Introducing reflective narrative for first-year medical students to promote empathy as an integral part of physiology curriculum

Savitha D,1 Taniya Anto,2 and Sejil TV3
1Department of Physiology, St. Johns Medical College. John Nagar, Bangalore, Karnataka, India; 2Department of Physiology, St. John’s Medical College, Bengaluru, Karnataka, India; and 3Department of Physiology, St. John’s Medical College, Bengaluru, Karnataka, India

Abstract

Guided reflective narratives facilitate deeper understanding and learning. The study was aimed at exploring the scope of guided reflective narratives on early clinical exposure, for first-year medical students, in promoting empathy. Strengths and limitations of the process of reflective narratives were also explored. First-year medical students (n = 150) were exposed to guided reflective narrative writing following each of the three “early clinical exposure” sessions integrated into a physiology curriculum. A feedback on the entire program was obtained through a semistructured questionnaire. The contents of the reflective narratives and feedback on the program were analyzed. Students empathized with the situation and needs of patients and caregivers and work efficiency, communication, behavior, and teamwork from members of healthcare and thereby emerged with the idea of the coordinated effort in patient care. They realized the importance of cooperation from patients and caregivers and work efficiency, communication, behavior, and teamwork from members of healthcare and thereby emerged with the idea of the coordinated effort in patient care. Students opined that reflective narratives made them reflect and empathize with people and situations. Too many narrative writing sessions and hesitation to share their thoughts were some of the suggested limitations. The process led to emergence of a working model for guided reflections to promote empathy. Guided reflective narratives made students reflect and relate to people and situations. While promoting empathy, the reflections also gave them an idea of holistic approach to patient-centered care. Inferences led to a conceptual model for guided reflections to promote empathy among medical students.

behavior; communication; empathy; early clinical exposure; guided reflective narrative; patient care

INTRODUCTION

Empathy is a “concept involving the cognitive as well as the affective domain” (1, 2). Coulehan et al. (3) further described empathy as consisting of three components: a cognitive component in which the clinician “enters” the patient’s perspective, an emotional component in which the clinician puts himself or herself in the position of the patient, and finally an action component in which the clinician communicates understanding by checking back with the patient (4). Studies have proven that physician empathy leads to improved patient satisfaction, greater adherence to therapy, and better clinical outcomes (5–8).

Teaching empathetic doctor-patient interaction to medical students has been a challenging task (4). Studies have shown that empathy declines during medical school (5, 9, 10), but active educational interventions could make a difference (4, 5, 7, 9, 10). Methods of teaching empathy focus on cognitive, emotional, and affective components and include teaching communication strategies, reading literature, and writing reflective narratives (4, 11). Guided self-reflective narrative allows an individual to reflect on an action or event, which facilitates continuous learning (6, 7, 12). Some studies propose that reflective writing exercises may be incorporated into medical curricula to increase trainee empathy (4). In India, the potential role of reflective writing in medical education needs further application and research (13).

The Medical Council of India (MCI) (replaced by “National Medical Commission” in the year 2020) revised the undergraduate medical education curriculum. “Competency based undergraduate medical education curriculum-CBME” was implemented in the year 2019–20 to elucidate the competencies that students must acquire (14). It increases focus on skill acquisition and development of attitudes like empathy and professionalism. Apart from the AETCOM module (attitude, ethics, and communication skills) (15), the new curriculum promotes development of attitudes like empathy by putting emphasis on the development of the affective domain as an integral part of every subject, so that it becomes an ongoing process.

The pilot exercise of integrating “early clinical exposure” into the physiology course was introduced in our setting from the year 2015, even before it was mandated by the MCI, and...
has been running since that date. Students have reported that the program was relevant, did not interfere with their physiology course, and improved their understanding of physiological concepts (16). However, we had not captured the student learning in the area of attitude development through reflective writing. The new curriculum mandates “early clinical exposure” for medical students as an integral part of every first-year subject of their course (preclinical year). The objectives of ECE are 1) to ensure that the learner recognize the relevance of basic sciences in diagnosis, patient care, and treatment; 2) to provide a context that will enhance basic science learning; 3) to relate to experience of patients as a motivation to learn; 4) to recognize attitude, ethics and professionalism as integral to the doctor-patient relationship; and 5) to understand the sociocultural context of diseases through the study of the humanities (17). There is a strong emphasis in the new curriculum to introduce reflective narratives, which have a largely untapped potential to promote values like empathy among medical students (17, 18). This is also relevant since there has been some concern that the preclinical courses dehumanize medical students (19).

Hence, as an integral part of the physiology curriculum, we introduced guided self-reflective narratives on early clinical exposures for first-year medical students. The effectiveness of the program in meeting the first objective of ECE namely “the relevance of basic sciences in diagnosis, patient care, and treatment” outlined by the curriculum was not analyzed in this study. Qualitative analysis of the narratives was done to observe if the learners could “relate to experience of patients as a motivation to learn and recognize attitude, ethics, and professionalism as integral to the doctor-patient relationship and understand the sociocultural context of diseases,” thereby promoting empathy. This is one of the objectives of the “early clinical exposure” sessions as mentioned above (17). We also tried to capture new learning and limitations of reflective narratives as a process through content analysis of the narratives and a semi-structured feedback questionnaire at the end of the program.

### METHODOLOGY

The program was introduced in a private, not-for-profit, Catholic medical college in Karnataka state of South India. The admission process for the academic year 2019–20 was through the National Eligibility Entrance Test (NEET), which is the common entrance test for all medical colleges in the country. As a religious minority institution, 75% of students were Catholic, including religious nuns. The study was approved by the Institutional Ethics Committee (IEC Study Ref. No. 190/2019 Dt. 05.07.2019). All first-year Bachelor of Medicine, Bachelor of Surgery (MBBS) students of the academic year 2019–20 (n = 150; 48 men, 102 women) aged 16–30 yr were enrolled in the study. Students were oriented to the objectives and requirements of early clinical exposure at the commencement of the course. To familiarize the students with the program, the investigators explained to the students in detail, the concept and purpose of writing reflective narratives during their course. Written informed consent/assent (from those <18 yr) was obtained.

### Early Clinical Exposure

Each clinical visit was conducted during the 2.5 h for practical physiology on Mondays, Tuesdays, and Wednesdays, with 50 students on each day. Potential clinical departments in the hospital were identified based on topics covered in the physiology curriculum for first-year medical students and the relevance of clinical concepts in understanding those topics. The logistics of visits to these clinical departments were explored. The deciding factors were availability of the required number of clinical staff and the time they could spare over 3 days and the number of in-patients with specific diseases in the wards. The visit to the blood bank was a mandated clinical visit as per the revised curriculum. Learning objectives, observation guides, and previsit reading material for visits to the shortlisted departments were prepared in concurrence with the clinical staff. The presence of patients with specific diseases and topics chosen for the clinical visits determined the components of learning objectives. These learning objectives of the early clinical exposure (ECE) were designed to address the physiological basis of the diagnosis and treatment of common diseases and to sensitize students on the relevance of physiology concepts in their clinical careers. The clinical visits were scheduled at regular intervals across the academic year.

**A novel ECE: rotations at the nursing station.**

The students were also posted, in turns, to nursing stations to understand the role of nurses in clinical care. In consultation with the nursing superintendent, five wards in the hospital were identified across male and female and private and semiprivate medical wards. These wards were identified based on patient load, the nature of the disease of patients admitted, and the availability of spare time of the nurses posted. Two students were posted for 1.5 h to each of the identified wards for 2 days (10 students were posted at a time) beyond working college hours, according to a roster. The postings were scheduled in two blocks of 3 wk each (Jan., Feb., and Mar. 2020). Learning objectives and self-reflection questions for these postings were intentionally kept broad.

**Reflective narrative writing sessions as feedback to the ECEs.**

Students were given time for writing a narrative at the end of each ECE session. The session began with the first question for a simple recall of what they learned in relation to the first learning objective of ECE, which was to look at the relevance of basic sciences in diagnosis, patient care, and treatment. This part of the feedback process was not a part of the study objectives and was not analyzied. It was evaluated by the faculty of the department as a part of the curriculum mandate. This was followed by one to five validated guiding questions for self-reflections that made them relate to others by placing themselves in the position of persons/situations they were exposed to and express their feelings/reactions to the same. The guiding questions of the questionnaire were validated by expert peer review and administered to a few students, other than those in the study population, as a pilot before the commencement
of the study. The departments chosen for clinical visits, learning objectives, and the questions for self-reflection are as enumerated in Table 1.

**Final feedback questionnaire.**
A validated semistructured questionnaire was administered to the students online, through Google, to obtain feedback on the program of writing reflective narratives on ECEs. The feedback was anonymous and voluntary. The areas covered in the questionnaire were identified based on the themes that emerged from the analysis of reflective narratives. The questions intended to capture the extent to which the students could put themselves in the position of the patients/caregivers/medical staff through reflections, new learning, and the strengths and limitations of reflective narratives as a process (Table 2).

**Data Analysis**
Data obtained from the guided reflective narratives for each ECE and the final feedback were analyzed. The reflective narratives were scanned and emailed for transcription to an external agency after each ECE session. Data were

| Department involved | Learning Objectives | Method/Process Followed | Questions for Self-Reflection |
|---------------------|---------------------|-------------------------|-----------------------------|
| Blood bank (November 2019) | • To understand the relevance and procedure of the preblood donation screening.  
• To witness a procedure of blood donation.  
• To understand the practical aspects of separation of blood components and storage. | • Observation of the doctor-subject interaction and counselling during the predonation screening.  
• Observation and assisting the staff nurse in the blood donation process.  
• Observation and assistance of the laboratory technician in separation of the blood components  
• Interactive session with the doctor on precautions, indications, contra-indications, possible complications of blood donation, and indications for each component of blood. | • Apart from the learning objectives of the session, what did you observe that influenced (positive/negative) you?  
• What would be your thoughts if you have to go through screening of your blood followed by donation at the blood bank you visited?  
• If you were faculty of blood bank that you have visited, how would you convince or motivate someone to screen and donate their blood. |
| Cardiology (January 2020) | • To understand the role of echocardiogram, treadmill testing, and Holter monitoring in patient care.  
• To understand the anatomical and physiological basis of cardiac catheterization.  
• To understand the signs and symptoms of patients with cardiovascular disease. | • Bedside discussion and demonstration of clinical signs and symptoms of a patient with cardiac failure.  
• Interactive session of the role of ECG, TMT, and Holter monitoring in clinical practice.  
• Observation of a prerecorded video of a cardiac catheterization.  
• Observation of procedure of an echocardiograph. | • Apart from the learning objectives, what did you observe that influenced (positive/negative) you?  
• In relation to the patient suffering from the conditions that were discussed today, what would be your thoughts if you were the caregiver close relative of the patient?  
• Other than the patient’s health, what aspects of his/her life do you think will be affected by the illness?  
• Did you meet a patient in today’s session? Yes/No  
• If Yes, after observing the doctor-patient interaction, describe how you would communicate with a patient who comes to you with similar complaints?  
• You had the chance of spending 1.5 h with the nurses in the hospital during your first-year MBBS. Describe your experience and learning. |
| Nursing stations** (January/February, March 2020) | • To accompany the nurses through their responsibilities and observe the activities performed.  
• To observe the interaction between nurses and the patients and their attenders.  
• To observe the dosing the patients, wound and dressing care.  
• To observe the documentation and administrative tasks of nursing care. | • “Shadowing” of the staff nurse. | **Due to the emergence of the COVID-19 pandemic in February 2020 in India and the subsequent prolonged shutdown of educational institutions from March 2020, the reflective narrative sessions were canceled for the remainder of the planned early clinical exposures (ECEs), which were to be held once the students returned. This was done keeping in mind the time constraints for the completion of curriculum for the academic year and the uncertainty of the situation. **The prevailing COVID-19 pandemic prevented 10 students from being posted to the nursing stations. These students were exempted from writing the reflective narratives for the respective session. |
The transcribed data and the feedback obtained online were collated by the investigators. Qualitative analysis was done by each investigator independently using thematic content analysis. Codes, themes, and subthemes were derived, and consensus of themes was arrived at by mutual discussion among the investigators. Themes were looked at across the questions in each ECE session and across the three ECE sessions and have been substantiated with verbatim quotes or key phrases.

### RESULTS

Out of 150 students enrolled for the study, reflective narratives were provided by 145, 139, and 123 students after the first, second, and third clinical visits, respectively; the narratives were not written by absentees. The maximum word count of the three narratives ranged from 300 to 350 across the three sessions. The prevailing COVID-19 pandemic prevented 10 students from being posted to the third clinical visit and were exempted from writing the reflective narratives for the respective session as mentioned in Table 1.

The themes that emerged from the content analysis of reflective narratives are summarized in four broad areas: 1) empathy toward patients; 2) empathy toward donors and caregivers; 3) empathy toward members of healthcare; and 4) other new learning. This is followed by the results of the final feedback of the students on reflective narrative sessions.

#### Empathy toward Patients

Students placed themselves in the position of the patients and identified the aspects of patients’ lives they thought would be affected by the illness.

**Mental state.**

Students were able to relate to the state of patients in the wards during “cardiology” and “nursing station” visits of early clinical exposure sessions. Patients seemed to be “disturbed,” “confused,” “tensed,” “in panic,” and “suffering”. Both patients and the bystanders seemed to need “guidance” and “reassurance” to help them cope with the disease and the long hospital stay. Students connected with the patient’s feelings such as being “depressed,” “frustrated,” “helpless,” “isolated,” and losing the will to live. They could relate to the sense of “worry,” about the side effects of treatment and “fear” of not surviving or recovering at all. Patients needed constant “support,” “encouragement,” and “sympathy” from others. During the visit to blood bank, students were able to relate to the sense of “anxiety and inferiority” of blood recipients, their apprehensions about the use of sterilized instruments and the number and accuracy of tests, and their fear of being diagnosed as unfit or with a disease, and the students realized that they would experience the same if they were patients.

“If I was the donor, I would be most anxious about needle insertion through my veins for multiple times in case of requirement of large amount of blood, this can be a traumatic experience both physically and mentally…. (Female student)

#### Table 2. Final feedback questionnaire

| Questions                                                                                     | Yes/No | Give reason for your answer |
|---------------------------------------------------------------------------------------------|--------|----------------------------|
| 1. Did the process of writing down your thoughts made you reflect on your thinking regarding the early clinical exposures? (Tick your answer below) |        |                            |
| 2. In a likert scale of 1–10, How would you rate self-reflective writing as a process to promote your thoughts “to relate to patients”? (Tick below the appropriate scale, 1 = not at all effective, 10 = highly effective) |        |                            |
| 3. Did the process of writing reflective narratives following the early clinical exposures was useful for you in any other way? |        |                            |
| 4. What were the constraints/limitations you felt while writing the self-reflective narratives for early clinical exposures? |        |                            |
| 5. In the early clinical exposures: Did the process of reflective writing change the way you relate to a patient’s situation during hospitalisation/going through the laboratory tests/coping with treatment? (Tick your answer below) |        |                            |
| 6. Did the process of reflective writing on early clinical exposures change the way you relate to patient’s caregivers/relatives? (Tick your answer below) |        |                            |
| 7. Have you re-read your self-reflective writings anytime? (Tick your answer below) |        |                            |
| 8. Do you think self-reflective narratives on early clinical exposures must be continued for future first-year MBBS students? (Tick your answer below) |        |                            |
| 9. Do you think self-reflective narratives on early clinical exposures must be continued in your senior years as an MBBS student? (Tick your answer below) |        |                            |

MBBS, Bachelor of Medicine, Bachelor of Surgery.

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“If I was the donor, I would be most anxious about needle insertion through my veins for multiple times in case of requirement of large amount of blood, this can be a traumatic experience both physically and mentally… (Female student)
“.... patients were very scared because of the digital screens beep sounds and wires connected to them..... I would be scared too if I were in their place....” (Male student)

Financial situation, professional, family, and social life.
The students understood the gravity of the financial burden of investigations and treatment costs, during hospital stay and follow up visits, more so if the patient was the earning member of the family. Students connected to the patient’s problems like strain in family relationships, loss of bonding due to their prolonged illness and hospital stay, reduced socializing of patients due to a restricted lifestyle or avoidance by friends, absenteeism from work due to illness, reduced work performance, and loss of livelihood altogether.

“He (patient) will not be able to go for work which can greatly affect the livelihood of poor patients and their family. It will also be a rough period as they cannot live the life they used to....” (Male student)

Lifestyle and associated stigma.
Students felt that patients may be treated as “different,” “weak,” “inefficient,” and a “liability” even after recovery. They may be “blamed” for the problems they face. Patients themselves may develop an “inferiority complex” due to their illness. They also realized that the illness might make them “slow,” “cautious,” “restricted,” and “dependent” in their activities, in some cases having to avoid strenuous work completely. On the positive side, students felt that the change in lifestyle of patients would involve avoidance of risk factors and patients may become more “disciplined,” a change they felt the need to inculcate in their own lives.

Empathy toward Donors
Students expressed a sense of “feeling good” about helping loved ones and others and a “sense of sacrifice” in donating blood. They were able to relate to the “fear” of becoming weak, contacting/spreading diseases, being found unfit for blood donation, and “fear” of procedures involved like needle insertion. The visit to blood bank inspired them to donate blood for “the greater good.”

“Myself witnessing people donating their blood for the greater good of others inspired me to donate my blood someday.... helpful nature of donors always radiated positive vibes” (Female student)

Empathy toward Caregivers
By penning down thoughts about putting themselves in the position of caregivers, students were able to relate to the caregivers’ situations.

Mental state.
Students connected with the feelings of caregivers like “anxiety,” “worry,” being “terrified,” and “helpless.” They realized the need for guidance from the health care team to deal with the anxiety and cope with their responsibility of being the caregiver. Caregivers may feel “angry” or “irritated,” and they may also distrust the intentions of the hospital and doctors in prolonging the patient’s hospital stay.

Concern for patient.
Students connected to the care-givers’ concern about deterioration of the patients’ condition or death and wanting to reduce patient suffering. They could relate to their apprehensions about the long duration of hospital stays and dependence of patients following discharge from hospital. Students identified caregivers’ need to learn more about the clinical condition/risk factors that would help them understand the state of the patient. Students appreciated the patience and logical sense in their approach to patient’s needs. Students, in place of the caregiver, would hope for the patient’s recovery, and some would “leave things to God.”

Concern about self.
Students could relate to the concern of the caregivers about taking care of themselves, especially while looking after patients with chronic diseases, as it would take a toll on the caregiver’s life, lead to monetary loss, and require sacrifices, leaving them drained.

“As a caregiver, I would worry about the patient but also see through the condition calmly........ I would worry about the financial crisis in due course of treatment........” (Male student)

Empathy toward Doctors and Nurses
Patient care.
Students could connect to the dedicated service of medical and nursing staff for patient-care tailored to individual needs. They realized that as doctors they need to treat patients with “respect” and try to keep patients “as lively as possible,” which played a role in quick recovery. It occurred to them that it was the “moral responsibility” of doctors, within their purview, to help patients find assistance to deal with their financial problems, if any, to reduce the burden of treatment. Students realized that treating patients, blood recipients, and donors with patience, compassion, and understanding was of utmost importance.

“....doctor explained with so much patience and confidence .... the patient looked like he felt at ease... I would want to be that kind of doctor..........” (Female student)

Work efficiency.
Doctors. Students felt that as doctors, they need to imbibe the quality of constant vigilance and to be “on their toes” even if the situation is physically and emotionally demanding. There was no scope for “uncertainty” or “error” as they have the patients’ lives in their hand. Students connected to and appreciated the “efficiency” of doctors and faculty
members of the blood bank which was “very much essential.” They could relate to the strengths, challenges faced and work pressure, and realized that an efficient work system was the key for quality patient care. Eventually, they suggested various methods of communications to make it more appealing.

“.….we become more responsible because someone’s life lies in our hands. Our negligence can cause someone to lose life, to lose their dear ones. ……. (Female student)

“The factor that influenced me the most is their utmost concentration in the job… each step needs great care and has to be done with full dedication. The faculty (doctor) was happily willing to explain even the minute details.” (Female student)

Nurses. Students understood the importance of nurses being “hardworking,” “quick,” and “selfless” in their work with their focus being “patient-care,” as they were involved in helping patients in activities of daily routines like using the washroom, bathing, and changing catheters. They recognized the nurses as empathetic with patients, “punctual,” “disciplined,” and very efficient with “loads of documentation” that they came across in their work and despite their own personal family problems, the nurses worked tirelessly. It struck the students that the nurses were highly skillful in procedures, maintained sanitation and hygiene, used adequate protection (gloves and masks for communicable diseases), and proper methods of disposal of biomedical wastes. During the initial days of the COVID-19 outbreak, students witnessed and were moved by the selfless work of nurses. They realized that the nurses were integral to and played an important role in patient care.

“the selfless works of these Angels (nurses)…. her duties are really tiresome…. she never bothered to express how tired she was, but was rather happy to get blood samples, making reports every now and then, checking the bp, calmly enquiring the condition and requirements of the patients ….I could see the perfection she added to each and everything she did…. “ (Female student)

Behavior of medical staff and nursing staff.

Students connected to the attitude of doctors like “care,” “empathy,” “respect,” and “affection.” They were “on-call” all the time despite being tired. They were enthusiastic about teaching medical students. Some students noticed a “condescending” attitude toward the patient. The doctors were not serious about the patient’s condition, which seemed “unprofessional.”

Students appreciated the “cordial behavior” of nurses with patients as well as doctors. Nurses were very busy, yet “very approachable,” had “lots of patience,” and remained “calm,” and the nurses were concerned about the students who were posted with them, “worked with a smile,” “gained trust” of the patient, handled patients with different attitudes with calmness, and had empathetic and professional approach to patients.

“……inspite of busy schedule, they were so patient and answered every query of the patients with a smile…… explained prescriptions to family members…. “ (Male student)

Role of good communication.

Students understood that as blood bank faculty, they must learn to convey rules, regulations, and importance of proper screening, clarify misconceptions, motivate patients, explain autonomy in blood donation and other related ethical issues. Students connected with the clear communication of doctors and nurses who were “gentle, polite, and calm” while talking. Nurses kept the doctors in the loop and had an effective way of taking consent, qualities that they wished to emulate.

“…… the way staff spoke to patients was marvellous and seeing that just made me look forward towards this field even more ……..” (Male student)

“…. I wondered the way nurses interact with patients and their caregivers by calling them ‘appa’ (father) or ‘amma’ (mother) with due respect in patient’s mother tongue…..” (Female student)

Interpersonnel/interdepartment relationship.

The students internalized the importance of the coordination between the various staff members, which was like “clockwork” and “teamwork.” Everyone from the most junior to most senior was playing their part to run the department in an “organized” manner. Various departments were working together to serve the patients. The students recognized good doctor-patient/nurse-patient relationship as a part of patient care.

“the team-work involved in making safe blood available to needy patients was something that stuck me….. “ (Female student)

Other New Learning

Students found several techniques they witnessed like angiography, treadmill test, and echocardiography “fascinating” and recognized the expertise involved. They learned about techniques involved in blood screening, donation, and storage. During the nursing station visit, students went on ward-rounds with nurses and, with their aid, acquired some basic skills like recording of blood pressure, witnessed history taking and documentation in patient chart, interacted with patients, learned about diseases, and observed the hospital infrastructure. Few students expressed that nurses “were too busy” or “not very supportive.” Students also tried to build a rapport with patients and relatives directly and learned from junior doctors. They correlated theory knowledge and practical skills learned in classrooms with clinical conditions. A few mentioned, “they did not learn anything!” or “Nurse was very busy and didn’t interact with us, we simply stood there the whole time.” However, these students appeared not to recognize that patient care needs to be given priority over their learning.
“In the blood bank, I could see the application of knowledge in hematology…... I could appreciate the fact that technology plays a very important role in medical field especially in blood banks ….” (Male student)

Final Feedback on the Program

One-hundred and forty-seven students (101 women, 46 men) students provided feedback on the program. Students expressed their thoughts of strengths and limitations in the feedback on the process of reflective writing sessions.

Writing reflective narratives helped students empathize better with patients (n = 133; 92 women, 41 men) and caregivers (n = 130; 90 women, 40 men).

Students expressed that writing narratives made them more empathetic toward patients and caregivers and facilitated reflection that gave them insights into their emotional and physical ailments and their financial burden. They could connect to the patients’ sense of helplessness due to dependency on medical staff and their expectations from doctors, which were good communication and patience. They expressed that the reflective narrative writing raised their sensitivity toward humanity to a whole new level. Few students felt that the narrative writing did not make a difference in the way they related to patients (n = 14; 9 women, 5 men) and caregivers (n = 17; 11 women, 6 men), the reason being that that they simply wrote down what they felt and had already reflected upon. A few students also stated that while reflective narrative writing did not make a difference, the early clinical exposure sessions did.

In response to a Likert scale of 1–10, students rated self-reflective writing as a process to promote their thoughts “to be able to relate to patients” (1 = not at all effective, 10= highly effective), 129 students rated between 7 and 10, 21 of them rated between 3 and 6, and none of them rated 1 or 2.

New Learning

Most of the students (n = 141; 98 women, 43 men) expressed that writing down their thoughts made them “recollect, think, and reflect upon” the ECE sessions, contrary to their habit of straight away accepting others’ opinions. They also felt that mere writing helped them develop “an ethical angle” to clinical experience. It provided them “clarity and reinforcement” of their experience, made them “introspect on their new learning and drawbacks,” and “made them “better listeners.” Around six students felt reflections had no added benefits (n = 6; 3 women, 3 men) but that the early clinical exposure session itself had made them think.

Interestingly, many students reread their narratives (n = 97; 66 women, 31 men); as their thoughts had evolved, contradictory thoughts had emerged. They recalled what pain the patients went through, recollected the importance of “good doctor” to a patient, reinforced the values and ethics for their profession, felt good, and felt a surge of compassion for patients. It also boosted their confidence and helped reflect on their own attitudes and behaviors. Many students expressed that they had not reread the narratives they had written (n = 53; 35 women, 18 men). The reasons were that they did not find time, did not feel the need, never thought they should, no specific reason, or there was no time to read class notes themselves and hence did not bother about narratives.

Limitations

Students expressed several constraints/limitations of reflective narratives. One of the prominent limitations expressed by most of them was that repetitiveness of reflective narrative sessions made it monotonous. They felt it was not needed after every ECE (22 women, 18 men) as too many sessions made it monotonous. There were time constraints in writing (15 women; 2 men), reduced space provided for writing (6 women, 1 men), and insufficient interaction with staff and patients. This led to less writing in reflective narratives (25 women, 14 men). They did not want to write down their thoughts (13 women, 11 men), did not want to share their thoughts (12 women, 11 men), had language issues (7 women, 1 men), or had the fear of being judged (1 woman), and a few felt that there were no constraints/limitations (7 women, 11 men).

Most students felt that reflective narratives should be continued for the students taking admission to Bachelor of Medicine, Bachelor of Surgery (MBBS) during their first year of the course (yes: 93 women, 42 men) and also during the future years of under graduation (2nd to final year) (n = 123; 87 women, 36 men). They expressed that it helped reflect and introspect on experiences, prompted them to take clinical visits more seriously, helped them empathize with patients better, provided an ethical perspective and a human touch to clinical visits, and helped develop better attitude for patient care, self-confidence, and professionalism. A few students (n = 12; 8 women, 4 men) felt that narrative narratives need not be continued for future first-year MBBS batches and nor be continued in the future (2nd to final) years of their MBBS course (n = 24; 14 women, 10 men). They gave reasons such as it was too tiring, may not have time in future years, and bed side discussion during clinical postings could replace it.

DISCUSSION

Albanese (20) noted that surviving medical education was often a daunting process. Students were often task-focused, with little time for reflection. Given that adequate time and motivation are required to instigate reflection, it is not surprising that voluntary reflection is unlikely to occur in the medical student population (20, 21).

In our study, the process of writing reflective narratives nudged students to reflect on the experiences of early clinical exposure sessions. Students attended their routine physiology lectures and practical classes, which gave them the background knowledge and physiological basis of various concepts (learning). Periodic early clinical exposure sessions with specific learning objectives attempted to link the pre-clinical knowledge with clinical scenarios and to promote development of attitude (experience: exposure to people/situation and application of learning). This was followed by reflective narrative as a feedback on the ECE. The guided questions first asked them to describe what they had learned apart from specific learning objectives. This made the
students recap and describe the state of people, situation, interactions, and their overall experience (reflect: on the experience). The next two to three guiding questions nudged students to place themselves in the position of different people they encountered namely patients, caregivers, doctors, nurses, other healthcare workers (empathize: with people/situations). They could connect with the mental, physical, financial, professional, family, and social issues that patients and caregivers were caught-up in, all related to the illness of the patient. They placed themselves in the position of the medical and paramedical staff and thus internalized the strengths, roles, and responsibilities and challenges faced while delivering their duties. Thus the reflective exercise brought out emotions and reactions associated with the people in the environment they visited (analysis: feelings that arose from empathy). These emotions led to deeper reflections, a widened understanding of the experience and formulation of opinions and conclusions. Students opined that patient care was the center of focus of their profession. All people, situations, and actions need to be geared up toward achieving patient care, and they need to prepare themselves for this as future doctors (22). They inferred that positive state of mind of all stakeholders involved could solve many issues. Good doctor-patient/caregiver relationship and good interpersonal relationship among medical staff were essential elements of patient care (22). They recognized that they need to acquire both soft skills (like empathy, apt behavior, and good communication) as well as clinical skills, professionalism, and teamwork (23) (conclusions: formulation of opinions). These conclusions embedded them further in the situation and facilitated deeper learning (13). Although the objective of the study was to look at the role of reflective narrative in promoting empathy and understand its strengths and limitations, the inferences from the content analysis of reflective narratives allowed us to look at the reflective narrative as a process and led to the emergence of a working/conceptual model for reflections on early clinical exposures to promote empathy. The key elements are summarized in Fig. 1.

Several theories on reflective thinking have been proposed to explore deeper levels of reflective questions and provide a better way to structure learning. To mention a few: Boud’s triangular model (24) captures learning, experience and reflections. Gibbs’s reflective cycle (25) builds on Boud’s model by breaking down reflection into evaluation of events and analysis and links learning through experience and future practice. Jorwekar et al. (13) and Kolb and Kolb (26) suggested a model of experiential learning in which concrete experience starts with observations, reflections followed by formation of abstract concepts, and generalizations and testing of concepts in a new situation. The model we have proposed is similar to the above models. In addition, it allows reflection at two levels: initially for the students to reflect on their experience and next to put themselves in the position of persons/situation and to view the experience from their perspective. This leads to a deeper understanding of the experience, which helps them get embedded in the situation and emerge with conclusions.

Analysis of reflective narratives also revealed that reflections led to realization of the importance of developing all three domains, namely knowledge, skill, and attitude (27), to be a competent doctor, which is essential for patient care. This is supported by another study that demonstrated that by bridging the divides that separate physicians from patients, colleagues, and society, narrative medicine offers fresh opportunities for respectful, empathic, and nourishing medical care (6). Reflective narratives addressed few of the objectives of the “early clinical exposure sessions” namely “relate to experience of patients as a motivation to learn, recognize attitude, ethics, and professionalism as integral to the doctor-patient relationship and understand the sociocultural context of diseases” to a large extent. Analysis also revealed that the students had made their first step toward addressing some of the competencies mentioned in the AETCOM module for first-year medical students. To list a few, they were able to start understanding the professional qualities and roles of a physician; role of beneficence and nonmaleficence in patient care; medical, social, and ethical issues in patient

![Figure 1. Conceptual/working model for reflections on empathy for clinical visits during preclinical course.](http://advan.physiology.org)
care; importance, responsibility, and work ethics in the healthcare team; importance of documentation; empathy in patient encounters; and balance between personal and professional responsibilities (15).

As a reflection of the visit to nursing station, a few students expressed that they were disappointed that they spent time waiting for the nurses’ guidance while the nurses were busy. The investigators realized that there was a need for the faculty to sensitize students to the fact that their learning comes only after patient needs. This is important for students to understand before their clinical visits. Thus analysis of reflective narratives can serve as a tool for feedback to faculty as well.

Limitations in the Logistics of ECEs

The limitations involved in arranging for ECEs do affect the student reflections; hence, it needs to be explored. Visits to the clinical departments were structured with the intention of uniform exposure for students. However, there were minor changes due to commitments and responsibilities of the clinical departments. The postings to the nursing stations were intentionally kept semistructured, and there were bound to be significant differences in the clinical and affective experiences of the students based on the workload of the ward nurses, the availability of the patients, and the procedures carried out in the ward.

Reflective Narrative Writing: Strengths, Limitations, and Way Forward

Students appreciated that they could reflect, internalize, and relate to people and experiences of early clinical exposure by writing down the reflective narratives. Students expressed that monotony of too many sessions of reflective narratives, time constraints, not wanting to express their views in writing, very little exposure to patient interaction, and language were some of the limitations that could be addressed in future. These reflections were from a single medical college. Reflective narratives seem to be a powerful tool, but there is a need for refinement in terms of faculty training to handle the process, improving upon the guiding questions for reflections, improving upon the scope to write in regional languages, availability of time, removing the restricted classroom setting and allowing it to be done voluntarily at the subjects’ ease, and possibly reducing the number of reflective narrative session while retaining the impact. No quantitative measure of empathy was done pre- and postintervention (reflective writing) as done in other studies (28). Feedback was not provided to students on their reflections by the faculty, which is worthwhile doing. However, this paper may contribute to the development of a quantitative scale for reflective narrative writing (29).

Conclusions

Writing reflective narratives made students reflect and form opinions that promoted empathy toward patients and caregivers, blood recipients, and donors whom they perceived to be at the receiving end of the spectrum. They could place themselves in the position of doctors and nurses and realized the importance of efficiency, empathetic behavior, good communication, and teamwork in “patient care.” They reflected on the “holistic approach to patient care” which is the center of focus in medical profession. Few felt that reflections did not promote empathy but that the ECE sessions were enough to do so. Some did not want to write down/share their thoughts while others felt it led to introspection that is required to be a compassionate doctor. Students suggested that too many reflective narrative sessions made it monotonous. The study also enabled the investigators to come up with a working model for guided reflections to facilitate empathetic attitude among medical students.

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DISCLOSURES

No conflicts of interest, financial or otherwise, are declared by the authors.

AUTHOR CONTRIBUTIONS

S.D. conceived and designed research; S.D., T.A., and S.T. performed experiments; S.D. and T.A. analyzed data; S.D. and T.A. interpreted results of experiments; S.D. prepared figures; S.D. drafted manuscript; S.D., T.A. and S.T. edited and revised manuscript; S.D., T.A., and S.T. approved final version of manuscript.

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