

Evaluate the clinical learning environment of "Nursing the Childbearing Family" Course from the students' perspectives

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Abstract

Simulation as an active pedagogical strategy helps students transfer their knowledge into technical skills and create rules through critical thinking. However, it needs a periodic evaluation from students' perspectives to be up to date with technology. Aim: To evaluate the clinical learning environment of the "Nursing the Childbearing Family" Course from the students' perspectives.

Methods: Observational/ prospective design conducted at simulation labs of childbearing family course, school of nursing, Johns Hopkins University, Baltimore Maryland, USA. 62 masters/postgraduate students out of 73 (more than 80%) enrolled in the childbearing course (Spring/2017). The study included all students who agreed to participate in the study.

Results: The majority of the study's standards indicators regarding students' clinical site, clinical instructor achieved successfully. The comparison between students' perspectives before and after receiving clinical training reflected a statistical significance difference at $p < 0.05$. A significant relationship between the students' perspective regarding the clinical site and clinical instructors $P < 0.001$.

Conclusion: The majority of students' perspectives toward the four standards are positively high except some perspectives refers to the need for more details in some topics such as obstetric emergencies "breech position, amniotic fluid embolism" which confirmed that the audit for the clinical environment gives the students more confidence to go behind the course procedures and ask for more complicated conditions.

Background

Simulation technology has been used broadly as a teaching method in the clinical training of health care professionals. This teaching method provides educators and students with a valued strategy for teaching, learning, and evaluating clinical skills of nursing education, either undergraduates or postgraduates. Learning is through a case study or problem-solving as it a natural, instead use of an actual patient to learn or practice the procedures in the care process (Daniels et al., 2012; Park et al., 2016; Martins, 2017). Therefore, the simulation positively influences the students, educators, and, consequently, the communities due to the quality of care, enhancing patient safety (WHO, 2018). Simulation-based training in nursing and midwifery is an essential educational aspect as it helps students simulate clinical procedures and gain confidence before they practice on the patients, thus ensuring patient safety. Nurse educators should ensure that students are divided into small groups during simulations to practice and gain competency. It is recommended that the donor agencies support the developing countries with the resources needed during simulation training. There is a need to conduct more research on simulation-based training in nursing and midwifery training regarding simulation-based training (Mehdipour – Rabori et al., 2021).

The ethical perspective prevents learners from training or practicing invasive procedures on real patients or people during their training stage. However, learners should train in simulated, safe clinical

environments. So, this safety will allow them to make errors and learn without harmful consequences on people. Also, it ensures protection and respect of human rights via the following professionalism in the learning process (WHO, 2018).

Moreover, simulation as an active pedagogical strategy helps students transfer their gained knowledge into technical skills and create rules through critical thinking, enhancing their competence and professional level (Martins, 2017).

Accordingly, simulation's safety and competence outcomes, especially in emergencies, are applied in midwifery and maternity nursing education. During simulation, the management of critical obstetric conditions will develop the professional skills to be a real-like environment that provides students with the required qualifications without harmful outcomes (Lendahls & Oscarsson, 2017).

Instead of the mentioned benefits of simulation education, it still needs a periodic evaluation from students' perspectives to pick up any shortages and be up-to-date and well-matched with the advanced technology. Students' personnel should also revise any shortages of simulation education (Reyhan et al., 2018).

Significance of the study

As an educator for obstetric and gynecological nursing curricula, we observed deficiencies in our curriculum regarding maternity nursing's high fidelity simulation. There is no organized curriculum related to this issue in the college instead of high fidelity simulated manikins in our labs. Thus the need for enhancing student learning was very critical. A Call for Radical Transformation came from the Carnegie Foundation for the Advancement of Teaching released Educating Nurses: in which researchers concluded that nursing students today are undereducated for the demands of practice. The recommendations of authors for reforming education concentrated on enlisting an additional diverse faculty and student body, evolving clinical residencies for all new graduates, changing the means of assessing student performance, introducing pre-nursing students into nursing earlier in their education, attainment of agreement about a set of clinically relevant pre-requisites, achieving better integration of theory and clinical teaching, teaching for a sense of strikingly, greater emphasis on clinical reasoning, and the formation of a professional identity as a nurse (Meleis 2011).

Therefore, nurse educators play a pivotal role in assisting student nurses to fulfill these expectations. However, nurse educators' focus on teaching-centered learning is to cover up many students using a few examples of students to do clinical skills. That way is inferior in achieving the required level of clinical skills of future nurses. Likewise, Abu Hasheesh and colleagues' study concluded that nursing is a practice-based profession and that overindulgence in teaching knowledge through teacher-centered methods may result in unproductive teaching overindulgence of students' achievements (Abu Hasheesh et al. 2011).

Therefore, previous studies referred to the importance of simulations in three main functions: research and planning, evaluation of command, and education. Moreover, the utilization of simulation in midwifery and maternity nursing education leads to high benefits for students, patients, instructors, and institutes (Goris, Bilgi & Bayindir, 2014; Sendir & Dogan, 2015).

To improve childbearing nursing education, the national leaders have referred to the need to create opportunities for progression of higher levels of nursing education, use advanced technology for more efficient and practical instruction, and focus on learning environment outcomes as nursing programs explore how to address these needs through innovation, and circumstances (Collins, 2011). Simulation acts as a bridge between academic and clinical performance, students are the consumer of clinical training, and later they will be the care providers; therefore, their perspectives regarding simulation/ clinical experience can help the educators to improve any concerns in the future to keep a highly safe - educated environment. So this study aimed to evaluate the clinical learning environment of nursing the Childbearing Family Course at an advanced level of education in a developed country through the following objectives:

- Audit the performance criteria for applying knowledge in the clinical environment from students' perspectives.
- Assess the students' perspectives about their clinical site, clinical instructor, and the effective working relationships between the University and the clinical site
- Compare students' perspectives before and after receiving clinical training.

Methods

Study design:

The study applied observational/ prospective design which to measure the effect of the application of innovated Childbearing Family Course using learner-centered straits on nursing students' clinical outcomes

Study setting: This study was conducted at simulation labs of childbearing family course, nursing school, Johns Hopkins University, Baltimore, Maryland, USA.

Study Sample: Participants in this study were 62 masters/postgraduate students out of 73 (more than 80%) enrolled in the childbearing course. The study included all students who agreed to participate and excluded those who refused to participate.

Data collection tool:

A structured questionnaire was used for measuring students' perspectives and clinical learning environment in the labs. Composed of four standards, which contained questions about clinical site

supportive and facilitative learning opportunities, were offered to develop the student's skills, knowledge, and attitudes. The total questions were 54 questions (50 of them MCQ, and 4 were open-ended questions). Divided into four standards, the first standard about students' clinical site and contained 17 questions 16 of them were graded questions with Likert scale as (5) for Almost always, (4) for Often, (3) for Sometimes, (2) for Seldom and (1) for Never and the 17th question was open for students' suggestions for clinical sites. The double standard, about students' perspective of their clinical instructor, contained 14 questions, 13 of them graded with a Likert scale, and the 14th was open for students' suggestions. The third standard about the effective working relationships between the University and the clinical site contained nine questions, 8 of them graded with a Likert scale, and the 9th was open for students' suggestions. The fourth standard contained a group of questions about students' perspectives on the simulation labs (before and after the clinical training). The total questions were 14 questions, 4 of them multiple-choice questions before the training and ten questions, 9 of them graded as (1 = strongly disagree (S.D.); 2= disagree (D); 3= agree (A), and 4= strongly agree (S.A.)). Moreover, the 10th question was open-ended.

Validity and reliability of the tool:

The questionnaire used in this study was adopted from the Audit of Clinical Environment: Student Questionnaire Version 07/10/2010, created by Catherine McAuley (McAuley, 2010). school of nursing and midwifery, university college cork. Our version was modified to be marked basically on the Likert scale and MCQ questions for answers rather than yes or no in the mentioned questionnaire. Then reliability was tested through SPSS, and Cronbach's Alpha was 0.932, which is high reliability based on Standardized Items. Also, the peer-reviewing by three experts in maternity, childbearing, and nursing education and all their comments were taken into consideration to modify the tool before the data collection.

The data collection/procedure

Preparation phase: During this phase, the researcher was focused on the clinical simulation labs' facilitations for clinical training, assisting students with clinical materials, guided practice and immediate feedback to students, the actual performance of the skill in the clinical skills laboratory, clinical learning environment, utilization of clinical learning opportunities for all student, techniques of using scenarios in simulation labs, the technique of fill in student progress report per placement area, techniques of supervisor consultation with students, communications skills using during simulation lab training, and record of students reaction in dealing with discordant situations.

In the Simulation session: The researcher attended the postpartum hemorrhage simulation, allocated in 20 minutes. The scene showed Students sitting in a debrief room to receive the instructions about the simulation lab. Before that, they had already received the simulation scenario on their blackboard to prepare themselves. *The students were divided into two groups. Group to be role players in the simulation scenario, and the other group was observed during their roleplaying in the simulation through a big screen that permits the last group to observe without distracting their colleagues as they were unseen for*

them. The procedure started with a conversation between the student as "nurse role" and the Clinical instructor as "patient role" by voice while the student spoke with a highly simulated manikin. Then the "sim nurse" asked the "sim patient" about her health, pain/ history & taking B.P., which was 120/80. During the assessment of the uterus, the sim nurse felt it as boggy and asked the patient that he would make uterine massage to check her bleeding status, also asked about the time of changing her perineal pad, then he asked her if she needed any concern regarding breastfeeding and if she fed her newborn or not.

- The "sim nurse" confirmed to the patient that he observed bleeding more than usual, and he would call the physician to check her case.

The "sim patient" asked the nurse: Do you repeat squeezing my abdomen because it is so hard.

- The "sim nurse" used the phone in the sim lab and called the physician "2nd clinical instructor" and reported him about the case, described the bleeding, amount, and voiding.
- Another student, "sim nurse-midwife," came to the room for the "sim patient," so the first sim nurse reported the nurse-midwife " senior" about the patient's bleeding condition.

They are "both nurse & nurse-midwife," They told the patient that they would make a massage for her and then applied a Foley catheter.

- The first nurse made massage while the patient was speaking at the same time & said, "I am dizzy & I do not feel good"
- More helper "sim nurse" came to help, she was watching patient' vital signs

1st nurse: doing massage

2nd nurse applies catheter

3rd nurse monitors vital signs

1st nurse: called for help (report physician by the case) and reported him by all procedures done to pt. Then he reported pt. Her uterus condition is "not contracted well, "and they will care for her case.

- For simulation urine, the lab facilitator prepared yellow color material & injected it inside the manikin to be ready to use during Foley catheterization.
- The second patient told pt. That she will give her medication, "methergine I.M." The other nurse applied a pad under the patient.
- The first nurse again reports the dr. after methergine and pads,
- The second instructor came to the room to check the case & told the students about their observation of the simulation scenario.

- Simultaneously, the instructor in the studio lab with a technical specialist in sound and studio system was roleplaying as the other the "sim dr." regarding medical orders, through the phone call and vital signs control to be applicable "sim patient" condition.

The previous example was high simulation training; later, the researcher attended other sim training such as Gestational HTN (hypertension) and domestic partner violence during pregnancy and many other simulations By the same quality and different techniques. For example, in the simulation lab of domestic partner violence assessment, the "sim patient and her partner" were "actors" who prepared well to play their roles because this was their job. Each time, the researcher was registered and wrote notes regarding simulation facilities' incredible technique.

Later after three weeks of simulation labs, the researcher uploaded the questionnaire on the Qualtrics system after a short training on using and developing a questionnaire through it. So, the questionnaire became available to the students. Then, the researcher waited and checked daily for the questionnaire answer rate, but it was prolonged. The researcher sent an email to each student, including the consent form, the IRB, and the questionnaire link. After a follow-up of the questionnaire answer, finishing data collection was nine months from June 30, 2017, to March 30, 2018.

Human Subject Ethical Considerations

Approaches to ensure bioethics would consider in the proposed research regarding permission and agreement—a written informed consent obtained from participants. The research proposal obtained the required approval from the school of Nursing or/ and the Institutional Review Board (IRB00137384) in June 2017. All other rules, or the ethical committee's advice, were applied—the Qualtrics system used for online students' responses. Simultaneously, the researcher sent a message for each student, including the questionnaire's link, to notify them about the study. Later, the researcher followed the students' responses daily until they finished within nine months.

Data Analysis

Per the proposed objectives and based on the types of variables, indicating the analytical models and techniques, SPSS 22 version was used for statistical analysis. The preliminary data was presented and tabulated (especially for variables presented numerically). The analysis used inferential tests, t-Test frequency distribution, and the chi-square test was employed. Statistical significance considered if *p-value* <0.05.

Results

Students' perspectives regarding their clinical site of Childbearing Family Course.

Site	(5) Almost always n (%)	(4) Often n (%)	(3) Sometimes n (%)	(2) Seldom n (%)	(1) Never n (%)
clinical site notified reg the placement	58(93.5)	2(3.2)	2(3.2)	0	0
Informed at least two weeks in advance regarding the clinical site	52(86.6)	9(14.5)	0	1(1.6)	0
orientated to the clinical site during first week	32(51.6)	14(22.6)	10(16.1)	4(6.5)	2(3.2)
staff familiarized with relevant clinical site procedures	44(72.1)	11(18)	5(8.2)	1(1.6)	0
staff had access to written information about the clinical site philosophy of care or mission statement.	34(54.8)	14(22.6)	9(14.5)	2(3.2)	3(4.8)
staff had access to relevant information relating to the Nursing and Healthbearing Family course in the clinical setting.	37(59.7)	14(22.6)	10(16.1)	1(1.6)	0
staff had access to the clinical site and procedures to guide in their vision	36(58.1)	11(17.7)	12(19.4)	1(1.9)	0
staff policies were in place to address needs/concerns of students regarding the clinical site	26(41.9)	14(22.6)	12(19.4)	5(8.1)	5(8.1)
clinical instructor worked regularly within the clinical site's interdisciplinary team, providing a safe and supportive working environment where in which can learn	48(77.4)	10(16.1)	4(6.5)	0	0
clinical practice facilitated during placement	40(65.6)	16(25.8)	6(9.7)	0	0
relevant resources/journals/articles/IT resources/library were available in the clinical setting	30(48.4)	14(22.6)	12(19.4)	5(8.1)	1(1.6)
study area is available at the clinical site	24(38.7)	6 (9.7)	17(27.4)	7(11.3)	8(12.9)

clinical unit's staff could CI if needed	44(70.9)	11(17.7)	4(6.5)	1(1.6)	1(1.6)
you have protected time to in the day's activities?	47(75.8)	10(16.1)	4(6.5)	1(1.6)	0
staff members of the discipline at the clinical site related to the learning experience.	40(65.6)	16(25.8)	3(4.8)	3(4.8)	0
staff at the clinical site treated me as a learner and encouraged me to ask questions in relating to patient/client care	32(51.6)	24(38.7)	2(3.2)	4(6.5)	0

This table shows the distribution of students' perspectives regarding standard 1 of the clinical site of the Childbearing Family Course. The statements displayed that the vast majority of answers (Almost always) 58(93.5 %) for notification about the clinical site placement to the minor statement 24(38.7 %) regarding the availability of study area to students at the clinical site. However, the vast majority, 61(98.4%), would access relevant information relating to the Nursing the Childbearing Family course while in the clinical setting. Regarding the second degree of answer (often), it ranges from 16(25.8) % in the reflective practice, which was facilitated during the placement, to the most miniature range 2(3.2)% in the notification about the clinical site placement—however, two-thirds (62.5)% answered (never) of the standard statements.

2. Standard 2. Students' perspectives regarding their Clinical instructor indicators

Instructors	(5) Almost always n (%)	(4) Often n (%)	(3) Sometimes n (%)	(2) Seldom n (%)	(1) Never n (%)
Director of the clinical instructor who is coordinating and supervising	50(82)	11(18)	0	0	0
Clinical instructor is available to facilitate and support learning.	53(85.5)	6(10)	0	0	0
Clinical instructor & student worked together to achieve learning objectives	43(70.5)	12(19.7)	5(8.2)	0	1(1.6)
Student spent work alongside with the clinical instructor	44(72.1)	11(18)	5(8.2)	1(1.6)	0
Clinical instructor accepted the student as a learner and encouraged to ask questions	53(85.5)	6(10)	2(3.3)	0	0
Clinical instructor is accessible to students during the clinical day	43(70.5)	14(23)	4(6.6)	0	0
Students received written feedback from clinical instructor updatable	40(65.6)	13(21.3)	2(3.3)	6(9.8)	0
Students received oral feedback from clinical instructor updatable	44(72.1)	1(1.6)	9(14.8)	7(11.5)	0
Clinical instructor used a variety of methods to achieve learning objectives	44(72.1)	5(8.2)	11(18)	1(1.6)	0
Clinical instructor worked with students to evaluate the clinical learning opportunities.	40(65.6)	14(23)	7(11.5)	0	0
Evaluations with the clinical instructor were conducted in a quiet, private setting	43(71.7)	8(13.3)	5(8.3)	3(5)	1(1.6)
Clinical course coordinators supported me during my placement.	31(50.8)	13(21.3)	15(24.6)	0	2(3.3)
There is a process for students to provide feedback about clinical instructors	36(59)	9(14.8)	7(11.5)	5(8.2)	4(6.6)

This table shows the distribution of standard 2 of students' perspectives regarding their Clinical instructor indicators. It reflects that the highest degree (almost always) achieved 53(85.5) % in clinical instructor availability to facilitate and support learning and Clinical instructor acceptance to learners and encouraged them to ask questions. Simultaneously, the slightest degree, 31(50.8) % of Clinical course

coordinators (CPCs) support students during the placement process. For often degree, the highest percentage ranged from 14(23) % in the statement about the clinical instructor who works with students to evaluate their clinical learning opportunities, to 5(8.2) % of clinical instructors used a variety of methods to achieve learning objectives—however, the answer by (Never) (69) % of the standard two statements.

Table 3. Standard 3. Evidence of high quality of the childbearing family nursing practice indicators.

Evidence-Based Nursing practice	(5) Almost always n(%)	(4) Often n(%)	(3) Sometimes n(%)	(2) Seldom n(%)	(1) Never n(%)
3.1 Care provision at the site reflected the written philosophy of care /unit mission	22(35.5)	21(33.9)	18(29)	1(1.6)	0
3.2 Evidence of holistic care in nursing practice	16(25.8)	20(32.3)	24(38.7)	2(3.2)	0
3.3 Evidence-based policies, procedures, and guidelines are accessible on the unit	19(30.6)	25(40.3)	13(21)	4(6.5)	
3.4 Policies, procedures, and guidelines used to support and guide nursing practice	27(43.5)	20(32.3)	15(24.2)	1(1.6)	0
3.5 Respect for the rights of patients/clients and their carers.	28(45.2)	24(38.7)	8(12.9)	2(3.2)	0
3.6 Respect and support for religious and cultural beliefs.	32(51.6)	24(38.7)	4(6.5)	1(1.6)	0
3.7 Nursing care on the unit promoted continuity of care	27(43.5)	23(37.1)	12(19.4)	0	0
3.8 Evidence of clinical non-clinical (environment) risk management	27(43.5)	30(48.4)	5(8.1)	0	0

This table shows the distribution of standard 3 of students' perspectives regarding the high quality of the childbearing family nursing practice indicators.

It reflects that the highest degree (almost always) achieved 28(45.2) % regarding patients/clients and their carers' rights. While the slightest degree, 16(25.8) % in evidence of holistic care in nursing practice. For often degree, it is ranged from 20 (32.3) % to the highest level 30(48.4) % and lowest level in 5(8.1)% in the statement about evidence of holistic care in nursing practice to evidence of clinical non-clinical (Environment) risk management respectively. However, the highest degree in (seldom) 4(6.5) % is in the evidence-based policies, procedures, and guidelines—however, no one answered with (Never) for all statements.

Table 4. a part II. The student perspectives before simulation sessions

student perspectives before simulation sessions	(5) Almost always	(4) Often	(3) Sometimes	(2) Seldom	(1) Never
4a.1. Did you complete the required preparation activities before simulations?	50(80.6)	10(16.1)	3(4.8)	0	0
4a.2. How do students rate their level of understanding of topic-related simulation training?	Much lower n(%)	Lower n(%)	The same n(%)	Higher n(%)	Much higher n(%)
	3(4.8)	14(22.6)	24(38.7)	18(29)	3(4.8)
4a.3. Rate the level of understanding of the practical requirements for clinical performance topics?	Poor n(%)	Good n(%)	Competent n(%)	High Competent n(%)	
	8(12.9)	33(53.2)	13(21)	8(12.9)	
4a.4. Confidence level in performing the skills that were the focus of the simulation.	No n(%)	Some n(%)	Quietly n(%)	Confident n(%)	confident & competent n(%)
	3(4.8)	23(37.1)	14(22.6)	14(22.6)	8(12.9)

In this table, two-thirds 40(64.5) % of students almost always complete the required preparation activities before simulations, and 10(16.1) % often said while 3(4.8) % said sometimes. Regarding students' rating of their level of understanding, a topic related simulation training indicates the 24(38.7) % is the same level while 18(29) % confirm the Higher level and only 3(4.8) a much higher level. However, more than fifty percent achieve a good understanding of the practical requirements for clinical performance topics. In addition, more than one-third of 23(37.1)% confirmed some confidence level in performing the skills that were the focus of the simulation. However, 14(22.6) confirmed confidence, while more than ten percent 8(12.9)% were confident & competent.

Table 4.b. The student perspectives regarding simulation labs (after receiving the clinical simulation labs).

simulation sessions, how would students their level	1 (S.D.) n(%)	2 (D) n(%)	3 (A) n(%)	4 (SA) n(%)
students feel well prepared to perform the of assessment performance	4(6.5)	10(16.1)	2(3.2)	46(74.2)
students have a good understanding of the relationship between theory and practice	4(6.5)	6(9.7)	38(61.3)	14(22.6)
students feel more confident in the application of theory in the clinical areas	5(8.1)	1(1.6)	42(67.7)	14(22.6)
the knowledge and understanding of the clinical equipment has increased	6(9.7)	0	33(53.2)	23(37.1)
The instructor in the simulation made students ask what they do	4(6.5)	7(11.3)	39(62.9)	12(19.4)
Students feel more able to develop clinical skills in practice	4(6.5)	2(3.2)	34(54.8)	22(35.5)
I feel able to answer relevant questions asked by patients/clients	5(8.1)	2(3.2)	34(54.8)	21(33.9)
students feel more anxious about undertaking new skills for ^{the first} time in clinical practice	9(14.5)	24(38.7)	20(32.3)	9(14.5)
students feel confident to tackle new skills in practice that they learned in simulation	5(8.1)	4(6.5)	32(51.6)	21(33.9)

In this table, student perspectives after receiving the clinical simulation labs confirm that about three-quarters of 46(74.2) % strongly agree to feel well prepared to perform an assessment. However, two-thirds 38(61.3) % agree that they have a good understanding of the relationship between theory and practice; more than two-thirds, 42(67.7) % feel more confident in applying theory in clinical areas. Regarding anxiety about undertaking new skills for ^{the first} time in clinical practice confirmed that 20(32.3)% and fifty percent 32(51.6)% feel confident to tackle new skills in practice that students learned in simulation.

Table 5. Comparison between student perspectives regarding simulation labs (before -after receiving the clinical simulation labs).

Comparison items	Mean (SD)	t-test	P.value
Standard 4. Before receiving clinical simulation labs	2.41(0.67)	26.092	0.001
Standard 4. b after receiving clinical simulation labs	4.08(1.05)	28.19	

This table compares students' perspectives before and after receiving the clinical simulation labs shows a highly significant difference at $p < 0.001$

The description of the simulation preparation materials (theory) is part of students' perspectives.

One participant said, "Besides normal birth, I was hoping for something more emergent such as late decelerations, breech position, amniotic fluid embolism." Three participants said it was somewhat helpful, and SIM helped reinforce what they learned in theory. Another student said, "no comment." Another student added, "the discussion was helpful."

Another perspective said, "they helped brief the simulation section, but I approached this like Clinical. Review the patient's information and be prepared to listen to them and adjust". Another student said, "Their help allows us to look up information beforehand and review theories we learned in the class." Another student said "We are presented with situations that we might not have had the opportunity to observe while in the clinical unit; for example, during simulation, we were able to experience a "live births which not everyone in my clinical group was able to see, in reality, on the unit."

Student 11. Added, "Yes, she received help, but she needs more details," and the last student said, "Yes! The material was given before simulation help understands the theory and come prepared to ask questions."

Table 6. The effective working relationships between the students' perspective regarding the clinical site and clinical instructors

Indicators	Mean (SD)	Correlation	P.value
Standard 1	1.69 (0.50)	-.0641	0.001
Standard 2	5.48 (0.62)		
Standard 3	1.84(0.62)	0.57	0.001

This table compares the three standards of students' perspectives regarding the clinical site and clinical instructors, showing a highly significant difference between the three standards at $p < 0.001$

Discussion

The study aimed to evaluate the clinical learning environment of nursing the Childbearing Family Course at an advanced level of education. Through audit of the performance criteria for the practical application of knowledge in the clinical environment from students' perspectives, assess the students' perspectives about their clinical site, clinical instructor, and the effective working relationships between the University and the clinical site and compare between students' perspectives before and after receiving of clinical training.

Therefore, the aim of this study matches with Gurol, Balci-Akpınar, and Ejder-Apay's, 2016 Studies which confirmed that a clinical learning environment is essential to surge students' professional skills in laboratory settings before practicing these skills in a natural patient care environment. Besides, simulation education to prepare the midwifery students could increase their competence and self-confidence in practice.

The findings of this study pointed out that students' perspectives regarding standard 1 of the clinical site of Childbearing Family Course displayed that the vast majority of answer (Almost always) in the notification about the clinical site placement and one-fourth (often) find the reflective practice which facilitated during the placement. However, two-thirds of the standard statements (never) achieved positively reflected that these two-thirds were already done in the standard.

Students' perspectives regarding their Clinical instructor indicators reflect that majority (almost always) achieved in the availability of the clinical instructor to facilitate and support learning and Clinical instructor acceptance to learners and encouraged them to ask questions. The vast majority, 61(98.4%), would access relevant information relating to the Nursing the Childbearing Family course while in the clinical setting. The students' answers *confirmed that the perspectives were helpful for the briefing section of the simulation. However, students approached this like Clinical Review the patient's information and are prepared to listen to them and adjust,* and Another perspective said, *"They helped allow us the opportunity to look up information beforehand and review theories we learned in class"* in the open question part.

These findings, supported by Reyhan et al. 2018, reported that the students also said that simulation training should be pre-requisite and obligatory before starting the clinical practice of midwifery practice in the real environment ($p < 0.05$ for each).

The vast majority, 59 (95.5%) of students, confirmed that the clinical instructor accepted me as a learner and encouraged me to ask questions. Moreover, another two perspectives *reported that during simulation, they were able to experience a "live birth" (which not everyone in the clinical group was able to see, in reality, on the unit "and the other perspective added, "Yes, she received help, but it needs more details," and the student 12 said "Yes! The material is given before simulation to help understand the theory and come prepared to ask questions. "While fifty percentage confirmed that clinical course coordinators (CPCs)*

supported is given before the placement helps the process. Almost one-fourth often prepared with students to evaluate their clinical learning opportunities.

This finding confirmed that the faculty instructors adhere to their learning objectives to achieve the learning outcomes. Likewise, the (Kelly 2014) study reported that the faculty follows the best practice model through simulation sections to provide practical clinical training.

Our findings showed that most students almost always completed the required preparation activities before simulations. Two-fifth of the students understood the topic-related simulation training, and they were also confident in performing the simulation's skills. However, more than fifty percent achieve the proper understanding of the practical requirements for clinical performance topics. In contrast, more than one-fourth had the same level, while more than ten percent were confident & competent.

In the same way, the study conducted by Terzioglu et al. in 2012 showed that students informed that the skills study carried out in the clinical and theoretical environments before the clinical practice was helpful for them and increased their competence. In addition

The Liaw et al. study also informed that students' knowledge and skills studying with simulation were higher than before.

After receiving the clinical simulation labs, three-quarters of student prospects confirm a strongly feel well prepared to perform the skill of assessment performance. However, two-thirds have a good understanding of the relationship between theory and practice; more than two-thirds feel more confident in applying theory in clinical areas. In addition, three participants said, *"it was beneficial, somewhat helpful, and SIM helped reinforce what I learned in theory. Another student said, "no comment." Another student added, "the discussion was helpful."*

These findings match with (Lendahls & Oscarsson's, 2017) study, which reported that simulation and skills education supported the development of midwifery skills and facilitated students' learning capacity while moving from theory to practice.

Similarly, (Sender & Dogan; 2015), in a systematic review conducted to evaluate the use of simulation in nursing education, demonstrated that simulation practices contributed to the development of critical thinking and self-confidence levels and having students gain clinical skills competence. In the same line, a study by (Omer 2016) revealed that students' simulation experience significantly increased knowledge and, consequently, self-confidence. Yardley *et al.* 2013 reported that participants identified the gap between theory and practice and how the simulation had bridged that gap.

Moreover, in the open questions, one perspective said, *"Besides normal birth, I was hoping for something more emergent such as late decelerations, breech position, amniotic fluid embolism; otherwise, I feel more confident; to attend real normal birth."* Incongruent with the study's findings, Brady *et al.* 2015 confirmed that increasing students' confidence during simulation forces them to learn more about obstetric

emergencies, which would initially enhance patient care. One participant in this study felt ready to deal with obstetric emergencies in the clinical environment.

Our study reflected that one-third of students are anxious regarding undertaking new skills for ^{the first} time in clinical practice, and fifty percent feel confident to tackle new skills in practice that they learned in simulation. Likewise, Reyhan et al. 2018 revealed that simulation would reduce anxiety during practice and approve the profession accordingly.

Our study confirmed that comparing students' perspectives before and after receiving the clinical simulation labs shows a significant difference at $p.value = 0.00$. Likewise, Martin and Chanda 2016 found that the students' post-test scores following simulation application with a simulated patient were significantly higher than their pretest scores.

Conclusion

The audit study was used to evaluate the clinical learning environment of the Childbearing Family Course from the students' perspectives at Johns Hopkins School of Nursing. The findings reflected that most of the students' perspectives toward the four standards are positively high. However, some perspectives refer to the need for more details in topics such as obstetric emergencies "breech position, amniotic fluid embolism," which confirmed that the clinical environment audit gives the students more confidence to go behind the course procedures and ask for more complicated conditions.

Recommendation/Implications

- Periodic audits for the clinical environment to develop and synchronize it with the advanced education level.
- Develop an appropriate plan in the low-middle setting to develop the clinical environment in the nursing schools.
- Further studies are needed to focus on universal guidelines for a productive learning environment for undergraduate and postgraduate midwifery and maternity nursing courses.
- Updating simulation skills to be used by midwifery program education in nursing schools in developing countries.

Declarations

Ethics approval and consent to participate

The required approvals were received from the school of Nursing Johns Hopkins University and the Institutional Review Board (IRB00137384) in June 2017. The study was carried out per relevant guidelines and regulations. All participants received a written consent form regarding the study, including

information that it was voluntary to participate and that they could withdraw at any time with no further explanations.

Consent for publication

Not applicable.

Availability of data and material

The datasets analyzed in the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare no competing interests.

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Authors' contributions

The authors listed contributed to this paper: H.F. and P.D. conceptualized the research idea; H.F. collected the data and carried out the statistical analyses; H.F. and P.D. drafted the final manuscript. All authors have read and approved the final manuscript

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