EXPLORING HUMAN PATIENT SIMULATION EXPERIENCES IN NURSING EDUCATION: INSIGHTS FROM STUDENTS, CLINICAL INSTRUCTORS AND SUPPORT STAFF

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ABSTRACT

This study explored the educational benefits of the Human Patient Simulator (HPS) in preparing nursing students for clinical practice. It focused on how the HPS enhances clinical competence and how Clinical Instructors support the development of professional skills to improve student readiness for real patient care. Nine participants including nursing students, Clinical Instructors, and Central Supply Room staff voluntarily participated. A descriptive phenomenological design was employed to capture their lived experiences. Data were analyzed using Amadeo Giorgi's five-step method, which involved identifying significant statements, transforming them into meaning units, and synthesizing these into themes that describe the essence of participants' experiences with HPS. The Human Patient Simulator provided a realistic and interactive learning environment that improved students' clinical performance, confidence, and critical thinking. Participants highlighted its role in practicing patient assessment, decision-making, and care delivery. Challenges identified included limited medical supplies, outdated simulation facilities, and discrepancies between simulated scenarios and real patient interactions. Despite these limitations, the HPS was consistently valued for its contribution to skill development and clinical preparedness. The Human Patient Simulator is an effective educational tool that allows students to safely apply theoretical knowledge, develop essential skills, and refine clinical judgment prior to patient exposure. Ensuring adequate resources, upgrading simulation facilities, and integrating high fidelity simulation throughout the curriculum can further enhance learning outcomes. Implementing these measures supports the preparation of competent, confident, and practice ready nursing graduates.

Keywords: *Human Patient Simulator, Clinical Practice, Clinical Instructors, Nursing Students, Related Learning Experience*

INTRODUCTION

Background

Human Patient Simulation (HPS) provides a safe, structured, and interactive environment for learners to practice patient care, make clinical decisions, and refine critical thinking. High-fidelity simulators replicate realistic clinical scenarios, integrating assessment, diagnosis, intervention, and evaluation. These experiences reinforce theoretical knowledge while enhancing students' confidence, competence, and readiness to manage complex situations. Systematic reviews show that simulation improves clinical skills, critical thinking, communication, and decision-making, contributing to stronger professional judgment and safer patient care (Zeng et al., 2022). Specifically, high-fidelity simulations are shown to bridge the theory-practice gap by allowing learners to engage with realistic patient presentations and receive immediate feedback, which accelerates learning and supports deeper understanding. Globally, simulation has been widely adopted not only in undergraduate and graduate nursing programs but also in interprofessional education, emergency care training, and continuing professional development, making it an essential strategy for preparing competent and reflective healthcare providers capable of navigating the complexities of modern clinical environments (Labrague et al., 2020). This broad international endorsement reflects a consensus that simulation is not merely an instructional adjunct but a central pedagogical approach that enhances preparedness, promotes patient safety, and fosters resilience among future nurses. In the Philippine context, the integration of HPS into nursing education has been guided by the Commission on Higher Education (CHED). CHED Memorandum Order No. 15, Series of 2017, outlines policies and standards for the Bachelor of Science in Nursing Program, emphasizing the importance of Related Learning Experiences (RLE), which include clinical placements and skills laboratory sessions. Simulation is a critical component of RLE, designed to complement classroom instruction and provide hands-on, experiential learning under faculty supervision. This ensures students develop not only theoretical knowledge but also the practical skills necessary for patient care (Commission on Higher Education, 2017; INACSL Standards Committee, 2020)." Despite advancements in nursing education, a gap persists between classroom learning and clinical practice, as theory-focused instruction often contrasts with patient-centered care in real settings. Human Patient Simulation (HPS) helps bridge this gap by providing a realistic, safe environment where students can apply knowledge, practice interventions, and refine decision-making. It also highlights the need for adequate institutional resources, faculty guidance, and well-maintained facilities to ensure students are fully prepared for clinical practice. Evidence supports the effectiveness of simulation-based learning in enhancing clinical competency, critical thinking, and confidence, thereby narrowing the divide between theoretical knowledge and practical application in nursing education (Purwanti et al., 2022). Overall, HPS provides a holistic approach to nursing education, enhancing skill development, clinical competence, and student confidence while bridging the divide between theoretical instruction and practical application.

METHODOLOGY

Design

The phenomenological study was conducted with nine voluntary adult participants. The transcripts of these interviews were analyzed using Giorgi's phenomenological method. Giorgi's method of analysis aims to uncover the meaning of a phenomenon as

experienced by a human through the identification of essential themes. The approach of this method is to understand the views and awareness of Nursing Students, Clinical Instructors, and Central Supply Room Administrative Staff living in Davao City in terms of their human patient simulation experience as part of the nursing curriculum and cognitive dimension as categorized by age, sex, religion, year, academic attainment and length of service. It examined qualitatively the lived experiences of the selected participants through a quota and purposive sampling method. Themes and statements were generated based on the semi-structured questionnaire given.

Sources of Data

The researcher obtained as much information as possible from the participants to share all their knowledge in the clinical environment for the benefit of nursing students in terms of human patient simulation in preparation of their Primary data were collected from nine (9) purposively selected participants: two (2) Clinical Instructors, six (6) Nursing Students, and one (1) Central Supply Room staff. All participants voluntarily took part in the interview. The selection of participants was based on their direct involvement and first-hand experience in human patient simulation (HPS) and clinical learning processes. Clinical Instructors were included for their expert perspectives on teaching strategies and student performance, Nursing Students for their lived experiences during simulation and clinical exposure, and the Central Supply Room staff for operational insights related to equipment preparation and workflow. A total of nine participants were included because saturation was reached at this point no new themes, insights, or perspectives emerged from the additional interviews. The researcher ensured that data gathered were sufficiently rich to represent the experiences and knowledge of stakeholders involved in HPS as preparation for actual clinical exposure.

Data Gathering Instrument

This study used an interview guide that directed the flow of conversations, helping ensure consistency across interviews and allowing the researcher to explore key topics while remaining responsive to participants' responses (Creswell & Báez, 2020). Interviews are particularly useful for uncovering the story behind a participant's experience and pursuing in-depth information around a topic. Interviews are used to pursue the meanings of central themes in the world of their subjects. The main task in interviewing is to understand the meaning of what the interviewees say, as effective qualitative interviewing requires not just asking questions but interpreting participants' perspectives, experiences, and intentions in context (McNamara, 2019). Using the skill of observation, a thick description of first-hand experiences was gathered through key informant interviews. The interviews were conducted in settings where participants felt comfortable, such as their respective schools. In-depth interview guides explored themes reflecting participants' experiences and challenges in the education and service system related to human patient simulation, ensuring rich, contextualized data for analysis (Edwards & Holland, 2022).

Sampling Technique

This phase involved purposive and quota sampling techniques to identify study participants. Purposive sampling was used to focus on sampling techniques where the units that were investigated were based on the judgment of the researcher.

Purposive sampling is a non-probability sampling method in which participants are selected based on the researcher's judgment about who will provide the most relevant and useful information for the study. This approach allows researchers to focus on individuals who have specific knowledge, experiences, or characteristics that are critical to understanding the research problem. Researchers often choose this method because it is efficient, cost-effective, and saves time, while still allowing for the collection of rich and meaningful data (Black, 2019). Purposive sampling was one of the most cost-effective and time-effective sampling methods available.

Quota sampling is a non-probabilistic sampling method where the researcher divides the survey population into mutually exclusive subgroups. Participants in each subgroup are selected by the researcher or by the interviewer who is conducting the survey. After choosing these subgroups, the interviewer has the liberty to rely on his/her convenience or judgment factors to find participants for each subset.

Positivist researchers assert that the social world exists as an objective reality that can be measured, quantified, and remains largely unchangeable. In contrast, interpretive researchers challenge this view, arguing that reality is socially constructed, subjective, and shaped by human experiences, interactions, and perceptions (Corbetta, 2019; Marcon & Gopal, 2019; Kroeze, 2019). This distinction highlights the fundamental philosophical differences in research paradigms, influencing the choice of methodology, data collection, and interpretation of findings. While positivism favors structured methods and statistical analysis, interpretivism emphasizes understanding participants' meanings, context, and lived experiences.

Data Analysis

The Giorgi Descriptive Phenomenological approach was used because it aims to describe a phenomenon or the appearance of experiences as they are lived, focusing on the meaning and significance from the perspective of those who experienced it. By adopting a phenomenological attitude, researchers strive to understand how experiences are consciously perceived and make sense of meanings as they occur for individuals, which aligns with the philosophical foundations of descriptive phenomenology in qualitative research (Smith, Flowers, & Larkin, 2021; Kim, Jun, Rhee, & Wreen, 2020).

This approach allows researchers to gather rich, detailed descriptions of participants' experiences, providing insight into their perceptions, feelings, and interpretations within a natural context. The five step method of data analysis based on some principles of phenomenological philosophy (Amedeo Giorgi, personal communication) was applied. In each step, the researcher explained the procedure and its corresponding philosophical concept that supports its purpose and character. Therefore, the data analysis was done once the interview has been transcribed and the text has become the empirical evidence to be analyzed for its implications. The interview guide helps the researcher to make changes in the interview script validation process, and it is important to not induce responses or confirmations of their beliefs in the interview and though out the study.

Frequency distribution was used to present the profile of the participants. Challenges and experiences were identified by the nursing students, clinical instructors, and administration staff in this research as to the need as part of the education and service system of the school.

Effective faculty members consistently demonstrate key teaching characteristics, while less effective instructors may repeat the same mistakes over time. Learning is influenced not only by the curriculum but also by the quality of instruction provided during simulation exercises. In human patient simulation, Clinical Instructors play a crucial role in guiding students, facilitating skill acquisition,

and fostering critical thinking. This hands-on teaching is an essential component of nursing students' clinical preparation, ensuring they are competent and confident before entering real patient care settings (Shinnick, Woo, & Mentes, 2019).

Step 1. The phenomenological attitude, the researcher brackets his or her everyday knowledge to take a fresh look at the data. In other words, the researcher puts aside his or her presuppositions, theoretical, cultural, experiential, or otherwise.

Step 2. The descriptions provided by participants were captured from the natural attitude, reflecting how they experienced events in their everyday lives from a commonsense perspective, without critical analysis or reflection. In contrast, the phenomenological attitude involves bracketing these everyday assumptions to engage in critical reflection, allowing researchers to understand and describe how the experience was genuinely lived and perceived by the participants (Giorgi, 2019). This approach ensures that the essence of the phenomenon is revealed, focusing on participants' subjective experiences rather than preconceived notions.

Step 3. The narrative was divided into meaning units to allow the data to be analyzed in manageable portions (Giorgi, 2019). Identifying meaning units is an iterative process in which the researcher may find that some units are too long or too short. It is acceptable to combine or split meaning units as the researcher gains familiarity with the data, allowing for more accurate and meaningful delineation that reflects the participants' experiences. This process helps ensure that the analysis captures the essence of the phenomenon while maintaining the integrity of the original descriptions.

Step 4. The transformations are psychological formulations of the essential meanings of each meaning unit. Because the researcher was still in the phenomenological attitude, each transformation describes what the meaning unit expresses psychologically without any interpretation or positing about its truth. It was only described how it was experienced and understood by the participant from his or her point of view without explanation of why it was experienced in the way it was.

Step 5. Constituents differ from elements in that they are context-dependent and cannot exist independently; instead, they are always part of a larger structure (Giorgi, 2019). This approach is grounded in the phenomenological concept of parts and wholes, emphasizing that understanding the whole requires examining how its constituents interact and relate. Sokolowski (2019) notes that while the concept of parts and wholes has philosophical roots in Greek philosophy, particularly in the works of Plato and Aristotle, it remains central in phenomenology. The principle suggests that the whole of a phenomenon or state-of-affairs cannot be reduced merely to its parts; the whole possesses a meaning or value that exceeds the sum of its individual constituents. This perspective ensures that phenomenological analysis captures the integrated and interdependent nature of lived experiences.

Procedure of the Study

The proposal was presented to the Dissertation Advisory Committee. After following their comments and suggestions, the manuscript was submitted to the research Adviser and the Committee. The semi-structured interview guide was submitted to the experts for content validation. The researcher, with the assistance of Level Chairperson in Nursing Department, selected the participants through a purposive sampling technique. A letter of invitation was sent to the prospective participants. Initially the prospective participants were asked a set of questions specifically the demographic profile to get their personal background according to age, sex, civil status, year level, length of service and educational attainment. The profile of the prospective participants was the basis for identifying the final participants in the study.

Prior to the interview, a comprehensive discussion and orientation was conducted by the researcher which included the overview and purpose of the study, selection of the participants, procedure and duration of the one-on-one interview, risks and benefits of the study, and confidentiality of the results. Pilot testing was conducted with one participant to construct the validity or transferability and dependability of the semi-structured interview guide questions. Confirmability and data gathering was conducted through a narrative inquiry and in-depth one-on-one interview. Proceedings of the interview used audiotape after a special consent was secured from the participants.

The audio-taped proceedings were used to transcribe. Data gathered were analyzed for theme generation using thematic analysis. Pseudonyms were used to protect the identity of the participants and to maintain their confidentiality. The data generated were locked and secured in a cabinet, and after five years will be destroyed personally by the researcher through shredding.

Ethical Considerations

The total anonymity of each participant was assured. The researcher gave his word to each participant, as each identity remained unknown and no one else was able to access all the information collected. By doing this, the researcher earned the participants' trust to draw out concrete information. The researcher demonstrated confidentiality protection to the participants.

Informed Consent of the Participants: Timing and Venue

The interview will be conducted preferably to the school. The interview questions will be distributed after the consent form is approved by the Dean of Nursing and with the approval of the research office.

Confidentiality

For confidential data, documents such as consent forms and printouts that contain personal identifying information will be stored securely in locked file cabinets when not in use and must be handled only by trained staff members when actively use during research. The researcher's assurance of confidentiality extends to the consent form which documents participation in the study must and be treated as a confidential document. The researcher plan is a long-term retention of personal identifying information then all data files should be stored securely in a safe or locked file cabinets in a secure building.

Researcher Responsibility

The investigator is responsible for identifying and documenting all the conversations and rest assured that all answers in the survey questionnaire and communication during the interview are strictly confidential.

Voluntariness

The decision of the participants in the study is voluntary. It is the prerogative to participate or not. Even if you participate or not, nothing will change in terms of giving service to you by the institution. The participants have freedom to change their minds before conducting the interview. The school service will continue. If you are confused and change your mind while the study is on-going, you can stop participating even if you agree in our conversation.

Privacy

The identity or personal information is not part during the analysis of data.

Extent of Use of Study data and Sharing of Data

Objectives in the study are not intended to be used. Before this research is wistfully made accessible to the public the information, I get from it will be shared with the participants. Data will be communicated confidentially. I will then publish the outcomes so that people interested in being a researcher can learn from my research.

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Authorship and Contributorship

The author of the study is Vimar C. Conmigo, a researcher. The major proponent understands that the author can be recognized in this study in future publicizing and that the institution connected to the researcher and the school from which he came from will receive a full study copy.

Conflict of Interest

No conflict of interest declares the researcher.

Publication

The study will be submitted to the Research, development and Extension of University Southeastern Philippines. Publications or scientific papers may be cited provided the author is duly admitted.

Funding

All expenses incurred in the study will be paid by the researcher.

Duplicate Copy of Informed Consent Form

The investigator will provide a informed consent form to the participants.

Questions and Concerns regarding the Study

The participants are free to ask questions before and after the interview. They are free to give their comments and suggestions.

Trustworthiness and Credibility

The most appropriate method of data collection was chosen to ensure the credibility of the content analysis to obtain trustworthiness and credibility.

Before interviewing, the researcher asked for permission, after which the researcher asked the respondents again if the answers they had given were clear or if any modifications were needed. Instructions were given before answering the questionnaires; after the signature was affixed, it was counter signed to ensure that no changes were made.

Reflexibility

Reflexivity was maintained throughout the study to manage potential researcher bias. Prior assumptions and personal experiences related to the phenomenon were identified at the outset and deliberately bracketed to prevent them from shaping data interpretation. A reflexive journal was used to document thoughts, reactions, and decisions during data collection and analysis, allowing the researcher to remain aware of subjective influences. Peer debriefing and regular consultation with the research adviser further ensured that interpretations stayed grounded in participants' descriptions rather than researcher expectations.

<div align="center">RESULTS</div>

The Socio-Demographic Profile of Research Participants

The demographic profiles of the participants were aforementioned in Table 1. There were nine (9) participants in the study. Seven participants were between 18- 25 years old and two (2) were between 35-45 years old. As to gender, six were female and three were male. Three of them were students, one each in the 2nd, 3rd and 4th year in the BS Nursing Program. Two were clinical instructors: one instructor handled both levels 3 (3rd Yr) and level 4 (4th Year) while the other instructor handled level 4.

Table 1. Demographic Profile of the Participants

Classification of Participants	Number of Participants	Sex		Age		Year Level			Level Taught	
		Male	Female	18-25	36- 45	2	3	4		
Students	6	3	6	7	2	2	2	2		
Clinical Instructors	2								3 & 4	3
								1		
CSR Administrative Staff	1									

Essential Structure of Challenging Experiences of Nursing Students using Human Patient Simulator

The performance of the students in clinical training has significant challenges as it can place a patient at risk. The performance is often classified as the inherent ability and motivation to learn and how the students apply this knowledge to actual hospital settings. However, students experience rates of anxiety and pressure while simulating, particularly related to anticipating an unexpected event. School resources, specifically medical supplies, are necessities in simulation procedures for it is difficult to perform these procedures when the supplies are lacking

Table 2. Challenges Experienced by Nursing Students

Main Theme	Barriers to Improvement on Learning and Performance
Sub-Theme 1	Insufficient Medical Supplies
Sub-Theme 2	Anxiety and Pressure During Simulation

Main Theme 1 – Barriers to Improvement on Learning and Performance

Participants provided information on what events they experienced aside from using HPS. They also shared how they felt as they performed a return demonstration in front of their Clinical Instructors and, what was the simulation's contribution to their knowledge. School resources were the reasons why they continued to provide quality instruction to the students. Moreover, expertise was a significant factor in improving students' learning and performance especially in school.

One of the challenges we encountered was the pressure when we were in front of the CI's. We were afraid to commit mistakes and be reprimanded especially if the CI is strict. In terms of handling the HPS, the experience was different compared to actual human patients. However, I was able to apply it in hospital setting, like for example in handling the baby mannequin, it felt like an actual baby. (Nursing Student 1)

Maybe the challenging experience I had was when the HPS equipment we used was defective. In my previous school, it did not really work well. For me, it was the major problem if we talk about HPs. If you had your classmates as partner during the simulation for RD, e, it would be better since you can talk to each other. However, despite the inability of the mannequin to converse with me. I could say that the HPS was still helpful for us. (Nursing Student 4)

Sub-Theme 1: Insufficient Medical Supplies – Medical equipment and supplies are essential health intervention tools used by nurses for prevention, diagnosis and treatment of disease and, for rehabilitation of patients. However, access to functioning medical equipment and insufficient supplies are challenges to every medical and nursing institution to break these barriers. Nevertheless, this is a perfect way to tailor the students' service and pay attention to the lack of supplies that students use in the simulation on which their performance depends.

One of the respondents was a Korean national

There were also supplies available to assist with lectures especially during return demonstration. However, there were also times that we bought our own gloves and mask. But the human patient simulator was always there and always available for our learning. (Nursing Student 2)

There were just times that you need to provide the basic materials during return demonstration like the catheterization and IV infusion for the Human Patient Simulator; but the rest of the needed materials was available. They also had sterile gloves as back up. (Nursing Student 3)

Sub-Theme 2: Anxiety and Pressure During Simulation - Nursing practice exposes students to various stressors, including patient conditions, critical events, and communication challenges. These situations can cause significant anxiety, particularly for new practitioners. By supporting students in managing anxiety during simulation exercises, faculty help them learn to cope with the pressures of real patient care environments, ultimately promoting safer and more effective patient care. The attention given to anxious students also reinforces the caring and empathetic qualities central to nursing practice, reflecting the faculty's educational model (Moscaritolo, 2019).

Pressure and anxiety were often what the participants felt when performing in front of the Clinical Instructors. The participants had a variety of procedures to explain and improve the related learning experience regarding this activity why having things to learn about this activity. And these were mentioned:

Sometimes it created anxiety for me, like for instance, to perform a procedure using the HPS, it really helped me which I can use in my hospital duty and in handling an actual patient. (Nursing Student 6)

If it was just about the mannequin (HPS), I would not be anxious. It was an opportunity to improve your skills. I become anxious when I had to perform the simulation in front of the Cis. (Nursing Student 5)

Essential Structure of Challenging Experiences of Clinical Instructors using Human Patient Simulator

The Clinical Instructors in the health settings take human patient simulation seriously to a degree that is almost unparalleled even in higher education environments. By providing adequate amounts of detail and drawing on the personal experiences of the students themselves, Clinical Instructors (CI's) will make simulated patients more real. There were times when CIs led students out of the comfort zone by exploring simulations drawn from realities beyond their lived experience.

Table 3. Challenges Experienced by Clinical Instructors

Main Theme	Ineffective Reality Base of Learning
Sub-Theme 1	Non-Functional Human Patient Simulator
Sub-Theme 2	Differences Between Simulation and Actual Practice
Sub-Theme 3a	Lack of Medical Supplies
Sub-Theme 3b	Limited Resources and Facility Constraints

Main Theme 2: **Ineffective Reality Base of Learning-** It is inevitable that a difference exists between classroom teaching and the real world especially in the field of nursing. Hence, a huge responsibility is given to Clinical Instructors on how well they taught the students. This was an ineffective method on the part of the students because, the things taught were only partial of the actual

nursing education. There were other procedures that were similar and some were different. This entails a great adjustment to learning on the part of the student. They can be modified when it comes to the actual application. With the proper guidance of Clinical Instructor, these can be avoided by giving the students a good explanation on why such a difference exists.

Sub-Theme 1: Non-Functional Human Patient Simulator – To Clinical Instructors, this poses a difficult problem. If the Human Patient Simulator (HPS) is defective, students cannot be properly taught. For the benefit of their students, schools played a major role. Simulation is part of the nursing curriculum, and every school give it top priority so that they can better serve their students. Students' training could suffer when even a mannequin was impaired because they would not be able to acquire skills on what to do with actual patients when they are already deployed as nurses.

The participants mentioned that if there is something wrong with the simulation room, especially the human patient simulator (HPS), it had an effect on the participants. If the mannequin used was defective, they would be unable to perform properly. The participants stated:

> *The availability of complete materials needed for simulation, could really help in giving the students an optimal learning experience. However, if the HPS was not available, it affected the students because during the RD we were forced to just imagine the situation. (Clinical Instructor 1)*
>
> *The facilities were alright; however, it needs some improvement. Although there were HPS that were functional, there were other HPS which were non-functional. And it was not good for the students and could affect their learning. (Clinical Instructor 2)*

Sub-Theme 2: Differences Between Simulation and Actual Practice - It would be more difficult to focus on training in real-life situations than in clinical practice. In actual settings, there were times when the simulation activity using the HPS was not the same, but it did not prevent students from learning. Participants stressed the basic strategy for remembering. Students should remember the basic knowledge of the simulation. The participants mentioned:

> *There were several occasions when there was a difference between the simulation and actual practice. However, I told the students to stick to the basics and prioritize safety as well as ethics. (Clinical Instructor 1)*
>
> *There were simulation procedures that can be difficult to apply to actual settings. Just like the proper bedding for the patient, because many simulations were prepared for the bed sheets but in actual application 2-3 bed sheets are fine. A difference could actually exist between simulation and real practice. (Clinical Instructor 2)*

Sub-Theme 3a: Lack of Medical Supplies – There is an increased call for improving the environment in which nursing students learn the clinical skills, especially in poor resource settings. Clinical placements where students learn clinical practice should allow students to acquire nursing skills and clinical reasoning and develop as professional nurses. In areas where simulation learning is limited or not available at all, learning takes place in the real environment. According to the participants:

> *The school sometimes lacked the resources that was why the students had to buy the materials. Without the supplies, they can not perform RD because they needed it in the procedure. Inevitably, there were no available supplies in the stock room. (Clinical Instructor 1)*
>
> *Sometimes the students had to provide the materials during the simulation. Sometimes, these materials are available in the school but are already expired. The school does not allow its students to use expired supplies. (Clinical Instructor 2)*

Sub-Theme 3b: Limited Resources and Facility Constraints - School resources are important because they can significantly increase the student's achievement by supporting student learning. This process aids in the learning process by allowing the student to explore the knowledge independently as well as providing repetition. Learning materials, regardless of what kind, all have some function in student learning.

Participants had noticed the resources and facilities of the school. That was due to the lack of simulation materials and students frequently bought them. Students need not spend if all the resources are available in the central supply room. They also said that students should have a waiting zone for them not to crack when they were in the same simulation area. The participants stated:

> *The facilities are alright; however the simulation room atmosphere was not conducive probably because the building was old. It would be better if the air conditioner was cooler and the environment was quieter, as it was safer for the students. The more noise the students hear inside the simulation area, the less focused the students were. There were times when students actually bought supplies to use in their return demonstration. It would be of great help if they did not have to buy those simulation items. (Clinical Instructor 1)*
>
> *Perhaps they should have a waiting area, because when they see their classmates performing inside, they end up getting distracted. Clinical Instructor 2)*

Essential Structure of Challenging Experiences of Central Supply Room Administrative Staff using Human Patient Simulator

Under the supervision of the Dean of Nursing the Central Supply Room personnel receives, retains and issues medical supplies and equipment used by the Nursing Students, Clinical Instructors and other concerned personnel of the Nursing School Department in the care of simulation areas.

They ensure compliance with policies and procedures regarding department operations, safety, and security control of the simulation room. Schools provide a significant link in the supply chain and face their own particular challenges due to

the complexity of the Human Patient Simulator maintenance. The HPS constant monitoring represents a vital component to avoid damages.

Table 4. Challenges Experienced by Central Supply Room Staff

Main Theme 3	Strict School Compliance and Policy
Sub-Theme 1	Human Patient Simulator Maintenance
Sub-Theme 2	Safety and Security of the Simulation Room

Main Theme 3: Strict School Compliance and Policy - Schools establish policies for multiple purposes. These policies provide rules and guidelines that promote acceptable behavior, maintain safety for students, teachers, and staff, and ensure an orderly educational environment. Well implemented policies also support a productive learning atmosphere, enabling effective teaching and learning to occur, as evidenced by research showing that clear behavioral expectations and safe, supportive school climates are strongly associated with positive student engagement and academic outcomes (Wang et al., 2022).

The school has its own policy. It is to improve the system and services. The simulation room is an area where expensive and important supplies and medical equipment used by students and faculty for their education are stored. The Central Supply Room Administrative Staff manages it and they abide by the policies on the CSR. Aside from its maintenance, the equipment should be kept neat and tidy.

Sub-Theme 1: Human Patient Simulator Maintenance – Maintaining the equipment is not an easy job. If something goes wrong, the staff in-charge takes responsibility because the staff is entrusted with the cleanliness and order of the equipment in the simulation room. One of the roles of the Central Supply Room Staff was to keep the simulation room clean to prevent damage especially to the Human Patient Simulator (HPS). The participant stated:

> *I inspect it every week and then clean it up if it gets dusty. We turn on the air conditioner twice a week to prevent the mannequins from melting; heat could cause the mannequin to melt. That's how I take care of the HPS*

Sub-Theme 2: Safety and Security of the Simulation Room - The simulation room staff complete all incident reports. All faculty members and Central Supply Room staff must ensure that lab rooms are secure and safe when in use, and doors should always remain locked. Knowing how expensive a mannequin is, programs enforce strict safety and security measures to protect equipment and maintain a safe learning environment (Brazil et al., 2022). Here is what the participant stated when it comes to protecting the devices:

> *Totally locked, sir. No one can enter without our knowledge. They should ask for permission. At 5:00 in the afternoon no one can enter. We really locked it sir. I have my own key and I am the only one with the key. I am the only person with access to the equipment here in the simulation as well as the supplies.*

3.5. Essential Structure of Positive Experiences of Nursing Students using Human Patient Simulator

The human patient simulation experience is to increase the transfer of learning to actual experiences in patient care. The student has to act and respond to the patient being simulated as if the situation actually happened. The nursing students' learning skills are significant during the actual application to the patients that they would need when they experience a similar situation in a real clinical environment.

Table 5. Positive Experiences of Nursing Students

Main Theme 1	Preparedness for Clinical Exposure
Sub-Theme 1	Enhance Competencies
Sub-Theme 2	Learning Without Fear of Harming Patients
Sub-Theme 3	Safe Environment for Learning
Sub-Theme 4	Improve Patient Safety

Main Theme 1: Preparedness for Clinical Exposure - Clinical learning is a fundamental component of nursing education. Students' exposure to the clinical environment significantly influences the effectiveness of the teaching-learning process in real-world settings. Identifying the challenges that nursing students face during clinical training can help educators improve instructional strategies, optimize planning, and enhance the overall quality of nursing education, ultimately supporting students' professional development (Berhe & Gebretensaye, 2021).

Sub-Theme 1: Enhance Competencies - Training through classroom courses is only the first step in developing learners' awareness, experience, and skills. Human Patient Simulation (HPS) provides an educational platform that enables students to apply knowledge in realistic scenarios, while also enhancing communication, teamwork, and decision-making abilities. This method helps bridge the gap between theoretical learning and practical clinical application (Rosen, Salas, & Wu, 2019).

The participants emphasized the importance of Human Patient Simulator (HPS) in their learning to prepare for their hospital duties. The contribution of HPS was that they can more easily accomplish their ability to handle actual patients. It was difficult to come up with procedures when you have no idea and the patient's life is kept so that they can be safe even when they were just students. The participants stated:

> *The use of the HPS definitely increased our level of competence. To me, that was the reason you won't have any trouble treating the actual patient because you had already simulated it using HPS. (Nursing Student 1)*

> *It was really a good basis for you to be prepared in hospital duty. Human Patient Simulator (HPS) was a good method to learn and to apply it to the actual patients. That was why I am confident in handling actual patients because of the simulation I had (Nursing Student 4)*

> *The CI's reminded us to never forget to talk to our patient as if it was the real patient. We really imagined them as our patient. Although we were not used to talking to the real patient, it seemed like we were getting along with the actual patient since we were able to do that during. (Nursing Student 5)*

Sub-Theme 2: Learning Without Fear of Harming Patients - In a low-risk environment, students can confidently practice and develop new skills without the fear of harming patients. Laboratory and simulation settings provide opportunities for trial and error, allowing students to learn from mistakes and refine their techniques without serious consequences. Such controlled environments enhance learning and build competence, while fostering confidence in handling real clinical situations, as evidence shows that simulation-based learning improves nursing students' competence, satisfaction, and self-confidence by offering a safe, realistic environment for repeated practice and skill mastery (BMC Medical Education, 2023)

The participants stated they could not escape the concern that in conducting procedures with actual patients, they might be mistaken. Just make sure that the procedures were right in the simulation using human patient simulator (HPS) and that there was no need to make a mistake because the patient's life depends on it. Yet, fear was a normal reaction to every student and it is necessary to avoid with the existence of Clinical Instructors. The participants stated:

> *Our anxiety was reduced because the mannequin/human patient simulator (HPS) we were using was not far from a real human. Since the mannequin would not respond, you can practice on it to make your performance better. Because of that, your anxiety on handling real patients disappeared. (Nursing Student 6)*

> *Perhaps the experience has not yet been satisfactory for the first time, there was still uncertainty in the field, so it seemed like you're just practicing your skills. In the actual area, my anxiety was relieved. Because the mannequin has no real response to that technique applied but the actual patient has. (Nursing Student 3)*

> *With the use of the mannequin, the fear was lessened. Since when you committed mistakes, you knew the HPS was not real. However, in actual encounter, you cannot go wrong because the life of the patients depended on it (Nursing Student 2)*

Sub-Theme 3: Safe Environment for Learning - Simulation-based learning took place in a safe environment in which programmed tasks, reflecting actual or potential scenarios, promote the creation of information, skills, and attitudes by learners; recent evidence shows that simulation technology-based learning significantly enhances nursing students' knowledge acquisition, confidence, and satisfaction while bridging the gap between theory and practice (Lee et al., 2021).

The other participants mentioned that Human Patient Simulation activity was important to them in order to improve their knowledge and because of the simulation they improved their approach to handling patients. Although there was no reaction on the part of the mannequin but this was the way of learning what to do. This also enabled them to learn if they were using human patient simulator (HPS) and the participants stated:

> *It was different from what you just had imagined or what you were told to do by the Clinical Instructor, sir, rather than by actually practicing and touching a tangible object. It was a huge help. (Nursing Student 1)*

> *It engages me towards learning but the real patient was still easier for me. The first time I had to do a bed bath on the HPS with a classmate as my partner, I realized that real patient experiences were still the best way to learn because they respond. The HPS was still a great help. (Nursing Student 2)*

> *Perhaps it depends on how the students performed because there were different ways of handling the situation. But it was different in reality, however it would relieve your anxiety before going to actual duty; that was actually helpful. The curriculum was helpful even though human patient simulator. (Nursing Student 3)*

Sub-Theme 4: Improve Patient Safety - Clinical expertise and mastery in a specialty do not simply increase as a function of experience, nor is it likely that patient safety issues are reduced merely by accumulating more hours of practice. Experienced practitioners also need a wide range of skills, many of which are known to deteriorate over time without deliberate practice and reinforcement, making continuous training and competency maintenance essential in safety-critical professions (Klostermann et al., 2022).

Students knew that during the simulation, mistakes were limited in actual patient because they had been through good training using HPS. Here were the participants' statements:

> *It lessened, there were instances when some students who were good in memorizing had problems during the actual patient encounter. Although I memorized the contents of the manual and I knew what to say, I still did not know how to do it properly without anyone to practice on, With the help of HPS, I know what to do without errors. (Nursing Student 5)*

> *For me, the students were the reflection of the school's morality. The students were competent because they had HPS which could help them without any judgement. Which in short resulted to better outcomes. However in human to human encounter, you were unnaturally extra careful to commit mistakes. (Nursing Student 6)*

3.6. Essential Structure of Positive Experiences of Clinical Instructors using Human Patient Simulator

Many Clinical Instructors claimed that human patient simulation improved patient health and increased the quality of patient care when used for both basic nursing education and continuing education purposes. Not surprisingly, considering the difficulties faced by many nursing programs in seeking clinical placements, some have started to think of simulation as a life saver.

Table 6. Positive Experiences of Clinical Instructors

Main Theme 2	Students and Clinical Instructors Learning Accomplishments
Sub-Theme 1	Sense of Proficiency
Sub-Theme 2	Increased Confidence
Sub-Theme 3	Students Quality of Learning Quality of Learning

Main Theme 2: Students and Clinical Instructors Learning Accomplishments – Clinical instructors are always looking for the best ways to prepare new nurses for problem-solving and critical thinking to provide patients with high-quality care. Nurses need to be able to work together, analyze data, interpret outcomes, think critically, draw logical conclusions, and make complex decisions, and evidence shows that educational strategies such as simulation-based learning and collaborative learning significantly enhance nursing students' critical thinking, clinical reasoning, and decision-making skills (Sterner, Sköld, & Andersson, 2023).

The good thing about the Clinical Instructors is that the students have given them a good feedback based on the way they teach. It was also an accomplishment to give a good evaluation by the students for the excellent performance at the classroom and at the clinical base

Sub-Theme 1: Sense of Proficiency - Simulation is an educational process conducted in a safe environment that may mimic clinical procedures. Students who participated in simulation education programs perform fewer medical errors in clinical settings and are able to develop their critical thinking and decision-making skills more effectively, as supported by systematic reviews on simulation-based learning outcomes in nursing education (Kim et al., 2021)

The expertise of the Clinical Instructors (CI's) was based on the experience they had and the students relied on what the CIs taught. The respondents allowed the students to practice their clinical skills until they develop a sense of proficiency, to learn at their own pace, and to freely make mistakes. The participants mentioned:

> *The students should always be ready for the actual setting. That way, they can measure what they had learned during the simulation activity especially the use of HPS. Their skills need to be applied in clinical practice. (Clinical Instructor 1)*
>
> *Their ability to handle patients should be proficient enough especially when they are about to graduate. At this stage, CIs, have high expectations on their capability. since they have already gone through the basic procedures that we taught in the simulation. (Clinical Instructor 2)*

Sub-Theme 2: Increased Confidence - Facilitators help students recognize the importance of simulation in practice. By providing them with classroom activities like hospital scenarios, simulation experiences help increase their confidence levels. Research indicates that simulation-based learning enhances students' satisfaction, self-confidence, communication, and critical thinking skills, which in turn supports the development of clinical competence in a safe and supportive environment (Alrashidi et al., 2023)

This was important for Clinical Instructors because, it measured students' knowledge based on the education system that nursing had. Included in Clinical Instructors responsibility to students is to remind them constantly about the patients' holistic approach in order to perform well not only in the classroom but also during the clinical exposure. The participants mentioned:

> *In reality, there were students who were optimistic about what they were doing. You know if they were going to make the simulation enjoyable then, they were confident and were doing well. Others were not afraid of the CI's because they know that they were doing it in the correct manner. Therefore, collaboration during simulation was also important. (Clinical Instructor 1)*
>
> *They become more afraid if you were really strict, but I should correct them when they made mistakes. We CIs need to raise their confidence so they won't be afraid and perform well in the simulation most particularly in actual patients. Often, it was best to speak with them before and after simulation. (Clinical Instructor 2)*

Sub-Theme 3: Students Quality of Learning - In areas where access to a simulation center was limited, the advantage of using other simulation methods such as virtual simulation could increase student exposure to simulation. The ability to facilitate active learning in multiple locations increases students' opportunities to gain experiential learning that is critical to their success, and research shows that virtual simulation can effectively improve clinical competence, problem-solving, and communication skills in nursing education outside traditional simulation facilities (Lee, Kim, & Park, 2022).

For them Human Patient Simulator greatly contributed to the students' knowledge and they believed that simulation activity was very important for the nursing education program of each school and that simulation activity was a big factor in developing the education system of each nursing school and all of these were for the benefit of the students. The participants mentioned:

> *They could learn by sticking to the basic principles of fundamentals of nursing. Second, they knew how to adjust because in the simulation, we were not just sticking to what was the basic but also created different situation so that they learned to adjust and adopt. (Clinical Instructor 1)*
>
> *That was the drill, especially when they were in classroom settings. When it comes to actual patients, there were differences. But at least they had ideas on what was the right approach and how they applied it. (Clinical Instructor 2)*

3.7. Essential Structure of Positive Experiences of Central Supply Room Administrative Staff using Human Patient Simulator

The Central Supply Room support staff play an important role in ensuring students are learning in a safe and supportive learning environment. They can engage positive, trusting relationships with students and enhance school climate through proper communication and respect. The support of the school management motivates them to finish their education in exchange for care and perform well the tasks which the management has given to them.

Table 7. Positive Experiences of Central Supply Room Staff

Main Theme 3	Motivational Roles and Responsibilities
Sub-Theme 1	Support of the School Management
Sub-Theme 2	Effective Simulation Schedules

Main Theme 3: Motivational Roles and Responsibilities - Motivation made it easier for a worker to meet the personal goals and encouraged an individual's self-development. Once the worker or staff achieved certain initial goals, they understand the clear connection between commitment and results that further inspired them to perform at a high level. (Wiggins, 2019).

The roles and responsibilities as a CSR staff was provided with the motivation not only to complete the education given by the school management, but also to have a smooth and proper processing in the department and to provide excellent service to students and faculty.

Sub-Theme 1: Support of The School Management - The school support staff played an important role in ensuring students were learning in a safe and supportive learning environment. They can foster positive, trusting relationships with students and improve school climate by encouraging parent and family involvement in education. (American Institutes for Research, 2019).

The CSR support staff noted that the school management helped him study in exchange for being in charge of the simulation room and that, in his efforts to complete the study part of the day. For his good future, he had so far tried to finish his study. The participant stated:

> The financial support provided by the school helped take care of my tuition fee. Everything is free. *In exchange, I managed the simulation room. That is what I am doing now, and I'm thankful for the opportunity to study especially that I'm about to finish. My duties here did not interfere with my classes.*

Sub-Theme 2: Effective Simulation Schedules - The arrangement of the schedules in the usage of the simulation has to be smooth and organized; it was not an easy task for the CSR staff. He was strict about department policy especially in the use of the simulation room. The CIs have to make reservations prior to their use of the simulation room. The participant stated:

> *All simulation room schedules should be reserved especially if they use the mannequins. You need to reserve it as early as 2-3 days. CI's make the reservations. But, if students' needed to demonstrate using HPS, they should ask permission from the Dean and seek consent from their CI's. Everything goes fine when the schedules are followed.*

DISCUSSION

The findings of the study demonstrate that human patient simulation (HPS) serves as a valuable pedagogical approach that enhances the practical learning of nursing students by offering a controlled, repeatable, and safe environment for skills acquisition. The participants, composed of nursing students and clinical instructors, consistently emphasized that HPS enables exposure to clinical situations that cannot always be taught in the hospital setting due to patient safety concerns or limited clinical opportunities. This supports a theory-based simulation framework, which posits that HPS expands the breadth of student learning by enabling experiential engagement with complex nursing scenarios that encourage critical thinking and clinical judgment (Koukourikos et al., 2021).

The reported challenges, particularly limited access to facilities, non-functional simulators, and inadequate supplies, highlight the structural barriers that influence the effectiveness of simulation-based education. These observations echo the work of Omer (2021), who noted that poorly maintained simulation laboratories and equipment constraints reduce learner engagement and compromise the fidelity of the simulated environment. When fidelity is disrupted, learners may struggle to suspend disbelief, thereby weakening skill transfer and confidence-building. The participants' concerns regarding anxiety and performance pressure also align with research showing that simulation-based learning can evoke stress and anxiety among nursing students due to performance expectations and fear of judgment, and that certain simulation design elements may influence anxiety levels and students' confidence during simulation activities (Silva et al., 2022)

Participants further noted discrepancies between classroom-based simulation scenarios and actual clinical practices encountered during hospital duties. This misalignment reflects a widely recognized tension in nursing education. Simulation activities must be intentionally mapped to real-world competencies to maximize transferability; otherwise, students may perceive simulation as disconnected from actual practice. The students' natural inclination to compare simulation with real patient care underscores the need for curricular coherence, faculty alignment, and standardized scenario design, as research emphasizes the importance of structured simulation design and alignment with learning objectives to enhance relevance and learning outcomes in nursing education (Silva et al., 2022)

The operational challenges described by Central Supply Room (CSR) personnel particularly the difficulty of maintaining HPS devices, ensuring cleanliness, and managing simultaneous usage point to the essential but often overlooked dimension of simulation sustainability. Research by Lopreiato et al. (2019) identifies equipment maintenance, personnel training, and laboratory workflow coordination as critical factors for successful simulation programs. The CSR personnel's efforts to maintain functionality despite constraints indicate a significant institutional burden that must be addressed through policy development, staffing support, and resource allocation.

Despite these limitations, the participants highlighted significant educational benefits associated with HPS. They reported enhanced preparedness for clinical duties, improved confidence, and strengthened competence, findings consistent with evidence showing that simulation-based learning improves nursing students' competence, self-efficacy, and confidence in clinical performance (Ozel et al., 2021), who noted that simulation-based learning improves psychomotor performance, decision making, and self-efficacy. Students' recognition of HPS as a safe space for practice reinforces its role in minimizing risks of malpractice, as research has shown

that simulation-based education improves compliance with patient safety practices, enhances perception of safety culture, and boosts students' confidence in managing clinical tasks, ultimately supporting safer care delivery in healthcare settings (Lee et al., 2021)

Moreover, the study contributes to the understanding that while HPS cannot fully replicate real patient care, it serves as a critical bridge between theoretical knowledge and clinical application. Students articulated that simulation helped solidify classroom learning and allowed them to apply concepts more confidently when encountering actual patients, consistent with evidence showing that simulation-based learning enhances nursing students' competence, self-efficacy, and clinical decision-making by providing repeated, experiential practice in safe, realistic scenarios (Alrashidi et al., 2023), which emphasizes repetition, feedback, and structured scenarios as essential components of developing expertise. Simulation serves precisely this purpose by enabling repeated exposure to clinical skills without jeopardizing patient welfare.

Overall, the findings highlight the dual nature of simulation-based education: its considerable potential to enhance learning and its dependence on institutional readiness, functional equipment, and supportive learning environments. The study underscores the need for continuous improvement in simulation infrastructure, alignment between academic and clinical expectations, and strategic support for personnel responsible for maintaining simulation facilities. By addressing these domains, educational institutions can fully harness the transformative potential of HPS in preparing nursing students for safe, competent, and confident clinical practice.

CONCLUSION

This study provides a deeper understanding of the significance of Human Patient Simulation (HPS) in nursing education by highlighting its role in developing critical thinking, clinical decision-making, and interpersonal skills in a safe and controlled learning environment. HPS enables students to practice patient care without compromising patient safety, fostering confidence and competence while allowing them to experience the nuances of nurse-patient interaction. The findings also emphasize the essential contributions of clinical instructors and the educational institution in ensuring that simulation activities are effectively prepared, well-supervised, and aligned with learning objectives. Despite challenges such as limited access to resources, non-functional equipment, and pressures from the external environment, the participants demonstrated motivation and engagement, underscoring the resilience and adaptability required in nursing education. The study further reveals that while simulation may not fully replicate real clinical experiences, it serves as an invaluable bridge between classroom theory and clinical practice, reinforcing skills and enhancing students' readiness for actual patient care.

Based on these insights, practical recommendations for nursing schools and simulation laboratories include ensuring adequate resources and functional high-fidelity simulators, providing ongoing training for instructors in simulation facilitation, and developing standardized simulation scenarios aligned with clinical competencies. Institutions should also implement structured schedules to maximize simulator access, maintain simulation equipment properly, and foster collaboration among stakeholders, including administrative staff, instructors, and students, to optimize the learning environment. Regular feedback mechanisms should be established to evaluate the effectiveness of simulation exercises and identify areas for improvement, ensuring that HPS remains a dynamic and responsive educational tool.

The study is limited by its small sample size and the inclusion of only one institution, which may affect the generalizability of the findings. Future research could explore multi-institutional studies, incorporate longitudinal designs to assess long-term impacts of simulation on clinical performance, and examine specific strategies to overcome resource limitations. Additionally, investigating the integration of advanced technologies, such as virtual simulations or augmented reality, may provide further insights into enhancing nursing education and bridging gaps between simulated and real clinical practice.

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