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Using structured narrative to help a medical student reflect on an unexpected clinical situation

Li-Liang Chuang [a], Hwan-Wun Liu [a,b], Yu-Chuan Lin [c], Ying-Wei Wang [a,d], Shao-Yin Chu [a,e,f,*]

[a] Department of Medicine, College of Medicine, Tzu Chi University, Hualien, Taiwan
[b] Department of Occupational Medicine, Buddhist Tzu Chi General Hospital, Hualien, Taiwan
[c] Department of Nursing, College of Medicine, Tzu Chi University, Hualien, Taiwan
[d] Department of Family Medicine, Buddhist Tzu Chi General Hospital, Hualien, Taiwan
[e] Department of Medical Education, Buddhist Tzu Chi General Hospital, Hualien, Taiwan
[f] Department of Pediatrics, Buddhist Tzu Chi General Hospital, Hualien, Taiwan

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The concept of "hospital as a college", derived from Sir William Osler, has deeply influenced Taiwan's medical education. Most clinical rotation programs for medical students encourage and emphasize early exposure to the clinical environment and learning from patients for whom they provide primary care. In this context, the student occasionally faces, sometimes alone, unexpected and complicated clinical events. Particular issues such as "end-of life education" are not likely to be learned in the classroom [1], and experience is critical to cultivate competencies in a real clinical setting. However, the event may result in negative feelings such as helplessness, confusion, depression and anxiety about death [2]. Most medical curricula provide adequate essential training for professional knowledge and skills, but rarely deal with competencies in unexpected clinical situations, especially those that result in psychotrauma.

Narrative competence is required for the effective practice of medicine [3]; physicians with narrative competence not only reach and join their patient in illness, but also generate empathy, reflection, professionalism and trust. Reflective writing is a way to allow narrative medicine to examine one of medicine's central narrative situations, i.e., physician and self. Reflection is an important metacognitive process [4] and reflective practice has been found to be a primary mechanism in the acquisition of expertise [5,6]. Reflection thus becomes an essential competency of medical students. Through repeated processes of metacognition, i.e., cognitive reconstruction via deliberate induction, deliberate deduction, testing, openness to reflection, and meta-reasoning, students can be helped to cope with many critical rites of passage [7]. This study proposed structured narrative reflection using handwritten narrative reports and mentor–mentee conversation using the 5R reflective practice model (5R: reporting, responding, relating, reasoning, and reconstructing) [5,8] to foster the competencies of medical students in unexpected clinical situations.

A medical student, who met regularly with his mentor, mentioned that he had experienced an unexpected situation in the delivery room where he was taking care of an expectant mother who suddenly developed several seizures. He was not able to provide essential assistance, which made him feel depressed and anxious. The mentor tried to help him with structured narrative reflection, and asked him to write down the whole event in detail. A mentor and mentee conversation was arranged that lasted 30 minutes. Later, the mentee arrived with a handwritten account of his story. A narrative description of the whole event was facilitated by a set of questions designed through the use of the reflective practice strategy. The conversation was audiotaped. The content was analyzed for educational purposes. The reflecting practice was adopted to sort the narrative impacts that the student valued in this clinical event.

1. The handwritten narrative report of the event by the medical student

"*One Saturday morning, I was rotating to the obstetrics and gynecology ward and writing progress notes. Mrs. P, a 30-year-old*

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* Corresponding author. Department of Pediatrics, Buddhist Tzu Chi General Hospital, 707, Section 3, Chung-Yang Road, Hualien, Taiwan. Tel.: +886 3 8561825x3649; fax: +886 3 8563532.
E-mail address: chu_chu@tzuchi.com.tw (S.-Y. Chu).

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healthy expectant primipara with no history of gestational hypertension or proteinuria, was admitted because she was overdue. After rupture of the membranes, labor was augmented, supported by a nurse practitioner. Suddenly, I heard "Intern! The patient is having a seizure". I hurried to the bedside, and saw the patient was having a generalized convulsion, her lips were cyanotic, and she was not responding to our voices. Many alarms were sounding. My mind was totally blank and I did not know what to do. I felt shame for wearing a doctor's white coat and doing nothing. The seizure lasted 3–5 minutes and the fetal heart rate was 60 beats per minute. The patient was transferred to the delivery room and had no memory of the seizure. A pelvic examination revealed the delivery station was 2+. The attending physician and the patient's family were informed, and a neonatologist was requested to be on stand-by. All the monitor settings normalized and the room became quiet again. Suddenly, the patient had another seizure as we were discussing a possible emergency cesarean section. The cyanotic patient with generalized tonic–clonic convulsions scared me a lot, especially the noise her legs made as they struck the bed. The fetal heart rate decreased again and the monitor started to sound very loudly. I called an emergency code promptly, I was still in a flurry, but was trying to do something. I used my arms to hold the patient to prevent her falling from the bed. Then I heard "Keep a clear airway" and on reflex I hurried to find an oropharyngeal airway from the first aid kit. This took some time as I was unfamiliar with where to find it. Oxygen was also supplied at the same time. The whole process of emergency care was chaotic, and then many doctors rushed in to help. The attending physician started to carry out an episiotomy and a vacuum was prepared. The seizure stopped again and Mrs. P relaxed into a flaccid posture. The fetal heartbeat recovered again, and fortunately the baby was born using a fixed vacuum and some outside pushing effort on Mrs. P's abdomen. The newborn baby had APGAR scores of 3 and 8 at 1 minute and 5 minutes, respectively, after neonatal resuscitation by the neonatologist. Very loud baby cries filled the delivery room, which seemed to calm me down a lot."

2. The 5R reflective narrative results from the mentor–mentee conversation

Responding: What were your feelings and responses to the situation?

"I went blank initially; I was so afraid and confused. I did not know what to do; this was my first clinical experience facing a pregnant woman who presented with a seizure during the delivery process."

Relating: Are there any connections between this event and your past experiences and understanding? What did you learn?

"My past experience and knowledge did not help at all. I was in a passive state, which was only broken by the experienced medical personnel. I was unfamiliar with emergency settings and did not understand the patient's whole medical story; however, I needed to make judgments during the encounter. I hope we can have more opportunities to learn in depth from patients to deal with uncertainties clinically. Clinical uncertainty is so evident to me now."

Reasoning: Can you analyze more about the whole event? Did you find any significant factors underlying this clinical encounter?

"For a novice, the support system is very important. When the resuscitation team rushed into the delivery room, everyone had their roles to play; strangely enough, they collaborated well and in a harmonious way. I found that teamwork is very important and every individual member of the medical team had his contribution to patient care. I shared this unforgettable and valuable experience with my colleagues and learned to develop self-directed learning. I can share my knowledge and experience in dealing with seizures in pregnant women."

Reconstructing: In the future, can you develop some action plans based on this event?

"Being prepared for the next stage of learning is very important when facing unexpected events clinically. Preparing medical students before they enter the clinical years through training programs using simulations for orientation or other strategies is important in providing appropriate patient care. For example, instruction in the basic life support/resuscitation process is needed to encourage medical students and personnel to practice repeatedly to provide better patient care."

Reflecting: Can you give some feedback on this debriefing?

"As a medical student, it's hard to acknowledge an error or lack of competence when facing a crisis. However, this unforgettable and valuable event made me recognize the limitations of my knowledge, skills and experience in dealing with an unexpected event in the delivery room. I should be more humble and realize I need life-long learning. After the conversation with my mentor, she encouraged me to observe, practice, reflect and learn lessons from the event. I was able to face the event bravely rather than with shame. The event transformed me from a passive bystander to an active participant and learner in the medical team."

After the mentor–mentee conversation, the narrative impacts were analyzed and presented following the reflecting practice model (Table 1).

Table 1
The narrative impacts follow 5R (responding, relating, reasoning, reconstructing and reflecting) strategies.

Strategies	Narrative impacts: the transformation
Reporting	Description of the event Story telling and debriefing
Response	Emotionally from shock, to face, and to handle situation in action Feeling roles transformation: from medical student to a physician, from inactive to active stakeholder
Relating	The uniqueness of the experience Lack of experience faced with an unsuspected event Seeing one's own blind side Gap in knowing what to do
Reasoning	Every clinical encounter worth its weight in gold Patient is our best teacher Explore the importance of interprofessional collaboration and spirit of team work
Reconstruction	Clinical medicine is an art of uncertainty; inheritance should take the greatest part Should increase the weight of simulated learning program before clinical year Personal growth should be monitored through effective mentor and mentee system Chances for narration should be emphasized more on teaching curriculum
Reflection	1. Clinical skills and required performance at intern level - Call for help - Familiarity with functioning devices at each clinical setting - Solid resuscitation procedure - Create opportunity for practicing technique of basic life support (BLS) and advanced cardiac life support (ACLS) 2. Opportunities from debriefing - Bonding mentor and mentee relationship - Teachers as mentors and peers as teachers - Helping student's passing of a developmental milestone

3. Discussion

The narrative content analysis revealed that the telling of this unexpected clinical event and debriefing helped this student transform from an inactive bystander to an active stakeholder. He learned many clinical lessons, and the uniqueness of the experience helped him identify weaknesses. The medical student was shocked and felt helpless, confused, and exhausted during his first encounter with a critical event. However, the structured narrative reflection helped him to recognize precisely what role he needed to play, how resuscitation should be done, and what competencies he needed to foster in the internship. The student learned how to reflect effectively, which will be beneficial to his future patient care, compatible with "practice-based learning and improvement", one of the 6 n ACGME (Accreditation Council for Graduate medical Education) core competencies [9]. The metareasoning and reconstruction period let the student become aware of clinical uncertainty and addressed the importance of simulated learning programs during the clinical years. He learned he should value every clinical educational encounter from a patient, appreciate the importance of interprofessional collaboration, and respect colleagues from different disciplines in the medical team.

How do medical students respond to clinical uncertainty and alleviate post-encountered anxiety? Our experience showed that face-to-face communication between a medical student and a mentor using structured reflective practice is a successful method [1,5,7]. We found that a debriefing seems to be very important, and the post-encounter debriefing process bonded the mentor and mentee relationship. Most importantly, this process significantly reduces psychological burdens, such as depression and anxiety, in medical students. We are interested in investigating whether structured reflective practice is helpful in reshaping medical students' behavior and attitudes.

A handwritten narrative account of an unexpected clinical encounter is a good way of helping a student carry out self-reflection. The process of the 5R steps of reflective practice can be useful during mentor and mentee conversation. The whole process not only identifies the status, strengths and weaknesses of the student, but also assists with maturation of the student's medical career. Sharing and discussing the event with peers and acknowledging one's limitations can bring about positive personal growth. An orientation course, accessible supervision, and a post-encounter debriefing process with educational intervention are beneficial in preparing medical students for unexpected clinical events in daily practice.

4. Conclusion

"Structured narrative reflection" helped a medical student reflect comprehensively and effectively about a clinical situation for which he was unprepared. Therefore, competence in "practice-based learning and improvement" was developed.

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