

## ARTICLE

# “She’s dead!” – Nursing simulation practices: A discourse analysis approach

Abeer Mohammad

*Department of Languages and Culture, King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia*

## Abstract

**Background:** The literature on nursing education has revealed a growing wave of interest in the use of simulation sessions to promote undergraduate nurses’ learning experiences. This high prevalence of simulation practices in nursing programs has led to opportunities to research this topic from various angles, including its impact on students’ skill performance, self-efficacy, self-confidence, self-satisfaction, and clinical knowledge acquisition.

**Design and Methods:** Participants in this qualitative study included 54 senior female undergraduates enrolled in a critical care nursing course in Saudi Arabia. Recordings were made of six authentic, acute care simulation sessions. One of these sessions was examined in depth using discourse analysis approaches to gain insights into communication in simulation sessions, examining the way students linguistically managed this critical communication, exhibiting their logical, reflective, decision-making, problem-solving, and collaborative work skills and use of communicative strategies.

**Results:** The analyses revealed various training and communication issues including the lack of harmony among the team members (e.g., regarding understanding and performing their assigned roles as well as delegating and conducting delegated tasks) and the students’ inability to effectively communicate with the patient as a valuable source of information and to make appropriate and timely clinical decisions regarding patient assessment.

**Conclusions:** Simulation sessions have been shown to be a promising instructional tool to support nursing education, allowing students to practice in a safe and controlled environment. However, for more effective sessions and to avoid poor simulation sessions, students need to be thoroughly briefed regarding the sessions prior to implementation.

## Introduction

Recent research on nursing education has revealed a massive wave of interest in the use of simulation practices to promote

undergraduate nurses’ learning experiences.<sup>1-3</sup> Simulation practices, in this context, refer to a teaching technique that creates a rich teaching environment that mimics real hospital scenarios.<sup>2</sup> Today, nearly every nursing education program involves extensive use of this effective interactive teaching tool.<sup>2,4</sup> According to the literature in the field, simulation practices allow health students to connect theories that they learn in classroom settings to what they will potentially encounter in clinical environments, and these sessions can allow them to freely practice and receive feedback in various clinical scenarios.<sup>2,5</sup> This clinical training mostly happens within a supervised context, which not only promotes students’ learning but also provides a space for making errors that do not jeopardize real patient safety.<sup>2</sup> This widespread use of simulations in nursing programs has led to opportunities to research this topic from many angles, including its impact on students’ skill performance,<sup>6,7</sup> self-efficacy,<sup>8-10</sup> self-confidence and satisfaction,<sup>11-13</sup> and, most importantly, clinical knowledge acquisition.<sup>13</sup> Collectively, the major findings of this research indicate the positive impact of simulation practices regarding reinforcement of students’ learning and professional skills (including providing valuable opportunities for students to spot areas where they need to improve) and improvement of students’ self-esteem. Based on an investigation involving a similar context in Saudi Arabia as that involved in the current study, Omer surveyed Saudi nursing students’ satisfaction and self-confidence after clinical simulation sessions and reported students’ overall satisfaction with simulation-based training as well as the simulations’ positive impact on their acquisition and retention of clinical knowledge.<sup>3</sup> Most students reported having confidence in their clinical skills and they demonstrated that they were able to recognize signs and symptoms of diseases and perform appropriate clinical practices to assess patients’ needs.<sup>3</sup>

Clear evidence in the literature strongly supports the use of simulations, and there is now a need for further studies on the best ways to improve these simulations. However, it is worth noting that despite the abundance of research on simulation practices, few actual examples of authentic simulation interactions are available in the literature. Examining authentic communication during simulation practices not only provides insights on how this type of communication unfolds, but also offers evidence regarding whether clinical

### Significance for public health

*Effective and safe patient care in healthcare settings reflect effective academic training received by practitioners. In nursing education, there is a huge interest in simulation training as an instructional strategy that encourages learners to apply learned knowledge and practice clinical skills in interactive, controlled, and safe settings that mimic real-life medical scenarios. Research on simulation practices has examined this instructional tool descriptively, measuring its impact on learners’ skill performance, clinical knowledge acquisition, and self-satisfaction, to name but a few. This study is significant as it provides a thorough analysis of the communication exhibited in an authentic simulation session, revealing how this type of communication unfolds, as well as the communicative strategies used by learners and their impact on the training effectiveness. Amending and enhancing learners’ practices during simulation training could lead to improved understanding of best practices, which would eventually improve patient care in real-life settings.*

knowledge acquired in classroom settings is smoothly transferable to simulation practices. Additionally, analysis of authentic data can provide deep insights and opportunities to improve communication in simulation practices in order to improve actual patient care in hospital settings. To date, simulation practices have mostly been examined descriptively via questionnaires,<sup>3,10</sup> interviews,<sup>14</sup> and observations.<sup>1</sup> This study employed discourse analysis approaches<sup>15-18</sup> to provide an in-depth analytic interpretation of an authentic simulation session to develop a more instructive understanding of this type of communication. Furthermore, the study aimed to examine the way students linguistically managed this critical communication, exhibiting their logical, reflective, decision-making, problem-solving, and collaborative work skills.<sup>2</sup> Additionally, the analyses shed light on the students' use of effective and/or less effective communicative strategies,<sup>15</sup> which could help to further improve the quality of simulation training in this context. Effectiveness in this paper was operationalized as "the recommended best practices," meaning the extent to which students put in effort to obtain, understand, and negotiate patient-related information and to make appropriate clinical decisions (as expected in the ideal model training scenario).<sup>15,19</sup>

## Design and Methods

### Participants

A convenience sample of 54 senior female undergraduate nursing students enrolled in a critical care nursing course participated in this study. The students were all Saudis whose first language was Arabic. The participants also included a faculty member who spoke English as her first language, and two simulation lab assistants who were from the Philippines and spoke Tagalog as their first language. English is the official means of communication among the participants during the simulation sessions. The collected data for this setting included audio recordings of six authentic, acute care simulation sessions along with observations and detailed field notes. There were nine students per simulation session, and the faculty member and the two lab assistants were present in all six sessions. Ethical approval was obtained in April 2019 from King Abdullah International Medical Research Center (KAIMRC) for collecting data in clinical simulation laboratories at a nursing college in Saudi Arabia. All participants were provided with informed consent forms, which thoroughly explained the purpose of the study as well as the confidential and anonymous nature of the collected data, and they all provided signed informed consent.

## Results

In this section, a single extended simulation session, which was the most representative of the six recorded simulation sessions, is presented and discussed.

### Simulation session

During simulation sessions in this context, nursing students are expected to demonstrate their clinical knowledge in accordance with the cognitive skills acquired in classroom settings via lectures, video tutorials, and/or independent reading assignments. Similar to a model simulation session, the students involved in this study were assigned to act as members in a fast-track team providing healthcare in an emergency room (ER). For control and supervision purposes, the students were assigned in groups (nine students in each of the simulation sessions). Following the model, the roles within the team comprise a primary nurse, who lead the team

and delegate responsibilities and tasks, assisted by other students who play various roles including a doctor, a pharmacist, a social worker, a patient, a patient relative, and a recorder. The code team, according to the model, comprise of additional staff who assists with the code. In the following script, while the role of some students was identifiable including the role of the patient and the patient relative, there was little evidence of the roles that other students were taking. Only Nurse 1 was identified as the primary nurse since the faculty member explicitly delegated responsibilities to her at the beginning of the simulation session. Thus, in the script, I refer to the rest of the participants as student 2 and student 3 due to the uncertainty of the roles they were playing. In the simulation scenario in this paper, the team must manage a patient who sustained a severe injury on her right thigh in an auto accident. The management of the patient was expected to involve performing various medical interventions during three major scenarios (1: conducting a primary survey; 2: managing sudden hemodynamic changes; and 3: managing cardiopulmonary arrest). The timeframe assigned for the three scenarios was approximately 25 min: 10, 5, and 10 min for Scenarios 1, 2, and 3, respectively. It should be noted here that only the first two scenarios are discussed in this paper as none of the teams participating in the six recorded simulation sessions completed Scenario 3 (largely due to the teams' failure to perform an expected procedure, *i.e.*, to call a code).

### Scenario 1: Conducting a primary survey

Scenario 1 aimed to assess students' ability to prioritize the procedures needed to assess the patient, including performing the Air, Breathing, Circulation, Disability, and Exposure (ABCDE) primary survey. Extract 1 shows the first phase of the simulation session. Like all of the other recorded simulation sessions, the simulation commenced with a set-up phase in which the faculty member began aside dialogue with the team, assigned roles, and provided an overview regarding the complete scenario. Based on the faculty member's remarks in lines 6–12, it can be noted that she reminded the students of certain critical information concerning the patient. This information set-up the scenario, revealing the primary medical diagnosis of the patient, *i.e.*, trauma in the form of a severe laceration to the right leg. This introductory information, if well responded to by the team, should positively contribute to the commencement and completion of the expected interventions in Scenario 1. Declaring the beginning of the scenario, with a rising intonation (line 12), the faculty member concluded the set-up phase by delegating responsibility to the primary nurse.

#### Extract 1

Line	Speaker	Text
1	Faculty member	Ladies
2		[Soft background noises] Can we start?
3		[Soft chatter] Can we start?
4		Okay can we...are you ready?↑
5	Students	Yes, yes [Soft talk]
6	Faculty member	You are the...I told you, you are in ER
7		Your patient is coming in after having
8		been in a motor vehicle accident
9		and the uh patient has uh injured right leg...
10		so now your patient has been brought in here,
11		you have to manage this patient
12		PRIMARY nurse↑

Following the set-up phase, students were expected to commence the simulation scenario and work as a team to perform the required medical interventions. The scenario began with a dramat-

ic entrance by the student who was taking on the role of a severely injured patient laying on a stretcher, escorted by the two lab assistants. Ideally, the team is required to act immediately, receiving the patient and beginning the case management process. As shown in Extract 2, the patient was conscious, breathing, and able to inform the team about the location of her injury (lines 13-14). However, this valuable information seemed to be overlooked by the team, meaning that the primary nurse could not build on the introductory information by obtaining more information from the patient (e.g., by double-checking the patient's information, the type of incident that happened, the location of the injury, the severity of pain, the level of consciousness, etc.). In line 15, the primary nurse requested an assessment of the patient's vital signs. However, it was unclear whether this request was a delegation of the task to the rest of the team or a declaration that the primary nurse would perform the task herself. Accordingly, this request went unheeded, most probably because it was not perceived as a request by the rest of the team. The request lacked the required tone (the student sounded like she was recalling information rather than requesting an action to be conducted), which led to the first ineffective task delegation among the team. The primary nurse repeated her request once again, but this time implicitly with a rising intonation, implying a request, /HURRY↑/ (line 20). Although the primary nurse attempted to use different request strategies, mostly relying on intonation, both requests seemed to lack not only the necessary paralinguistic features but also the basic syntactic features that are needed for effective speech act performance i.e., a request.<sup>20</sup>

Due to the passive behavior of the rest of the team, the patient intervened (line 21) by providing the students with a cue, which most probably was intended to direct the team's attention to the wound, so they could begin the *Exposure* assessment in the ABCDE primary survey. Following the model, the team were required to conduct wound management (i.e., undressing and assessing the injury). However, due to there being no immediate uptake to the cue, the patient screamed /Please HURRY↑/ (line 23), which reflected the slow interactions between the team rather than the expected dynamic, fast-paced environment in the ER.<sup>21</sup>

#### Extract 2

Line	Speaker	Text
13	Patient	[Patient screams in pain] "speaking in Arabic" – [i.e., I am in pain, my leg hurts. I cannot tolerate the pain]
14	Nurse 1	<inaudible> Two minute ... <PAUSE:1.0> vital signs for the patient?↑
15	Patient	"speaking in Arabic" – [i.e., Where is the doctor?]
16	Student 2	"speaking in Arabic" – [i.e., The doctor will come now]
17	Patient	[Screams in pain <inaudible>] [Nurses whisper to each other <inaudible>]
18	Patient	"speaking in Arabic" – [i.e., I cannot tolerate the pain. Please help]
19	Nurse 1	HURRY↑
20	Patient	"speaking in Arabic" – [i.e., Please hurry I am in pain] [The team seems passive—two nurses check the supplies] <inaudible whispering in Arabic between two nurses>
21	Patient	"speaking in Arabic" – [i.e., Where is the doctor?] Please HURRY↑ my leg hurts!]
22		
23		

The details of Scenario 1 (conducting a primary survey) are continued in Extract 3, with the primary nurse attempting to measure the patient's vital signs (line 24), as nobody had started this task. Next, Student 2, who failed to disclose her role in the team, commented on the patient's behavior (line 25), asking the patient to quit her "drama." Although the student who took on the role of the patient distinguished herself, creating a realistic ER environment and seeming to be highly engaged in her role in the simulation session, most of the other students, unfortunately, could not react as authentically to the interactions initiated by the patient. This could be because the other students could not overlook the fact that they were acting in a non-real situation. The comment made by Student 2 about "drama" (line 25) may also be a reflection

of the lack of seriousness among the team during the simulation practice.

#### Extract 3

Line	Speaker	Text
24	Nurse 1	[Begins measuring the patient's blood pressure]
25	Student 2	Quit your drama [speaking to the patient]
26	Patient	"speaking in Arabic" – [i.e., What do you mean drama!↑ What do you mean drama? Ah! I am in pain!]
27	Nurse 1	"speaking in Arabic" – [i.e., Okay! let me take your vital signs]
28	Patient	[Screaming] "speaking in Arabic" – [i.e., My wound on my leg hurts!]
29	Student 2	/DAGEEGAH/ "speaking in Arabic" – [i.e., Wait a minute] [Nurses whisper next to the vital signs monitor <inaudible talk>]
30	Patient	"speaking in Arabic" – [i.e., Give me some pain killers]
31	Nurse 1	"speaking in Arabic" – [i.e., Don't move, don't move... the doctor is coming]
32	Patient	"speaking in Arabic" – [i.e., Who is he?] [Vital signs monitor beeps in the background] [Short pause—the simulation room is quiet]
33		
34		

In response to this comment, the patient wittily redirected the communication to the scenario by declaring that she was in pain (line 27). This interactional move guaranteed the continuity of the session. The primary nurse responded with a lower tone /okay↓/ (line 28), and then she stated that she needed to assess the vital signs, a procedure that had been started at the beginning of the scenario. The patient, again, tried to redirect the nurses' attention to the wound in her leg (line 29), this time with explicit cues, i.e., directing the team's attention to her physical problem (the wound) and its location (the right leg). However, once again, the cues were overlooked by the team, and the patient's further contributions were silenced with Student 2's high-pitched comment, /DAGEEGAH/, i.e., wait a minute (line 30). In another desperate attempt (line 31), the patient intervened, asking the team to administer pain medication. With this interaction, the patient redirected the team to the *Circulation* assessment in the ABCDE primary survey, meaning that IV insertion should be attempted to allow potential administration of medicine. Again, this attempt was halted by the primary nurse's claim that the doctor was on the way (line 33). It should be noted that, one of the students should be playing the role of the physician within the team; thus, the primary nurse's comment may indicate her lack of knowledge of who was taking this role. This sequence of interactions showed that the students seemed slightly impatient, and their communicative style silenced the patient instead of encouraging her to share information in order to allow them to undertake an effective clinical assessment.

According to the US Joint Commission, effective communication and teamwork collaboration are essential to guarantee quality patient care.<sup>22</sup> Hence, regarding the transcript presented in the extracts, various untoward events should have been addressed with the students to teach them to avoid preventable medical errors. Firstly, as demonstrated above, there is an indication of a lack of harmony among the team members, particularly regarding understanding and performing their assigned roles as well as delegating and conducting delegated tasks. Secondly, the nurses failed to effectively communicate with the patient, offer her space to tell her story, and build a shared medical knowledge about the case, which is especially important as patients attending an ER usually have no written medical histories with them and there are usually no other patient records accessible in the hospital.<sup>18</sup> Students need to understand that the patient is a valuable source of vital information that can facilitate the whole healthcare process. Furthermore, it should be noted that, in all six recorded simulation sessions, there was a noticeable lack of use of interactional features (e.g., backchannels, discourse markers, hesitation markers, and yes/no and tag questions), which are considered to be effective tools in spoken discourse as well as being important in effective medical discourse.<sup>18,23,24</sup> Students need to be trained regarding how to effec-

tively elicit patient information as they simultaneously perform the physical assessment (e.g., by using yes/no and tag questions) instead of completely ignoring or silencing the patient. Lastly, as for skill performance, the nurses at this point failed to demonstrate their ability to effectively assess the patient's vital signs, perform IV insertion, and check and manage the patient's wound appropriately.

As shown in Extract 4, Student 3, whose role in the team is unidentified, requested that the physician be called and physically waved for the code team to join in (line 35). It should be noted here that, according to the model scenario progression, the role of the code team should have begun only in Scenario 3 (managing cardiopulmonary arrest). However, in line 37, we again see Student 3 explicitly asking the primary nurse to call for the physician, as she seemed to believe that the physician was part of the code team. Although Student 3 produced a clear and effective request, she provided no clinical justification for this request, and the patient was still conscious. Knowing that requesting the code team to join in is the job of the primary nurse, or whomever she delegates the responsibility to, a member of the code team asked that this request be issued by the primary nurse (line 36). Student 3 directed another explicit request to the primary nurse to call the physician (line 37). As can be seen in Extract 4, these interactions between the two teams were ceased by the faculty member (line 42).

The faculty member's interjection at this point shifted the interaction back to the first procedure, i.e., measurement of the vital signs by the nurses (line 44). Thereafter, Student 2 finally reported the readings of the vital signs and she indicated that the patient was hypertensive (line 45); however, it is unclear how she came to this clinical conclusion.

#### Extract 4

Line	Speaker	Text
35	Student 3	Can you call the physician? [Student 3 waves to the code team to join in]
36	Nurse code team	YOU need to do that [addressing Nurse 1]
37	Student 3	Primary nurse, can you call the physician? [addressing Nurse 1]
38	Patient	"speaking in Arabic" – [i.e., Hurry up] <inaudible chat between nurses >
39	Patient	"speaking in Arabic" – [i.e., Hurry up] <inaudible chat>
40	Patient	"speaking in Arabic" – [i.e., Please somebody talk to them, do anything] [addressing the rest of the team]
41		<inaudible Arabic chat between the two teams>
42	Faculty member	Don't tell them what to do...you don't even exist now [addressing the code team]
43	Patient relative	"speaking in Arabic" – [i.e., Hurry up please, hurry up guys, my mom is dying]
44	Student 2	Vital sign is 44 <inaudible>
45		She has some high blood pressure. And uh also

As shown in Extract 5, Student 3 re-joined the interaction and seemed to recall the management procedures. In line 46, she interjected with the discourse marker "Okay," followed by "FIRST↑" with a rising intonation. This made it seem like she was taking the interaction to the very beginning; thus, she was interrupted by the patient, who asked her to hurry (line 47). Next, the nurse successfully recalled the first step in wound management procedure, i.e., controlling the bleeding (line 48). The use of the first-person plural pronoun /we/ (lines 48 and 49) may indicate that the nurse was requesting the team's assistance and that they all should work on this collaboratively. Though Student 3 started the procedure, she then abruptly delegated the task to the primary nurse (line 50). After a short chat between the nurses, the primary nurse seemed to be about to perform the procedure; however, she just re-covered the wound. Shortly after this, the faculty member signaled the end of Scenario 1 to the patient, who was simulating being unconscious.

#### Extract 5

Line	Speaker	Text
46	Student 3	Okay FIRST↑
47	Patient	"speaking in Arabic" – [i.e., Hurry UP↑]
48	Student 3	We need to stop the bleeding...
49		Okay we will stop the bleeding [Student 3 removes the gauze from the patient's wound]
50		But primary nurse can you work on it? [Nurses speak softly with each other <inaudible>] [Vital signs monitor beeps]
51	Nurse 1	Okay] now we start <PAUSE: 2.0> [Primary nurse covers the patient's wound]
52	Patient	"speaking in Arabic" – [i.e., Give me pain killers]
53	Student 2	"speaking in Arabic" – [i.e., Okay okay]
		[Faculty member signals the end of acting and the patient pretends to be unconscious]

Extracts 4 and 5 illustrate other untoward events, including the contentious confusion about the assigned roles, task delegation, and responsibilities among the team. Again, regarding skill performance, the students failed to demonstrate effective management of the patient's wound or reporting of the patient's vital signs with accurate language and clear justification, which indicate the lack of adequate preparation for this practice. In addition, the nurses failed to notice that the once active patient had stopped speaking after line 52; accordingly, they missed identifying the deterioration in the patient's status and therefore missed the opportunity to act appropriately and in a timely manner to save the patient.

### Scenario 2: Managing sudden hemodynamic changes

With the patient unconscious, Scenario 2 began. Ideally, students are required to identify and manage sudden hemodynamic changes (i.e., a sudden decrease in heart rate, blood pressure, and response level) in the patient. As can be seen in lines 54–55, with the use of the first-person plural pronoun /we/, Student 2, suddenly, decided that the patient needed an allergy medication; accordingly, she decided to call the pharmacy. Although the rationale behind her decision is vague, it seems that some clarification of this decision was discussed between the nurses. Thus, in line 56, the primary nurse implicitly confirmed this decision by deciding to make the call herself. Following a brief interjection from the patient's relative, which should have alerted the nurses to the patient's deteriorating status, the primary nurse declared to the team that she would call the pharmacy (line 58). This decision led to an immediate interjection from the faculty member (lines 59–61). With a high pitch, the faculty member stated that the nurses cannot call anyone because they were in the ER and, accordingly, the full team (including the doctor and pharmacist) was there. This remark indicates that the physician is among the team surrounding the primary nurse and not with the code team, meaning that one of the students is not performing her assigned role. Although the faculty member's interjection served as a reminder to the students of their roles in the team, it indirectly hindered the likelihood of the team attempting to call a code. This was the action that the faculty member was waiting for, and five out of the six recorded simulation sessions had unsuccessful conclusions because the teams failed to complete this action. The faculty member then addressed the code team, which was physically present in the same simulation room, asking them not to interact with the rest of the team as, ideally, they should not be physically present in the ER area. All of the nursing students burst out laughing in reaction to the faculty member's comment. The faculty member's interjection at this moment, again, regressed the whole interaction back to an earlier stage, as evidenced by Student 2's decision to proceed with cannula insertion (line 68). The interactions in Extract 6 ended with a lengthy pause.

**Extract 6**

Line	Speaker	Text
54	Student 2	And we need to give her uh /allergy/ <PAUSE:1.0> /Allergina/ [i.e., allergy -as pronounced by the student]
55		so we will call the pharmacy [Nurses speak softly in Arabic <inaudible>]
56	Nurse 1	I will call the pharmacy and uh and [short pause]
57	Patient relative	Mom, "speaking in Arabic" – [i.e., Hurry up]
58	Nurse 1	Okay, I will call the pharmacy
59	Faculty member	You CANNOT↑ be calling anybody
60		You're in ER↑
61		You have the doctor with you
62	Student 2	Oh
63	Nurse 1	Yes
64	Faculty member	And YOU girls [addressing the code team] are not supposed to be anywhere
65		YOU DON'T EXIST↑
66		[Nurses burst out laughing]
67		I will insert the cannula for the patient
68	Student 2	[Lengthy pause]

While it is acknowledged that simulation sessions are learner centered and require minimal faculty member interjections during the practice, a faculty member's teaching expertise and clinical knowledge can highly impact the effectiveness of the whole practice.<sup>2</sup> Thus, if the faculty member had paused after various incidents and discussed them, this would have been a valuable learning opportunity for the students to notice and discuss their critical clinical and communication errors. For instance, the students' decision to administer allergy medication in Extract 6 clearly reflects inappropriate critical thinking and/or clinical decision-making ability. If there was a pause after this incident, the students would have gotten a chance to qualify the rationale behind their decision and decide whether the medication really fit with the patient's needs or situation. According to the institute of medicine (IOM) report, hospitalized patients often experience medication errors, which occur during the prescribing and/or administration phases in hospital.<sup>25</sup> Pausing at these critical points in simulation sessions would offer opportunities for the students to develop their clinical reasoning and validate their knowledge with an expert in the room, *i.e.*, the faculty member. In addition, as observed in Extracts 4 and 6 and in other recorded simulation sessions, the interjections of the faculty member always caused a deterioration in the interactions, with the participants reverting back to earlier in the scenario. Although the reason behind this deterioration is undetermined, based on the transcripts, the interjections could be modified to better impact the whole interaction. If the faculty member systemized her interjections at critical points, *e.g.*, to clear up confusion, clarify misconceptions, provide suggestions, direct the students' attention to specific training issues, and/or instruct the students on how to perform certain actions (*e.g.*, using the phone to call a code), her interjections would facilitate rather than hinder the practice process. The advantages of such facilitation include ensuring the continuity of the simulation sessions (as most of the six recorded simulation sessions did not make it to Scenario 3) and increasing self-confidence (as students had the opportunity to learn via this instructional strategy for the first time, while being observed, and were allowed to play various roles other than the role of a nurse).

**Extract 7**

Line	Speaker	Text
69	Patient relative	"speaking in Arabic" – [i.e., Mom]
70	Student 2	/khalas/ [i.e., That's it] she's dead [Nurses burst out laughing]
71	Patient relative	"speaking in Arabic" – [i.e., Mom]
72	Nurse 1	Okay, I will insert the cannula
73	Student 3	Can we clean the bleeding?
74	Student 2	<PAUSE: 9.0> [Long pause—silence] /khalas/ [i.e., That's it] dead. She's dead [Nurses laugh]
75	Nurse 1	I want to check the pulse [
76	Faculty member	The patient dies <PAUSE:1.0> because you <PAUSE: 2.0> OH MY GOD↓

[Ending Time: 0.05.00.5]

Interestingly, most of the six recorded simulation sessions ended in the first 5-10 min of the simulation scenario. As can be seen in Extract 7, the student who took the role of the patient's relative attempted to initiate communication with the patient, who had remained unconscious for several minutes. In response to this attempt, in the next turn, Student 2 ended the whole session, declaring the death of the patient " /khalas/ [i.e., That's it]. She's dead" (line 70). Among all six recorded simulation sessions, this was the only session that was ended by a student. In the remainder of the sessions, the faculty member declared the death of the patient. This death announcement triggered an abnormal reaction, *i.e.*, group laughter. Regardless of this declaration, the patient's relative redirected the interactions back to the scenario (line 71). This prompted the primary nurse to continue with the simulation scenario (*i.e.*, the cannula insertion). In response, Student 3 interjected, asking the team if they should clean the wound up. With no immediate uptake regarding either the comment about cannula insertion or the one about cleaning the wound, the interactions stopped, with a long pause. This silence was interrupted by Student 2, who re-announced the death of the patient, this time twice (line 74). Again, this made the whole team burst out laughing. The primary nurse stated that she wanted to check the patient's pulse (line 75), rather than performing the action itself. The faculty member then interjected and ended the simulation session by declaring the death of the patient: "The patient dies <PAUSE:1.0> because you <PAUSE:2.0> OH MY GOD↓" (line 76). As can be seen, the faculty member seemed to start to offer an evaluation regarding the patient's cause of death ("because you") but she did not complete this utterance, closing with the interjection "OH MY GOD↓," which may demonstrate disbelief, shock, or even worry because the simulation session deteriorated to this degree.<sup>24</sup>

The final extract ended, as all of the other five recorded simulation sessions, with the simulated death of the patient. The lack of effective teamwork and appropriate and timely clinical decision-making, along with the teams' inability to perform the expected procedure (*i.e.*, to call a code), contributed to the termination of many of the simulation sessions, including this one. However, educational value can be gained from seemingly poor endings. One of the major advantages of simulation practices is that errors are allowed because there is no potential risk to a real patient.<sup>2</sup> Thus, thorough debriefing following simulation sessions might help trainees to analyze their performance and decide how to improve it in future in-hospital situations.

## Discussion

This study aimed to contribute to nursing simulation research by highlighting some of the favorable as well as untoward practices that appear as simulation practices unfold. Examining authentic data shows that effective communication and collaborative teamwork between the team members are essential for the success of simulation practices. Based on the analyses, faculty members participating in nurse training are highly encouraged to help students to develop and practice strategies to improve team communication, thereby improving the quality of simulation practices. For example, crew resource management (CRM) interventions, which have been adopted by many healthcare organizations, can be used to enhance team training in this context. Nursing students need to learn how to work in harmony during simulation practices, be active participants, identify critical changes in the patient's status, and rapidly and appropriately intervene to save the patient and limit any possible adverse events.<sup>27</sup> Furthermore, it is important for students to comprehend that adequate preparation is vital and that the whole simulation experience depend on each student executing the role he/she is assigned to.<sup>28,29</sup>

The analyses also revealed the role of the faculty member during the simulation practices. Even with in-class preparation, this type of experience is still new and can be overwhelming to students; thus, strong support from the faculty member is highly encouraged to comfort students and increase their self-confidence and motivation. It is recommended that faculty members take an active role and be vigilant during training sessions to identify and assess critical communication and/or practice issues. Faculty members can take advantage of various opportunities to improve simulation sessions, allowing students to immediately reflect on their critical mistakes, think critically, and evaluate their clinical decisions, especially as most of the fine-grained, critical details might get overlooked during debriefing following simulation sessions. However, faculty members' interjections need to be well-planned to avoid communication deterioration as shown in this data. Although all of the recorded simulation sessions ended with the simulated death of the patient, they still possess an educational value that can be shared and discussed with future students either via debriefings or in classroom settings, especially that students are rarely exposed to such authentic simulation scripts prior to practice. Thus, the authentic transcribed sessions in this study can be used to supplement course materials and be used prior to similar simulation sessions to improve students' understanding of this type of instructional procedure and optimize simulation practice outcomes.<sup>21</sup> Lastly, as shown in the extracts, although both the faculty member and lab assistants were English language speakers, the students used Arabic to communicate, which may jeopardize the effectiveness of the simulation interactions and limit the faculty member's ability to address communication and clinical errors during debriefing sessions. Thus, further research needs to explore the impact of this interactional feature on the overall comprehensibility of interactions; meanwhile, it is recommended that students should be advised to speak in English and limit the use of code-switching, or use it with caution.<sup>19</sup> Simulation sessions have been shown to be a promising instructional tool to support nursing education, allowing students to practice in a safe and controlled environment. However, to improve the effectiveness, and to avoid poor simulation sessions, students need to be thoroughly briefed regarding the sessions prior to implementation.

**Correspondence:** Abeer Mohammad, Assistant Professor, Department of Languages and Culture – COSHIP-J, College of Science and Health Professionals, King Saud bin Abdulaziz University for Health Sciences, Jeddah National Guard Health Affairs (NGHA), P.O. Box 33337, Jeddah 21448, Saudi Arabia. Tel. +96622245653 Ext. (84) 45485. E-mail: mohammedabe@ksau-hs.edu.sa

**Key words:** Nursing, clinical simulation, discourse analysis, effectiveness.

**Conflict of interest:** The author declares no potential conflict of interest with any organization regarding the materials discussed in this paper.

**Funding:** none.

**Acknowledgments:** The author extends her thanks and appreciation to all the participants (the students, faculty member, and lab assistants) who generously participated in this study. This paper was written during the COVID-19 epidemic to support and recognize the work of healthcare providers and to highlight the need to improve health-related practices.

**Ethical approval:** Ethical approval was obtained in April 2019 from King Abdullah International Medical Research Center (KAIMRC) for collecting data in clinical simulation laboratories at a nursing college in Saudi Arabia.

**Informed consent:** All participants were provided with informed consent forms, which thoroughly explained the purpose of the study as well as the confidential and anonymous nature of the collected data, and they all provided signed informed consent.

Received for publication: 8 May 2020.

Accepted for publication: 8 June 2020.

©Copyright: the Author(s), 2020

Licensee PAGEPress, Italy

Journal of Public Health Research 2020;9:1784

doi:10.4081/jphr.2020.1784

This work is licensed under a Creative Commons Attribution NonCommercial 4.0 License (CC BY-NC 4.0).

## References

1. Chiang VC, Chan SS. An evaluation of advanced simulation in nursing: A mixed-method study. *Collegian* 2014;21:257-65.
2. Durham CF, Alden KR. Enhancing patient safety in nursing education through patient simulation. In: *Patient safety and quality: An evidence-based handbook for nurses*. US Agency for Healthcare Research and Quality; 2006: p. 221-260. □
3. Omer T. Nursing students' perceptions of satisfaction and self-confidence with clinical simulation experience. *J Educ Pract* 2016;7:131-8.
4. Foronda C, Liu S, Bauman EB. Evaluation of simulation in undergraduate nurse education: An integrative review. *Clin Simul Nursing* 2013;9:e409-16.
5. Kaddoura MA. New graduate nurses' perceptions of the effects

- of clinical simulation on their critical thinking, learning, and confidence. *J Contin Educ Nursing* 2010;41: 506-16.
6. Gilbert MK, Hutchison CR, Cusimano MD, Regehr G. A computer-based trauma simulator for teaching trauma management skills. *Am J Surg* 2000;179:223-8.
  7. Madden C. Undergraduate nursing students' acquisition and retention of CPR knowledge and skills. *Nurse Educ Today* 2006;26:218-27.
  8. Lin HH. Effectiveness of simulation-based learning on student nurses' self-efficacy and performance while learning fundamental nursing skills. *Technol Health Care* 2016;24: S369-75.
  9. Beyea SC, von Reyn LK, Slattery MJ. A nurse residency program for competency development using human patient simulation. *J Nurses Staff Dev* 2007;23:77-82.
  10. Saied H. The impact of simulation on pediatric nursing students' knowledge, self-efficacy, satisfaction, and confidence. *J Educ Pract* 2017;8:95-102.
  11. Kuznar KA. Associate degree nursing students' perceptions of learning using a high-fidelity human patient simulator. *Teach Learn Nursing* 2007;2:46-52.
  12. Leigh GT. High-fidelity patient simulation and nursing students' self-efficacy: A review of the literature. *Int J Nurs Educ Scholarsh* 2008;5:1-17.
  13. Alinier G, Hunt WB, Gordon R. Determining the value of simulation in nurse education: study design and initial results. *Nurse Educ Pract* 2004;4:200-7.
  14. Plummer JL, Owen H. Learning endotracheal intubation in a clinical skills learning center: a quantitative study. *Anesthesia Analgesia* 2002;93:656-62.
  15. Eiggins S, Slade D. Clinical handover as an interactive event: Informational and interactional communication strategies in effective shift-change handovers. *Commun Med* 2011;9:215-27.
  16. Hyland K, Paltridge B. *Continuum companion to discourse analysis*. London; Bloomsbury publishing; 2011.
  17. Schiffrin D, Tannen D, Hamilton HE. Chapter 27: Discourse and intercultural communication. In: *The handbook of discourse analysis*. Malden, MA: Blackwell; 2003.
  18. Slade D, Manidis M, McGregor J, et al. *Communicating in hospital emergency departments*. Springer; 2015.
  19. Mohammad A. *A discourse analysis of nursing handoffs: exploring nurse-to-nurse interactions in two hospitals in Saudi Arabia*. PhD Dissertation, University of South Florida; 2017.
  20. Cohen AD. Strategies for learning and performing L2 speech acts. *Intercultur Pragm* 2005;2:275-301.
  21. Scheeres H, Slade D, Manidis M, McGregor J, Matthiessen C. *Communicating in hospital emergency departments*. *Prospect J* 2008;23:13-22.
  22. Joint Commission on Accreditation of Healthcare Organizations. *Sentinel Event Statistics - June 30, 2006*. Available from: [http://www.jointcommission.org/NR/rdonlyres/FA465646-5F5F-4543-AC8FE8AF6571E372/0/root\\_cause\\_se.jpg](http://www.jointcommission.org/NR/rdonlyres/FA465646-5F5F-4543-AC8FE8AF6571E372/0/root_cause_se.jpg).
  23. Staples S. *The discourse of nurse-patient interactions: Contrasting the communicative styles of US and international nurses*, vol. 72. John Benjamins Publishing Company; 2015.
  24. Vasquez C. *The discourse of online consumer reviews*. London: Bloomsbury Publishing; 2014.
  25. Institute of Medicine; Committee on Quality of Health Care in America, Kohn LT, Corrigan JM, et al. *To err is human: Building a Safer Health System*. Washington, DC: National Academies Press; 2000.
  26. Goffman E. *Frame analysis: An essay on the organization of experience*. Cambridge: Harvard University Press; 1974.
  27. Gross B, Rusin L, Kiesewetter J, et al. Crew resource management training in healthcare: a systematic review of intervention design, training conditions and evaluation. *BMJ* 2019;9: e025247.
  28. Nehring WM, Lashley FR. *High-fidelity patient simulation in nursing education*. Burlington: Jones & Bartlett Publishers; 2010.
  29. Campbell SH, Daley K. *Simulation scenarios for nursing educators: making it real*. New York: Springer Publishing Company; 2017.