workplace demands which compromise how nurses are handling discharges. This results in nurses providing a rushed discharge experience that misses key pieces of the transition (Kang et al., 2020). Anecdotally, nursing students have reported hearing nurses say, “I’m just going to discharge this patient really quick.” Nurses have been observed hastily reviewing the discharge paperwork and then wheeling the patient out. These actions are what nursing students are witnessing and learning from which could influence their future practice. There is a disconnect identified from the patient’s point of view when reviewing the results of the Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS) survey in which patients rate their perception of their care experience. Nationally, 87% of patients are reporting that yes, they were given information about what to do during their recovery at home. Yet out of these same patients, only 54% are reporting that they strongly agree they understood their care when they left the hospital (Health Services Advisory Group, 2020). This evidence supports the appearance that discharges are handled as a task while nurses are providing the information, the evaluation for understanding is lacking. The understanding deficit may lead to a decrease in quality and
safety through errors with medications, missing follow-up appointments or facets of the treatment plan.

In Kang et al. (2020), some of the nurses interviewed described having no formal training on how to deliver discharge education which led them to learn as they go as within their practice. The lack of experience may lead to inaccurate or incomplete information being communicated to patients and families. Preparing graduate nurses with knowledge and skills to engage in care coordination during transitions may improve overall health outcomes. Providing prelicensure nursing students with salient experiences on care coordination and transitions in the clinical practicum setting is varied based on which nurses the students are assigned and availability of hands on opportunities. While learning these concepts in the classroom increases awareness, practical application is necessary to fully provide students the needed learning.

Inception

In spring 2019, an associate degree nursing (ADN) program in southeastern Pennsylvania incorporated care coordination and transition of care within the community clinical specialty rotation during the last semester of the nursing program through simulation. While aspects are discussed throughout the curriculum, the practical application was not being widely experienced by students. The last semester of the nursing program provides students with a 6-week rotation in progressive care units, and the remaining 6 weeks of clinical are split into two 3-week specialty rotations. Students choose what rotations they are interested in on a first-come, first served basis. The faculty member in the community clinical rotation found that overall students lack the understanding of how acute care and community clinical settings were connected as much of their practicum was spent in acute care. Students might have experienced some aspects of care coordination and transition of care throughout these acute care clinical experiences; however, with inconsistencies and fragmentation of the whole picture, students were not aware of what is needed. Additionally, the faculty desired to offer the students in the community clinical rotation with more of an opportunity to apply patient education and clinical judgement abilities. The faculty decided to incorporate a simulation experience into the community clinical specialty rotation to assist students in linking acute care and postacute services.

Transition of Care Simulation Scenario

The simulation scenario that was developed consisted of three different settings that the students follow the patient and family member through. The first setting is a hospital room, the second is the home and the third is the cardiology office. Each setting occurred in the same simulation room; however, the faculty changed the room around to make it look more like the home and an office setting. Table 1 discusses the different settings and room set-ups.

The scenario was created by the faculty member based on nursing experiences that they had working in the various settings. The patient had a diagnosis of heart failure since this is one of the diagnoses that the Center for Medicare and Medicaid have in the Hospital Readmission Reduction Program (2020). The patient also had atrial fibrillation, Type II diabetes mellitus and financial issues that affected his care. He lives with his daughter who after five minutes enters the acute care setting and is engaged throughout the remaining settings. The patient is the high-fidelity manikin that is operated by the faculty member while the family member is an actor. The faculty member also acts as the physician.

Within the course’s space of the learning management system, the faculty member created a medical record for the patient that included a home medication list, active medication list, laboratory values, vital signs, physical therapy notes, radiology reports and nurses’ notes. The medical record was updated between settings so the students in the home care setting also used this. The office setting still has a paper chart for the patient.

Student Experience

Students are not given any information or preparation for the simulation until the morning of the experience. The morning of the simulation, the students have a prebrief where the situation, background, and medical record for the acute care settings are made available to the students, and as a group, they need to work together to decide what is the most important discharge education that the patient and family member(s) need. The group needs to identify necessary, appropriate printed education materials to supply to the patient and family member(s). Printed discharge instructions that include a medication list are given to the students to review. Students are instructed to review the patient’s medical record to assist in preparing them for the experience. There is a missing medication on the printed discharge instructions that students should identify when performing medication reconciliation. Within the simulation room, there is a workstation on wheels (WOW) in which the students can access the medical record. There are expected student actions for each setting as discussed in Table 1.

The community clinical rotation typically consists of six students. The students are broken into pairs with each pair assigned as the primary nurses for one of the settings while the other four students observe in the simulation room. The observer role during simulation was designed to apply the Social Learning Theory through integration of each of the four conditions for effective modeling: attentional, motivational, retention, and motor reproduction processes (Bandura, 1977; Bethards, 2014). Expectations for the role of the observation students were discussed prior to the start of the scenario. These include evaluating their peers’ strengths and areas of improvement and leading debriefing with these assessments (Bethards, 2014). This incorporation satisfied the motivational processes component (Bandura, 1977). The attentional processes condition is employed through distributing a document that has the course’s clinical objective headings for the observation students to cite examples of how their fellow students’ abilities were meeting these objectives and what they could improve upon (Bandura, 1977; Bethards, 2014).

The condition of retention is achieved through having the observation students lead the debriefing, following each setting, on what went well and what could be improved upon with the scenario performance (Bandura, 1977; Bethards, 2014). The faculty member acted as a facilitator of the discussion and clarified when needed. After each debriefing there is a prebriefing for the next scenario allowing the students to apply what was discussed in debriefing to the next setting which is necessary for the condition of motor reproduction (Bandura, 1977; Bethards, 2014).

The faculty member who runs the community clinical rotation is the person who operated the simulator and acted as the physician. A cardiac nurse who attended the ADN program and someone the students were not familiar with acts as the family member in the scenario. This was important as it provides a more realistic scenario versus having a faculty play the family member.

Student and Faculty Feedback

Over three semesters, the simulation experience was run six times with a total of 32 students participating. Overall, student feedback both verbally and within their reflective journals have been extremely positive with many reporting how it allowed them to holistically approach the care of the patient, face challenges associated with transitions and care coordination, and interact with
patients and family members while applying concepts of patient safety and education. Students enjoyed interacting with the family member and responding to questions asked as it enhanced the realism of the situation. Many stated that the simulation was beneficial as it was not an experience that they have had in the clinical setting especially since it was solely up to them to make the clinical decisions and judgement. They felt they were truly taking on the role of the nurse. Discussion of the need for communication between care providers is essential to providing safe, quality care which was apparent especially since it was solely up to them to make the clinical decisions and judgement. They felt they were truly taking on the role of the nurse. Discussion of the need for communication between care providers is essential to providing safe, quality care which was apparent especially since it was solely up to them to make the clinical decisions and judgement. They felt they were truly taking on the role of the

Faculty identified that students struggle with medication reconciliation in the acute care setting. Even though they are provided time to review the patient's electronic medical record and discharge instructions, they did not identify the need to clarify with the physician the missing medication. A few students reported that they saw the difference but thought the physician knowingly made the change. A few students stumble through providing education, yet the majority of students were adequately able to educate the patient and family about diet, activity, weight and medications related to heart failure. Within the home setting, students identified home safety issues and instructed the patient; however, the patient did not comply, students had difficulty insisting the need to remove safety hazards. When in the office setting, students observed the two previous settings and participated in their respective debriefings allowing them to apply the knowledge gained to each particular setting.

**COVID Changes**

Changes to the simulation experience due to COVID-19 were needed to meet social distancing guidelines and other restrictions. Each simulation room is limited to no more than three individuals at one time. The college instituted a camera streaming system so the other students could still observe the scenarios within the debriefing rooms. The family member actor was not able to be present as this person was not a faculty member. There is discussion about using technology to bring the family member in for the future. The aspect of who the family member is needs careful consideration since having an individual whom students are not familiar with provided a more realistic situation which allowed the students to respond naturally. Limitations of availability of clinical sites within the acute care and community settings has led to the specialty rotations being placed on hold, and additional simulations were needed for student clinical hours. This has allowed all the students within the last clinical course to engage in the transition of care simulation. The faculty member had to create a more explicit script and directions for other faculty, to follow for the simulation scenario. At times, the scenario is being run in up to three different rooms at the same time by different

| Setting | Room Set-Up | Expected Student Actions |
|---------|-------------|--------------------------|
| **Acute care**: Patient is being discharged after a five day stay in hospital due to congestive heart failure and atrial fibrillation. | **Hospital room**<br>**Whiteboard**: hospital gown with gray hair wig, and eyeglasses<br>**Manikin**: Bedside monitor displays blood pressure, heart rhythm, rate, and pulse oximetry reading<br>**Computer Monitor**: Show is placed on screen. (This causes wires to be all over floor.)<br>**Bedside table**: Patient education printed materials and models | **Obtain vital signs**<br>**Complete a focused physical assessment**<br>**Perform medication reconciliation**<br>**Identify errors on discharge paperwork**<br>**Educate patient/family on heart failure and discharge instructions**<br>**Provide SBAR to physician** |
| **Home**: Home care visit five days after discharge. Patient is in bed watching TV with paper bag full of medication bottles & lunchbox. Patient has lower extremity edema, documented 1lb weight gain, and irregular heart rate. | **Whiteboard**: drawing that looks like looking out a window with a valance pinned at the top<br>**Manikin**: sweatpants & t-shirt with gray hair wig, and eyeglasses<br>**Bed**: All side rails down, decorative pillows & throw blanket on bed. Paper bag full of medication bottles. Lunch box with unhealthy snacks.<br>**Floor**: Throw rugs<br>**Computer monitor**: turned off and around to face manikin. A printed-out picture of a popular TV show is placed on screen. (This causes wires to be all over floor.)<br>**Bedside table**: Candle with matches, tissue box, picture frame | **Obtain vital signs**<br>**Assess home safety**<br>**Complete a physical assessment**<br>**Perform Medication Reconciliation**<br>**Educate patient/family on diet, medications, daily weight, when to call physician, & diabetes management**<br>**Provide SBAR to physician about patient’s weight gain, edema, and irregular heart rate.** |
| **Cardiology office**: This is occurring one day after home care visit since patient has gained weight, swelling in lower extremities, difficulty with medication management and diet. | **Bed**: All side rails down, no sheet or blanket covering patient<br>**Whiteboard**: Welcome to the office and other printed office related materials posted on it.<br>**Manikin**: sweatpants & t-shirt with gray hair wig, and eyeglasses<br>**Computer Monitor**: Turned back around and able to obtain blood pressure, heart rate, and pulse ox reading<br>**Bedside table**: Patient education printed materials and models | **Obtain vital signs**<br>**Perform medication reconciliation**<br>**Complete a physical assessment**<br>**Perform an EKG**<br>**Educate patient/family on atrial fibrillation and heart failure including medications, diet, and when to call physician**<br>**Provide SBAR to physician** |
faculty, further complicating the role of the family member for the future. Due to the need to turn the room around between simulation settings and having multiple rooms running the simulation at one time, the simulation was limited to acute care and home setting.

Prior to the simulation, students had a lecture on SDOH and completed the Institute of Healthcare Improvement (IHI) Open School introduction courses on patient-centered care and the Triple Aim (http://www.ihi.org/education/ihiopenschool/Pages/default.aspx). Assignment of the IHI courses was included to equip students with the knowledge of how care coordination is a foundational facet to providing patient-centered care and achieving the Triple Aim. Creating a greater understanding of why care coordination is a vital component to the role of the nurse (ANA, 2012). During the simulation, students were able to assess the SDOH needs of the patient and discussed ways to address these needs. In debriefing, discussion of available resources occurred as not all students were aware of resources to offer to the patient. Awareness of resources in the community where they are employed was discussed. The need for interprofessional collaboration especially with case management and social work was expressed by the students.

Even with COVID changes, students continued to voice the benefits of this simulation as students were provided with experiences in patient education and safety that they had yet to have in previous clinical practice activities. Students relayed that it was beneficial identifying SDOH needs of the patient and working through how to address them either in the scenario or during debriefing. Students commented that observation assisted in growing their own knowledge and abilities.

Faculty again identified that many students struggled with medication reconciliation in the acute care setting. Students verbally stated the need to do this process in the classroom but appeared to overlook it when it is essential to complete. Faculty from previous courses in the program have stated that medication reconciliation was an aspect discussed in class, yet the knowledge does not translate to application. Students continued to demonstrate strength in education of the patient.

Future Recommendations & Implications

The inclusion of the transition of care simulation will continue for all students within the last clinical course of the nursing program. Due to COVID, the family member is a missing aspect that could be conceivably addressed through the use of technology. A fundamental facet of the program’s curriculum is the teaching-learning process which is integrated throughout each course. This was evident by how the students were able to educate the patient and family member. There is a possible need to include an application-based activity for medication reconciliation in an earlier course to promote a fuller understanding of the role of the nurse in this process. More formal evaluation of this simulation experience including the observer role is necessary to fully understand the students’ gap in knowledge and abilities while providing the necessary feedback to the faculty.

Conclusion

The transition of care simulation has provided students with an applicable learning experience that many have not had the opportunity to be involved in the clinical setting. Continuing to respond to healthcare changes and promote experiences for students to gain real-world understanding of nursing practice is critical to producing quality graduates for the nursing profession.

Declaration of Competing Interest

None.

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