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**A Multi-Client Simulation to Improve Communication, Prioritization,
and Clinical Judgment Among Nursing Students**

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A project submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the degree of
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A Multi-Client Simulation to Improve Communication, Prioritization, and Clinical Judgment Among Nursing Students

Abstract

Background: Hospital administrators have noted a lack of clinical judgment in novice nurses, which can result in negative client outcomes. This paper describes the implementation of a multi-client simulation experience with the purpose of determining if the experience improved communication, prioritization, and clinical judgment.

Method: A descriptive, pretest posttest study, using the National League for Nursing (NLN) Jeffries Simulation Theory, examined the perceived competence of 37 senior level Associate Degree Nursing students.

Intervention: The participants rated their perceived competence on the Perceived Competence Scale and were scored on the ISBAR Interprofessional Communication Rubric (IICR) and the Lasater Clinical Judgment Rubric (LCJR).

Results: Participants felt an increase in their perceived competence in communication, prioritization, and clinical judgement. The average score on the IICR was 7.70 out of 15 and most students scored developing on the LCJR.

Conclusion: The findings support the benefit of a multi-client simulation experience to improve communication, prioritization, and clinical judgment in nursing students.

Key Words

Multi-client simulation, Communication, Prioritization, Clinical judgment

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Introduction

According to Oiler et al. (2018), 90% of academic nurse leaders feel new nurse graduates are ready to provide safe, effective client care, while only 10% of hospital executives feel likewise. Poor communication, inability to prioritize client care, and lack of clinical judgment skills have been shown to have a negative impact on client outcomes (Hunter & Arthur, 2016; Lapkin et al., 2010; Monagle et al., 2018). Novice nurses tend to be more reactive, putting the cues together after the event, rather than being proactive and noticing cues as they develop. To effectively prepare new graduate nurses to assimilate into complex work environments, nurse educators must utilize effective teaching strategies that foster the development of strong communication, prioritization, and clinical judgment skills. Simulation-based learning experiences have been identified as an effective teaching strategy to promote these skills among nursing students (Foronda et al., 2015; Jensen, 2013; Macauley et al., 2017). This project utilized a multi-client simulation experience to assist nursing students with enhancing communication, prioritization, and clinical judgment skills during their final semester of an Associate Degree Nursing (ADN) program.

Problem Recognition

Clinical judgment skills are fundamentally essential to delivery of safe, effective nursing care (Harmon & Thompson, 2015). Muntean (2012) notes 65% of adverse events occurring in the inpatient setting are results of poor clinical decision making, with many of those nursing care errors linked to novice nurses. The decision making abilities of

newly licensed nurses is inadequate and only 20% of employers feel their new nurses have satisfactory clinical decision making skills (Muntean, 2012). In addition to poor clinical decision making, novice nurses demonstrated poor communication skills, resulting in adverse events (Muntean, 2012). Macauley et al. (2017) found simulation was as effective as traditional education, whether didactic or clinical experiences, in improving clinical judgment skills.

Research has identified a lack of communication, prioritization, and clinical judgment skills among new graduate nurses for many years (Hunter & Arthur, 2016; Koharchik et al., 2015; Lapkin et al., 2010). Wagner et al. (2018) noted, nearly 70% of patient safety events related back to communication failures, thus highlighting the need to improve interprofessional communication.

Communication is an essential element in healthcare delivery. It is imperative for nursing students to learn effective communication to provide high-quality safe client care (Sowko et al., 2019). In addition to improving communication among nursing students, emphasis on client care prioritization is needed. Another important skill new graduate nurses need to develop along with communication and prioritization is clinical judgment. Lapkin et al. (2010) notes 70% of new graduate nurses in the United States scored at an unsafe level when assessing clinical judgment. Clinical judgment is deemed an important skill because it correlates directly with the client outcome. Clinical judgment is best learned with multiple clients in a clinical learning environment (Jessee, 2018; Oiler et al., 2018).

Therefore, the implementation of a multi-client simulation for nursing students to practice their communication, prioritization, and clinical judgment skills in a safe, non-punitive environment was implemented to assess senior nursing students.

Available Knowledge

A search of the literature using the Cumulative Index to Nursing and Allied Health Literature (CINAHL) Complete and ProQuest was completed. Keywords used included “clinical reasoning”, “clinical reasoning AND nursing education”, “clinical reasoning AND simulation”, “multi-patient simulation” and “clinical reasoning AND multi-patient simulation”. A date limit was set to 2010-2020.

Hunter and Arthur (2016) note graduate nurses do not have the clinical judgment skills to provide safe, effective nursing care. When nurses lack clinical judgment skills, client safety is compromised resulting in poor client outcomes, while good clinical judgment skills impact client outcomes positively (Lapkin et al., 2010). Dreifuerst (2012) notes the increasing complexity of clients require nurses to have superb clinical judgment skills. It is important for nurses, both new graduates and experienced, to engage in lifelong learning practices to continue developing their clinical judgment skills facilitating effective client-centered outcomes (Koharchik et al., 2015).

Harmon and Thompson (2015) recommend faculty create more ways to develop clinical judgment skills among students rather than emphasizing critical thinking. Forsberg et al. (2014) note clinical judgment is facilitated through thinking strategies such as “pattern recognition, judging values, providing explanations, formation relationships, and drawing conclusions” (p. 538), which must be taught and come with

experience. Clinical judgment combines theoretical knowledge and skills while using the nursing process to provide client care (Harmon & Thompson, 2015).

Macauley et al. (2017) discuss the importance of promoting clinical decision making, clinical judgment, and critical thinking throughout healthcare programs, identifying simulation as a successful educational method to improve the skills. Jensen (2013) notes the struggle many nursing faculty have in assessing nursing students' clinical judgment due to experienced nurses taking over the situation in actual client care environments. However, in the simulated environment faculty are able to better evaluate the students' clinical judgment (Jensen, 2013). The Lasater Clinical Judgment Rubric (LCJR) was found to be beneficial for self-assessment by the students, as well as assessment by the faculty involved in the simulation experience (Jensen, 2013).

Poor clinical judgment skills result in failure to detect an impending change in the client's condition. Levett-Jones et al. (2010) notes the use of teaching clinical judgment in the simulated environment with manikins or standardized clients, while also noting the active engagement that is required through deliberate practice, plus reflection.

Gonzalez (2018) notes the importance of focused assessment skills and clear, concise communication as important for clinical judgment. Communication barriers have long existed in healthcare. Nursing students must become confident and skilled in their communication with other members of the interprofessional team (Levett-Jones et al., 2010). Foronda et al. (2016) note several frustrations physicians identify when communicating with nurses, some of which include disorganization of information, illogical flow of content, and delay of getting to the point. Nurses identified frustrations with physician communication, which included lack of structure and standardization,

wanting to provide a recommendation, but lacking authority, and lack of confidence. Using a standardized communication tool, such as the Situation, Background, Assessment, Recommendation (SBAR) tool, is helpful to healthcare professionals by providing a format to guide their communication. SBAR has been proven to improve communication, ensure the healthcare team is working together, and flatten the power difference (Foronda et al., 2016). Research has supported that the SBAR communication model is a highly effective communication tool to improve interprofessional communication with consideration of it being touted the gold standard in communication training (Foronda et al., 2016). The need for increased communication efforts using simulation and standardized communication tools, as well as introducing the content earlier in the education settings is evident (Foronda et al., 2016). Levett-Jones et al. (2010) note the delivery of safe healthcare relies on effective communication between members of the interprofessional team.

Framework

The National League for Nursing (NLN) Jeffries Simulation Theory and International Nursing Association of Clinical Simulation and Learning (INACSL) Standards of Best Practice: SimulationSM were used to guide this multi-client simulation experience.

There are five components to the NLN Jeffries Simulation Theory, which include teacher, students, educational practices, simulation design characteristics, and outcomes (Jeffries, 2005). While simulation learning experiences are student-centered, the teacher acts as a facilitator or an evaluator. The student has to be motivated and self-directed throughout the simulation experience, which is more easily achieved when the student is

aware of the expectations of the simulation learning experience (Jeffries, 2005). The educational practices concept of the framework is further broken into active learning, prompt feedback, student/faculty interaction, collaborative learning, high expectations, diverse learning styles, and time on task (Jeffries, 2005). Simulation provides the student with an active learning environment, which is proven to enhance critical thinking, and allows the teacher to assess the learner's decision making skills (Jeffries & Rogers, 2007).

Feedback is an important aspect of the simulation that encourages active learning and helps guide the student. Jeffries (2005) notes feedback should be used in a constructive manner to build on the knowledge the student already possesses and to assist in their confidence. When a simulation incorporates collaborative learning, the simulation learning experience promotes teamwork and collegiality among students, while encouraging them to work together to solve problems and share in the decision making process (Jeffries, 2005). Furthermore, Jeffries (2005) identifies students felt an increase in their confidence to critically think, while also being able to observe the thought processes of their peers and realizing there is not always a single correct course of action.

The International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: Simulation guides simulation educators in designing, implementing, and evaluating simulation experiences. Since the multi-client simulation experience was written by the author, the INACSL Standards of Best Practice: Simulation were used to facilitate the writing. The first of the INACSL Standards of Best Practice: Simulation is Simulation Design, which aligns with the NLN Jeffries Simulation Theory. The student has to prioritize the nursing assessments and be able to provide care

based on those assessments in a more complex simulation experience (Jeffries & Rogers, 2007). Cues are provided, when needed, to direct the simulation or assist the students should they become stuck (Jeffries, 2005). Simulation design must include a debriefing or feedback session immediately following the simulation learning experience to support critical thinking development (INACSL Standards Committee, 2016; Jeffries, 2005; Jeffries & Rogers, 2007). Debriefing is a reflective process the students and facilitator engage in to explore the simulation experience. Jeffries (2005) notes debriefing “reinforces the positive aspects of the experience and encourages reflective thinking, allowing participants to link theory to practice, think critically, and discuss how to intervene professionally in very complex situations” (p. 101). The time spent during the debriefing should add to the learning for the participants. Simulations increase the self-confidence of the learner and improve their clinical judgement, which they are able to translate into the clinical setting (Jeffries, 2005).

Specific Aims

The goal of this multi-client simulation experience was to enhance communication, prioritization, and clinical judgment skills of nursing students by utilizing the ISBAR communication tool and prioritizing care for up to four clients during the simulation experience.

Methods

This project utilized a descriptive, pretest posttest design aimed to evaluate communication, prioritization of client care, and clinical judgment skills in nursing students.

Interventions

Thirty-seven second year ADN students enrolled in a Complex Health Concepts course served as participants in this project. Participants were asked to complete the Perceived Competence Scale (PCS) before and after participating in a multi-client simulation experience. Participants completed the PCS anonymously, which assessed their perception of their competence in three areas: communication skills, prioritizing client care, and clinical judgment abilities.

Participants, divided into groups of two, then proceeded to participate in a multi-client simulation experience. To begin the multi-client simulation experience, participants were given hand-off report on four clients. There was no time limit; however, participants completed the multi-client simulation experience in 45 – 75 minutes.

The multi-client simulation experience was recorded to allow two faculty members to evaluate participants' communication and clinical judgement skills utilizing the ISBAR Interprofessional Communication Rubric (IICR) and LCJR. Following completion of the multi-client simulation, participants were then asked to complete the PCS again.

Measurements

The PCS is designed as a four question survey to assess participants' perceived competence of a specified concept. Questions are based on a 7-point Likert scale with answers ranging from "not true at all" to "very true". The PCS can be modified as needed for studying other behaviors with items worded slightly different for different target behaviors. The survey included 12 questions, with four questions for each concept (communication, prioritization, and clinical judgment). The PCS has a reported reliability of 0.80-0.90 (Center for Self-Determination Theory, 2021; Williams et al., n.d)

The IICR is a 5-item evaluative rubric used to evaluate the individual's communication in the areas of identify, situation, background, assessment, and recommendation. The IICR places an emphasis on identifying the individual initiating the communication. Participants are rated 0-3 in each area to achieve an overall maximum score of 15. The higher the score, the higher the level of performance. Each aspect of ISBAR is scored based on the participant's implementation of each area. The reliability of the IICR is 0.79 and validity of 0.92 (Foronda et al., 2015).

The LCJR is an 11-item rubric used to assess clinical judgment. The LCJR is based on Tanner's (2006) Clinical Judgment Model addressing noticing, interpreting, responding, and reflection. The rubric looks at four main domains of effective noticing, effective interpreting, effective responding, and effective reflecting. Within the effective noticing domain there are three sub domains, which include focused observation, recognizing deviation from expected patterns, and information seeking. The effective interpreting domain looks at prioritizing data and making sense of data. Effective reasoning breaks down into calm, confident manner, clear communication, well-planned intervention/flexibility, and being skillful. Evaluation/self-analysis and commitment to improvement are the two sub categories of the effective reflecting domain. The LCJR rates individuals as beginning, developing, accomplished, or exemplary within each sub-domain. The reported reliability of the LCJR ranges from 0.889-1 (Adamson et al., 2012).

The multi-client simulation was designed by the author, with input from senior level nursing faculty members in the ADN program. The INACSL Standards of Best Practice: Simulation was used to create the multi-client simulation experience. The first of the standards discusses simulation design, which details the importance of a needs

assessment, measurable objectives, designing the scenario, maintaining participants at the center, pre-briefing, debriefing, evaluation, and a pilot test. Needs were addressed with the nursing faculty and the local hospital. Measurable objectives were determined in collaboration with the faculty chair. The scenario was designed based off of communication with the Chief Nursing Officer, Director of Learning and Organizational Development at the local hospital, and the nursing faculty. After the simulation was designed, nursing students who were less than one year removed from nursing school were asked to be a part of the pilot test of the simulation experience. The simulation was designed with pre-briefing and debriefing before and after, respectively. The author facilitated the pre-briefing and debriefing sessions. Evaluations were completed on the participants, as well as the simulation experience.

Analysis

Data was analyzed utilizing descriptive statistics and paired samples t-tests. Paired samples t-test were used to compare pre- and post-simulation scores on the PCS to determine if the participants had an increase in their perceived level of competence in communication, prioritization, and clinical judgment. Descriptive statistics were utilized to determine the scores on the IICR and LCJR. The IICR and LCJR were scored by two nursing faculty, who primarily work with first-year ADN students. The ISBAR was scored for an overall score for each participant. The scores were then averaged to determine the mean for each aspect of the rubric, in addition to an overall average for all participants. The LCJR identified students as beginning, developing, accomplished, and exemplary, which was then averaged based on all participants.

Ethical Considerations

Prior to the implementation of the project, Institutional Review Board approval was received. Participants were provided with informed consent. Participation in the simulation was required as a part of the course; however, completion of the surveys was anonymous and voluntary. There were no incentives provided for participating in the project.

Results

A paired-samples t-test was calculated to compare the mean pretest score to the mean posttest score of the PCS in reference to communication. The mean on the pretest was 4.66 ($sd = 1.2$), and the mean on the posttest was 5.81 ($sd = 1.2$). A significant increase from pretest to posttest was found ($t(36) = -5.0029$, $p < .05$).

A paired-samples t-test was calculated to compare the mean pretest score to the mean posttest score of the PCS in reference to prioritization. The mean on the pretest was 5.19 ($sd = 0.61$), and the mean on the posttest was 6.22 ($sd = 0.63$). A significant increase from pretest to posttest was found ($t(36) = -6.2648$, $p < .05$).

A paired-samples t-test was calculated to compare the mean pretest score to the mean posttest score of the PCS in reference to clinical judgment. The mean on the pretest was 5.36 ($sd = 1.06$), and the mean on the posttest was 6.16 ($sd = 0.65$). A significant increase from pretest to posttest was found ($t(36) = -4.5$, $p < .05$).

The IICR scores the participants on a scale of 0 to 3 in each of the five domains with the highest possible score being 15. The average score of all participants was 7.70. The identify domain scored the lowest with participants averaging 0.89, while the situation domain averaged highest at 2.05. The background, assessment, and recommendation domains were all relatively close at 1.76, 1.86, and 1.14, respectively.

On the LCJR, the majority of participants were rated developing in effective noticing with 9 participants being rated as accomplished. Nearly all participants were rated as developing or accomplished in the effective interpreting domain, which encompasses the prioritization of data component. The participants were rated nearly half as developing and half as advanced. In the effective responding and effective reflecting domains, the majority of participants were rated as developing or accomplished. Overall, the majority of participants were rated developing in regards to clinical judgment.

Discussion

The multi-client simulation experience proved to be beneficial in helping participants improve their perceived competence in communication, prioritization, and clinical judgment skills. While their perceived competence increased, there is still a need for continued practice with communication and clinical judgement. Due to the COVID-19 restrictions in place, face-to-face simulation options were not offered for the participants each semester. The simulation experience did prove the benefits of the face-to-face simulation, while also indicating the need for more practice and incorporation of ISBAR simulations across the curriculum. In addition to feeling more competent in their communication, participants felt more competent in their clinical judgment, which could improve client outcomes by recognizing client changes more quickly. With the majority of participants being scored as developing in their clinical judgment on the LCJR by evaluators, it provides an opportunity for faculty to incorporate the terminology and opportunities for enhancing clinical judgment in the classroom, laboratory, clinical, and simulation setting. While clinical judgment is discussed in the curriculum, it is not emphasized in the manner it could be.

In regards to skills performance, participants felt comfortable with the peripheral intravenous insertion and performed the skill satisfactorily; however, they were a little more hesitant with the PICC line dressing change and the nasogastric tube insertion due to the limited practice in the clinical setting. There is an opportunity for more incorporation in the simulated setting to help participants feel more confident in their skill performance. Many of the participants also felt the simulation experience improved their prioritization skills, which will hopefully transfer to the clinical practice setting. Additionally, opportunities are noticed for incorporating more prioritization activities into the classroom and laboratory setting.

Limitations

Limitations for this project included: 1) Small sample size, 2) Participants were from one ADN program, 3) A faculty member had to play the role of the healthcare provider due to lack of interprofessional opportunities, 4) This was the first multi-client simulation experience for both participants and faculty members involved in this project.

Conclusions

The multi-client simulation experience will be implemented again in the spring semester for senior nursing students. Based on the data gathered, it would be beneficial to implement more communication activities for nursing students throughout the curriculum to assist in higher scores on the IICR. Working with didactic faculty to incorporate ISBAR into lecture content to improve familiarity and comfort with the ISBAR tool could prove to be beneficial. There is also a need for incorporating more clinical judgment scenarios in the classroom, lab, clinical, and simulation setting to help participants feel more competent in their clinical judgment abilities. In addition, there is

an opportunity for faculty to ensure terminology is used correctly when highlighting and discussing clinical judgment.

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