

When Things Go Wrong: A Qualitative Study of Nursing Students' Views of Clinical Mistakes

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ABSTRACT

Background: The hospital environment is frequently perceived by students as both dynamic and complex. Thus, clinical mistakes are considered inevitable and have adverse patient outcomes. The study explored nursing students' insights and experiences of mistakes in their clinical practice.

Methods: The study adopted an exploratory qualitative research design with a sample of 11 nursing students from a higher institution in Brunei Darussalam. Data was collected through semi-structured online interviews with seven open-ended questions.

Results: The study identified three key themes: the interpretation of clinical mistakes, perceived concern about clinical mistakes and the support required by students. This study emphasised the importance of effective communication, a nurturing educational setting, and reflective practice on clinical mistakes to enhance nursing students' professional development.

Conclusion: The findings of the study suggest that nursing students had an understanding of the negative implications associated with clinical mistakes. According to the students, the act of making mistakes is perceived to be valuable for both personal and professional development. Effective supervision, cultivating a constructive rapport, and developing trust make it possible to prevent clinical mistakes. Furthermore, the students emphasised the need to cultivate confidence, as it directly impacts their clinical proficiency. Therefore, a greater priority on patient safety should be incorporated into the curriculum to improve the management and prevention of clinical mistakes. Particular attention should also be paid to enhancing clinical learning through strengthened supervision by both supervisors and nurse educators. Most importantly, students must be able to recognise their responsibility to employ a proactive learning strategy to ensure patient safety and the efficacy of their clinical practicum.

Keywords: Preceptorship; Patient safety; Students; Nursing; Brunei; Curriculum.

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INTRODUCTION

Clinical mistakes are often regarded as an inevitable aspect of development and learning. Clinical mistakes are usually described as shortcomings in conduct or judgments made in a healthcare setting. Mistakes in decision-making, oral communication, or practical skills may be involved (1). Whether or not it is evident or adversely impacts the patient, a clinical mistake is an avoidable, unfavourable outcome of medical treatment (2). The most common clinical mistakes students make are implementing care, medication errors, patient needs identification, skills, and care planning mistakes (3). Yet studies show that students and educators view clinical mistakes as traumatic experiences (4, 5), whereby they describe feeling guilt, frustration, and fear when mistakes happen (6).

Meanwhile, nurses are frequently responsible for teaching and supporting undergraduate nursing students throughout their clinical rotations, intending to cultivate their professional growth (7). The clinical education of nursing students is believed to be influenced by six aspects: interpersonal, socio-cultural, instructional, environmental, emotional, and physical factors (8).

Regarding the interpersonal aspect, nursing students emphasised that clinical settings were characterised by constant change and that the nurses were too engaged to educate the students in such a fast-paced atmosphere. The complex nature of clinical situations has frequently been shown to have an adverse impact on students' learning (8). Another example illustrates a qualitative study that emphasised poor supervision during drug delivery as a contributing factor to medication mistakes among nursing students.

This occurred when the nurses were burdened with heavy workloads, causing them to prioritise their duties towards their patients over the students under their supervision. They emphasised the significance of having role models, particularly senior nurses, who can serve as examples for safe medicine practices. These role models should demonstrate proper storage of medicines in the inpatient room, verify the accuracy of administered medicines, and engage in safe

preparation and storage of medicines until they are given to patients. Hence, the results indicate that appropriate role models and adequate supervision are crucial for attaining proficiency in medication safety skills (9).

Hence, this raises the concern over the adequacy and quality of clinical supervision. A satisfactory clinical learning environment and effective supervision have been linked to enhancing students' clinical competence and have a notable impact on the results of their experiences (10). Hence, considering that nursing students undertake clinical placements as early as their first year, it is essential to understand the meaning of clinical mistakes so that theoretical and clinical education can emphasise the significance of designing effective strategies. Additionally, this will enhance the standard of clinical supervision and the student's clinical learning.

METHODS

Study Design

A qualitative descriptive study design was undertaken as it was the most appropriate to explore the student's perspectives on how they perceive and encounter mistakes during clinical practice.

Study participants

A total of eleven eligible students agreed to participate in the study. The students were presently enrolled as undergraduate nursing students in Brunei Darussalam and have successfully fulfilled a minimum requirement of one clinical practice rotation. This criterion was based on the student's familiarity with the topic and their practical experience in a clinical setting. The students were recruited using the purposive sampling method. The gatekeeper emailed the study invitation to a group of university nursing students.

Data Collection

Data collection was carried out in November 2022. The research team conducted individual email interviews, which allowed the students additional time to reflect on their answers, enabling them to evaluate and reflect upon their responses. This facilitates a more thorough and deliberate interview. Each

student was requested to fill out the interview template and return it within one week. Only three students requested additional time to return their responses. A broad question started the interview: "In your opinion, what is the definition of the phrase 'clinical mistakes'?" Following that, the students were asked about their encounters with mistakes, reflection on mistakes committed by their peers, perceived causes of the mistakes, emotions experienced after the mistakes were made, experiences of clinical supervision, and their perception of the interaction with the nurses in the clinical setting.

Data Analysis

Following the verbatim transcription of all interviews, the six phases of the thematic process, as outlined by Braun and Clarke (11), were applied to the analysis. The initial phase entailed the research team engaging in multiple reviews of the interview transcripts. Conversely, the second phase consisted of categorising the transcript and compiling all pertinent data extracts in preparation for subsequent analysis phases. The team examined the codes and collected data in the third phase to identify significant patterns of probable themes. In the fourth phase, the themes were compared to the transcript to ensure they provided a credible narrative about the data and addressed the research question.

The fifth phase was a comprehensive analysis of each theme and delineating its scope and focus. The team concluded phase six by integrating the themes and situating them within the framework of prior scholarly works. It is imperative to emphasise that each phase was executed recursively, involving iterative transitions between phases. The phases above were perceived as a strategic guide for review, enabling a thorough involvement with the data analysis. In translating from Malay to English, English words or phrases were utilised due to the existence of an English translation for the source words.

Trustworthiness

The four aspects of qualitative research's trustworthiness are dependability, credibility, conformability, and transferability (12). In this study, each of these aspects has been

established. The study was carried out to establish dependability by repeating every step to identify similarities in the outcomes and improve the conclusions. Additionally, this stage ensures the maintenance of consistent themes (13). The data collection was discontinued following the eleventh interview, at which point further information no longer contributed to the perception of clinical mistakes. This cessation established criteria for credibility. In addition, participant quotations were included in the findings to ensure conformability. The participants' wide range of experience levels enhanced the transferability of the findings.

Ethical Consideration

Since the study involves human participants, ethical approval was obtained from the Faculty Research Ethics Committee (Reference: UBD/PAPRSBIHSREC/2022/82). Students took part voluntarily and received no money-related or other direct benefits for participating in the study. All students' identities were kept anonymous, and students were identified in the data using the Participation Identification Number (PIN) codes.

FINDINGS

The study participants represented diverse contexts; thus, it is imperative to account for variables such as gender, degree programme, academic year, and current semester. The duration of the degree programmes differs; four years of study is for direct entry with A-Levels. Conversely, students who have already completed a Diploma in Nursing may utilise articulation pathways for 3- and 2-year programmes. There were 11 participants in total, with four male and seven female. **Table 1** shows the characteristics of the students. The analysis showed three primary themes and subthemes that reflected nursing students' perception of clinical mistakes throughout their clinical placement.

Interpretation of clinical mistakes

Students understood clinical mistakes to be mistakes in judgment, mistreatments, wrongdoing procedures, injury, near miss, inaccuracy in giving treatment and medication prescriptions and using or giving incorrect equipment that occurs unintentionally. Clinical

mistakes, as defined by most student nurses, are any mistakes in any scope of practices that occur in clinical settings:

"While providing medical care, a person can make accidental clinical mistakes that may result from neglect. Mistakes too close to the edge are also included." (Student 5)

Several students asserted that clinical mistakes were frequent and unavoidable among nursing students. A student maintained that mistakes have the potential to lead to detrimental consequences, such as fatalities and injuries, and could have a negative impact on clinical procedures.

"Mistakes have an impact on the health and safety of patients." (Student 2)

According to the findings, students characterised personal experiences as clinical mistakes in the medical, surgical, and community health departments. As a result, four types of clinical mistakes are depicted in Table 2.

Table 1: Characteristics of the students

Characteristics	n	Male (n=4)	Female (n=7)
Degree programmes:			
4-years	5	2	3
3-years	5	2	3
2-years	1	0	1
Current Year:			
Year 1	5	2	3
Year 2	4	1	3
Year 3	2	1	1
Current semester:			
Semester 1	11	4	7

Table 2: Types of clinical mistakes that students perceive during clinical placements

Types of clinical mistakes	Description	Students' words
1. Misunderstanding	Lack of understanding and communication between multidisciplinary	"I just wrote my patients' vital signs on paper. After I have completed checking on all the patients, any patient file unused by the healthcare workers would be recorded again, whichever is applicable. So, the following day, the staff nurses told me that I did not check the patient's vital signs for the shift." (Student 2)
2. Medication errors	Lack of knowledge on preparing medication	"While preparing meds, [...] one of the medications is not supposed to dilute early, but I did. I feel bad because the nurses had to discard the medications." (Student 3)
3. Reckless decision-making	Failure to follow instruction	"[...] While transferring a patient from the trolley to the ward bed, the patient had spinal issues resolved during the surgery. To avoid harm to the patient, the people involved in the transfer should count together and lift in sync. However, I lifted early and did not follow the nurses' instructions. The nurse afterwards brought me to the side and explained how the surgery could have been pointless because of my mistake." (Student 1)
4. Improper treatment practices	Jeopardised patient's treatment	"Continuation of dressing for patients who have been discharged would be jeopardised when students failed to adhere to the specific instructions given in the patient's case notes." (Student 5)

Perceived concern about clinical mistakes

The factors contributing to clinical mistakes encompass the level of accessibility between nurses and students, instances of miscommunication, and the presence of unfavourable nursing characteristics. The students expressed their concerns with the perceived unapproachability of the nurses, which has resulted in anxiety and reluctance to engage in clinical procedures and learning activities. According to them, nurses need additional time to interact with student nurses as they are engrossed in their professional duties. Furthermore, clinical mistakes might be intensified by inadequate communication or miscommunication among students, supervisors, and the healthcare team. The students also reflected that nurses are commonly perceived to possess unreasonable expectations of students and maintain the belief that students should assume a greater workload than nurses. The students echoed that they were subjected to unfavourable characteristics exhibited by the staff nurses, including a lack of enthusiasm to provide instruction, deliberate disregard for students, a tendency towards indolence, and personal biases.

"The nurses may not be fond of specific groups of students for whatever reason or may not want to educate students due to a lack of interest. Or, it may be that the nurses' personalities cause this." (Student 5)

Students are bound to feel anxious as a consequence of their mistakes. Such emotional states include anxiety-inducing and self-disappointment regarding their incompetence, guilt towards the patient in the event of a negative outcome, and a dread of being reprimanded by staff nurses. Students' self-esteem and sense of accountability may be adversely affected by mistakes. Additionally, most students experience physiological distress when clinical mistakes become known, manifesting similar internal emotions.

"I am slightly disappointed with the fact that I still have room for improvement in terms of my competence. It takes a few days for the frustration to wear off." (Student 1)

However, while mistakes may impact students, they are generally accepted as opportunities for

development and learning to improve. In response, the students engage in self-reflection and offer guidance to one another to prevent the recurrence of mistakes. Students also incorporate the cultural value of recognising and valuing the counsel of others rather than disregarding it. Aside from that, students assert that mistakes were necessary to serve as a wake-up call. They will be instructed to exercise greater caution in their conduct.

"It has taken me some time to accept that learning from my mistakes is essential to being proficient in clinical operations. In the context of practical experience, failure is the most effective teacher." (Student 5)

Supports required by students

Numerous students in this study believe supervision is the principal support they need when undergoing clinical tasks. They felt that supervision prevented and controlled clinical mistakes while strengthening student confidence. Nurses may caution students, serving as a reminder that mistakes carry repercussions to avoid repeating mistakes. The capability of nurses to intervene, rectify students' mistakes, and instruct them on properly executing tasks is disclosed. According to students' narratives, inadequate nurse supervision may lead to mistaken judgment, which can have detrimental consequences. Additionally, students have suggested that clinical supervision serves as a protective measure that can assist students in managing their clinical pressure.

"I feel more confident in my ability to do clinical procedures when the supervision is of a higher quality. A "guardian angel" looking over my shoulder and guiding me helps me feel less stressed and provides me with a trusted professional to support me." (Student 4)

Furthermore, the student noted that a favourable rapport between supervisors and students enhances the educational encounters of students within healthcare environments. This phenomenon occurs due to its capacity to augment the approachability of nurses. As previously mentioned, a subset of students encountered challenges in initiating communication with their supervisors due to feelings of anxiety when seeking assistance from the nursing staff. In addition, students

were reluctant to engage in clinical procedures and demonstrated a lack of interest in learning. In the scenario where nurses demonstrate an authentic interest in students and provide them with assistance and encouragement. Under such circumstances, the student may have heightened motivation and enthusiasm to acquire knowledge from their mentor, reducing the probability of encountering clinical challenges. In addition, students anticipate that their supervisors will administer fair treatment and refrain from engaging in discriminatory practices. This is crucial for cultivating a conducive working atmosphere that promotes inclusivity and prevents feelings of exclusion among students.

"It has come to my attention that a mentor prefers certain students over others and treats them poorly merely because they do not wish to interact with students." (Student 3)

Furthermore, the inability of staff nurses to effectively supervise students due to a lack of intervention knowledge and ignorance of students' abilities and levels of expertise has been cited as a source of student dissatisfaction. Therefore, nurses must be knowledgeable and cognisant of students' capacity to intervene with other students during clinical placement. Mistakes may also transpire due to differences in students' practical implementations of concepts taught at school, such as disparities in implementing techniques across clinical settings. As a consequence, unintentional mistakes may occur within the settings. Students also reflected that they frequently forget what they have learned due to the inconsistent and dispersed nature of clinical hours.

"Additionally, there is a need for additional information to serve as the foundation for clinical mistakes. First and foremost, the nurses may require a proper orientation regarding how they do their jobs and how they manage the ward." (Student 2)

DISCUSSION

Three broad themes exemplify the understanding and experiences of student nurses regarding clinical mistakes. The initial theme in assessing students' understanding and knowledge lies in examining how they interpret mistakes (14). Students in this study perceived clinical mistakes as erroneous,

intentional, or unintentional occurrences that transpire within hospital environments and result in patient injury. The prevailing concern among the students was patient injury or adverse outcomes. This implies that the students were cognisant that their conduct could imperil and compromise the health and safety of patients (3). Consequently, adopting this course of action may serve as a deterrent against subsequent mistakes and indicate that establishing such a programme could lay the groundwork for providing the best health care possible (14). Multiple studies corroborate the notion that mistakes are inevitable among all nursing students, as indicated by the results above (4, 5). In addition, previous studies have also identified a range of clinical mistakes consistent with the students' findings (3, 15), namely misunderstandings, medication errors, irresponsible decisions, and improper treatment practices.

Based on the observations of students regarding clinical mistakes, it is commonly observed that a significant number of students tend to operate in a semi-independent manner, often failing to recognise some situations as mistakes despite their truly mistaken nature. A significant proportion of students exhibit deficiencies in comprehension, expertise, and compliance. A subset of the students knows of mistakes committed by their peers. This implies that some students may struggle to concentrate on small details that have the potential to endanger the well-being of the patient. Moreover, clinical mistakes were observed among students and nurses when unprofessional conduct was shown towards the students. For instance, the nurse failed to adhere to the patient's treatment recommendations with careful consideration.

The students also reflected on the aspects that contribute to clinical mistakes and recounted instances in which mishaps occurred. In line with the findings of Lawton et al. (16), which attribute this to interpersonal factors, the majority of these factors are associated with the conduct of the nurse or supervisors. Because of staff nurses' dishonest personality traits, such as bias or reluctance to teach, students' learning development and affection for them are hindered, causing them to feel hesitant and confused.

Moreover, students expect that their supervisor will genuinely be willing to assist them. Therefore, when nurses exhibit positive, desired qualities and rapport, students will not experience intimidation or be compelled to disrupt them (17). On the contrary, students and supervisors must recognise the criticality of effective communication and mistake resolution (18). This underscores the significance of proficient communication and a nurturing educational setting in addressing mistakes and deriving knowledge from them. Furthermore, for nurses to operate with efficacy, a foundational comprehension of teaching and learning is essential (19). This emphasises that besides offering assistance and direction to students, it is critical to possess the skills and knowledge necessary to educate and mentor them effectively in clinical practice.

In addition, students acknowledged and disclosed their psychological distress in the presence of clinical mistakes. This point establishes that students participating in this study are completely aware of any possible danger; they strive diligently to prevent mistakes due to their utmost regard for patient welfare and the standard of care (3). Moreover, their anxiety, tension, guilt, and fear, as well as self-blame, were all in line with findings from previous research (6). It is a place where students internalise negative emotions due to their mistakes. Furthermore, it is imperative to acknowledge the psychological anguish that arises from clinical mistakes and to emphasise the significance of providing students with a nurturing atmosphere that attends to their emotional well-being. To mitigate the adverse consequences of mistakes on students, they must be equipped with sufficient knowledge and skills beforehand and are offered emotional support to those who have encountered tension (20).

Meanwhile, students perceive clinical mistakes as important opportunities for acquiring knowledge, engaging in reflection, and enhancing their skills to safeguard patients' well-being. According to Heydari et al. (21), there is potential for enhanced academic performance among students exposed to circumstances that foster increased confidence. Establishing an inclusive and nurturing atmosphere for students facilitates the mitigation of apprehension and distress, hence

cultivating an optimal educational setting. Thus, it is imperative to emphasise and recognise the significance of accommodating clinical mistakes within realistic parameters in clinical settings. Consequently, failure is often recognised as a crucial teaching moment, particularly in experiential learning.

On the other hand, the findings underscore the significance of supervision, positive relationships, consistent clinical experiences, and a supportive working environment in meeting students' support requirements in healthcare contexts. The students expressed anxiety regarding the potential for adverse consequences stemming from mistaken decisions and procedures due to the absence of nurse supervision. Therefore, the students concluded that supervisors are most significant in fostering professional competence and confidence. Mentoring and instructing students is a fundamental nursing aspect that every nurse should possess. Students benefit from various valuable assistance and favourable results throughout their placement. Furthermore, students reported a sense of gratitude when their supervisors recognised their presence and diligent effort. This will encourage them to maintain a positive mindset despite mistakes (8).

Additionally, establishing a favourable relationship between students and their supervisors and nurses increases student and nurse motivation. This is demonstrated by a study in which the students reported having a disconcerting rapport with their supervisors. Consequently, the students voiced a strained rapport with their supervisors, which caused a reluctance to seek clarification and input from the nurses (22). This supports the idea that supervisors should actively communicate with students to facilitate their development. Moreover, positive role models influence their students' learning and professional development. According to Baldwin et al. (17), they inspire and direct students to obtain the essential competencies and understanding to thrive within the nursing profession.

CONCLUSION

The findings of the study suggest that nursing students had an understanding of the negative implications associated with clinical mistakes.

According to the students, the act of making mistakes is perceived to be valuable for both personal and professional development. Effective supervision, cultivating a constructive rapport, and developing trust make it possible to prevent clinical mistakes. Furthermore, the students emphasised the need to cultivate confidence, as it directly impacts their clinical proficiency. Therefore, a greater priority on patient safety should be incorporated into the curriculum to improve the management and prevention of clinical mistakes. Clinical supervisors and nurse educators should pay particular attention to students' supervision. Particular attention should also be paid to enhancing clinical learning through strengthened supervision by both supervisors and nurse educators. Most importantly, students must be able to recognise their responsibility to employ a proactive learning strategy to ensure patient safety and the efficacy of their clinical practicum.

LIMITATION OF THE STUDY

The scope of the study was restricted to nursing students enrolled at a single university due to the constrained time available for data collection. Thus, the findings apply solely to the examined population, namely a subset of nursing students in Brunei. In light of this, future research may include more students from various academic institutions.

CONFLICT OF INTEREST

The Author(s) declares(s) that there is no conflict of interest.

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AUTHOR CONTRIBUTIONS

All authors' equal contributions in this study started from the proposal, data collection, analysis, final report, and manuscript development.

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