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Improving empathy of physicians through guided reflective writing

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Abstract

Objectives: This study was designed to explore how guided reflective writing could evoke empathy and reflection in a group of practicing physicians.

Methods: Total participants recruited included 40 staff physicians at Cleveland Clinic, a tertiary care academic medical center. Twenty physicians (intervention group) were assigned to participate in a 6-session faculty development program introducing narrative medicine and engaging in guided reflective writing. Ten physicians (comparison group 1) received the assigned course reading materials but did not participate in the course sessions. Ten physicians (comparison group 2) neither received the reading materials nor participated in the sessions. Qualitative analysis of the physicians' reflective writings was performed to identify major themes. The Jefferson Scale of Empathy was administered three times during the course.

Results: Qualitative analysis of physicians' writings showed themes of both compassionate solidarity and detached

concern. Exploration of negative emotions occurred more frequently than positive ones. The most common writing style was case presentation. A total of 36 staff physicians completed the Jefferson Scale of Empathy. Results of statistical analysis suggested an improvement in empathy in the intervention group at the end of the course ($p < 0.05$).

Conclusions: These results suggest a faculty development program using guided narrative writing can promote reflection and may enhance empathy among practicing physicians. These findings should encourage medical educators to design additional strategies for enhancing reflection and empathic behavior in trainees and specifically practicing physicians who can role model these behaviors to achieve the ultimate goal of improving the quality of patient care.

Keywords: Empathy, reflection, communication, professionalism, faculty development

Introduction

Effective physician-patient communication is recognized as a critical component of health care quality. Patient Centered Communication Standards have been established by the Joint Commission in 2011.¹ In a recent meta-analysis, Zolnieriek and DiMatteo reported a 19% higher risk of nonadherence in patients whose physicians had poor communication skills.² Malpractice claims have been shown to be affected by communication skills in primary physi-

cians.³ Efforts to improve physician communication advance basic tenets of medical professionalism that focus on patient welfare, social justice and healthcare quality.⁴ Empathic communication, the skill of understanding the patient's perspective, is an important aspect of the physician-patient relationship. Hojat has defined empathy as "a predominantly cognitive attribute that involves an understanding of experiences, concerns and perspectives of

another person, combined with a capacity to communicate this understanding, and an intention to help.”^{5,6} Larson and Yao write of empathy as “emotional labor” stating “to meet the expectation of empathic treatment, physicians need to understand patients’ reactions at both the affective and cognitive levels and channel such comprehension in social behaviors with the patient.”⁷ Empathy is a higher-level skill that requires processing of the physician-patient interaction and purposefully responding in a way that relays understanding. Coulehan names the skill the “doctrine of compassionate solidarity” which preserves objectivity in physicians while forming empathic relationships with patients.⁸ To remain objective physicians must calibrate their own emotions in response to clinical circumstances, i.e. develop “emotional resonance” as suggested by Shapiro.⁹

Empathy and communication skills can be improved with training.^{5,10,11} We believe that reflection and efforts to improve self-awareness enhance empathic understanding in physicians. The importance of reflection in the assessment of professional competence in medical education has been clearly advocated¹² and has been explored.¹³⁻¹⁵ Through reflection, physicians can become aware of their emotional responses and their own personal biases and beliefs. This awareness can improve their ability to connect with the patients who entrust them with decisions when they feel most vulnerable- in the healthcare setting at a time of illness. One effective method to teach self-awareness is by developing narrative skills¹⁶ through reflective writing.¹⁷ Charon, a pioneer in the field of narrative medicine, defines this as “medicine practiced with the narrative competence to recognize, absorb, interpret, and be moved by the stories of illness”.¹⁸ We have used reflective writing to foster professional development in our medical students.¹⁹ This is the first reflective writing program developed at our institution for staff physicians.

Narrative skills training and reflective writing have been described among 10 approaches for enhancing empathy in medical students and practicing physicians.⁵ Anecdotal reports suggest that these approaches are likely to result in a better understanding of patients’ concerns.^{5,6} However, the short- and long-term effects of such training in enhancing empathy have not been documented by empirical evidence and by using a psychometrically sound instrument specifically developed to measure empathy in the context of patient care. Our focus was on practicing staff physicians to whom we offered a safe time and space and a guided prompt for reflection- time to think as well as write. Our writing prompts allowed reflection on barriers to empathic communication with specific qualitative assessment of level of emotional connection with a patient. Our intent was to provide opportunity for practicing physicians to consider how to improve empathic relationships with patients with the broader goal of promoting professional behaviors that enhance patient welfare, social justice and healthcare quality.

The key feature in conceptualization of empathy in patient care is understanding patients’ concerns and problems.⁶ Based on this notion, one can assume that any activity that can contribute to improving physicians’ understanding of the patient -including reflective writing- can potentially enhance empathic understanding in the context of patient care. We designed this study to explore how guided reflective writing exercises during a six-session faculty development program could evoke empathy and reflection in a group of practicing physicians. We used qualitative analysis of physicians’ writings as well as quantitative assessment of empathy.

Methods

Participants

Total participants recruited included 40 staff physicians at Cleveland Clinic, a tertiary care academic medical center. This included 20 physicians in the intervention group and 10 physicians in each of 2 comparison groups. A sample of 20 physicians who responded to our recruitment letter and agreed to participate in the training program was considered the intervention group. One of these physicians originally selected as part of the intervention group was unable to participate in any of the sessions, thus the final number in the intervention group was 19.

We selected two comparison groups of 10 physicians in each group from the list of those who expressed interest in participation. Attempts were made to match the groups by gender, age, and specialty. We successfully matched two comparison groups based on gender, age, and specialty, but such group matching for the intervention group was not possible due to the volunteer nature of participation and limited number of volunteers. Thirty six staff physicians (50% women, n=18) completed the Jefferson Scale of Empathy (JSE).

Instrument

The JSE, Version HP (for administration to physicians and other health professionals), was used as pre- and post-tests to evaluate the outcomes of the course. Evidence in support of the JSE’s construct validity, criterion-related validity, predictive validity, internal consistency reliability, and test-retest reliability has been reported.^{6, 20-22}

Participants in the intervention and comparison groups were asked to complete the JSE three times: at the start of the course (pre-test), at session 4 (posttest 1), and at the end of the course (posttest 2).

Procedures

The study protocol (number 09-918) was approved by the Institutional Review Board of Cleveland Clinic. Physicians were recruited to participate in the study through an e-mail message that was sent twice at an 8-week interval to all professional staff (n=2314) at Cleveland Clinic. In this e-mail message we indicated that a 6-session course would be

offered as part of a faculty development program in narrative skills training and reflective writing that required participation for a duration of 9 months and was eligible for continuing medical education credit. Physicians were given an option to participate as a member of comparison groups if participating in the faculty development program was not possible.

Physicians in the intervention group participated in six training sessions from March 2010 to December 2010. Participants engaged in reflective writing during each session in small groups with 4-5 participants and 1 group leader with experience in medical education and from the project team (AMH, JHI, ALH, LC, and MK).

The first three training sessions included an introduction to reflective writing and narrative medicine, the patient experience of pain and suffering, and empathy across cultural barriers. The last three sessions included the use of literature in empathic understanding, empathic communication of treatment plans/health literacy and the use of mindfulness to improve both quality of care and empathic engagement in patient care. Sessions 1 and 6 were four hours in duration and the remaining sessions were two hours each. Pre-reading course materials were assigned to the physicians in the intervention group prior to sessions 2 through 6, and they were asked to write a reflective piece based on the reading materials and a writing prompt (see Appendix #1). Participants were given the option to submit copies of their pre-session as well as in-session reflective writings for qualitative analysis of themes. The participants selected a numeric code to label their writings.

Physicians in the comparison group 1 received the pre-reading course materials as well as the pre-session writing prompt, but did not participate in the sessions. Of note, there was also no requirement to report whether the materials were indeed reviewed. Physicians in comparison group 2 neither received the pre-reading materials nor participated in the sessions.

Data analysis

Because of the small sample size we used nonparametric (van der Waerden) methods to examine the significance of differences between groups on the JSE using Statistical Analysis System (SAS, version 9.1 for Windows) Software. For the qualitative analysis, unedited writings submitted by course participants in the intervention group were reviewed and coded by project team members (AMH, KKP, and MK). Analytic methods associated with grounded theory were used to develop the coding scheme through an iterative process.²³ We independently read the reflective writings and identified themes using open coding. As additional writings were read, new codes were identified and the original codes were revised and expanded. As codes evolved, additional writings were analyzed to challenge, expand, and refine the categories. The final coding scheme was then applied to the entire set of reflective writing pieces.

When codes assigned differed between coders, differences were discussed until consensus was reached and the consensus code was assigned to that written piece.

The project team was also guided by previous research in identifying how to code the reflective writings. For example, the team sought to identify the conceptual framework found within the written pieces using Coulehan's dimensions of "compassionate solidarity" or its absence which was coded as "detached concern".⁸ The other coding categories including emotional tone, perspective, setting, and writing style were informed by the reflective writings themselves.

The JSE was also reviewed for underlying themes to guide our qualitative analysis. We incorporated assessment of emotions in the writings (conceptual framework: detached concern vs. compassionate solidarity, emotional tone: negative vs. positive) as well as perspective of the writer, the setting in which the narrative story took place as well as the writing style. Each writing was coded along five dimensions: conceptual framework, emotional tone, perspective taking, setting, and writing style (see Appendix # 2 for coding scheme). In the descriptions that follow, verbatim quotations provide examples of text classified within those categories.

Results

Qualitative analysis

The 19 physicians in the intervention group submitted a total of eighty-two reflective writing pieces which were analyzed. An additional 14 pieces written during session 6 addressed "final thoughts" about the program and focused more on course evaluation thus they were excluded from the formal analysis. The number of written reflections submitted by session ranged from a low of 6 (session 4) to a high of 24 (session 2) counting those written both before and during the sessions.

Each writing was coded to identify whether the writing expressed compassionate solidarity with the situation described in the piece or detached concern.⁸ About half, altogether 42 (51%) were coded as expressing compassionate solidarity i.e. "Acknowledging a patient as a person-a person with a name, with feelings, desires and fears, accomplishments- reassures a patient that their personhood is not forgotten in the search for the body's cure". Forty-nine percent of the writings reflected detached concern. One physician writes "If we let our messy and muddy sentiments rise to the forefront during the patient encounter...how can we effectively focus on the patient's emotions...?" One writing was categorized as 'unable to discern' and was excluded from analysis. No relationship was found across sessions among the frequencies of compassionate solidarity in the writings ($\chi^2_{(5)} = 8.73; p=0.12$), see Table 1.

The reflective writings were also coded for exploration of positive and negative emotions. Those exploring nega-

tive emotions outnumbered the pieces exploring positive ones (see Table 2). One physician described a difficult situation with a two different family members of a patient, “Both expected understanding ... and both were angry”.

Table 1. Frequency distribution of narratives coded by conceptual framework by session number (N=81)

Session number	1	2	3	4	5	6	Total
Compassionate solidarity	3	14	9	6	6	4	42
Detached concern	5	10	10	0	11	3	39
Total	8	24	19	6	17	7	81

One positive writing describes a difficult case diagnostically about a patient who was admitted with a neurologic finding, “I think I might have sent the patient out dismissing as ‘not stroke will get better’ category. But her patient trust took me to the next step”. Perspectives taken in the writings most often described a medical system problem or a situation occurring with a patient in whose care the narrator was involved. Describing a situation that the narrator personally experienced first-hand as patient or with a family member as patient was less frequent (see Table 3).

The settings in the writings were primarily designated as either inpatient or in the outpatient settings. The remaining described other settings such as medical school program or indeterminate setting.

Table 2. Frequency distribution of narratives coded by positive and negative themes by session number (N=82)

Narratives	Session						Total
	1	2	3	4	5	6	
Positive*	2	12	7	5	9	3	38
Negative*	7	12	13	1	8	5	46
Total emotional tones coded	9	24	20	6	17	8	84

*Categories are not mutually exclusive

The writing style was most often case presentation. (n=26, see Appendix #3) followed by detached opinion, academic critique and life-lesson stories e.g., “We must realize that our only true control ... is that of our own knowledge, experience and behavior”. Three reflective writings described a situation when empathy was ‘thwarted’. One described a difficult patient interaction “I felt insulted and offended, I understood their fears, concerns, but that didn’t give the right to be offensive”.

Quantitative analyses

Of the total of 36 staff physicians who completed the JSE, 18 were in the intervention group, 8 in comparison group 1, and 10 in comparison group 2. Means and standard devia-

tions and summary results of statistical analyses reported in Table 4, suggest a significant improvement in the JSE mean score in the favor of the intervention group at the end of the course.

Discussion

Our findings suggest that empathy can be explored and possibly improved in practicing physicians through a structured faculty development program designed to promote reflection. We chose guided writing assignments to prompt reflective thinking. Offering specific topic areas of clinical relevance for the writing exercises for each session gave the participants the opportunity to practice reflective writing in a safe, structured setting and to reflect on common clinical scenarios. The small groups allowed sharing of reflective writings. The fact that the JSE scores improved in the intervention group despite the small sample size may suggest that the intervention was effective in promoting empathy, or that as the participants became more comfortable with the practice of reflective writing and built stronger relationships with the group, their self awareness and capacity for reflection increased and their empathy was positively affected.

Table 3. Session by perspective taken in the narrative (N=82)

Perspective in narrative	Session						Total
	1	2	3	4	5	6	
Personal story*	0	7	6	1	0	1	15
Patient (witnessed)*	5	3	12	2	7	4	33
Medical system*	3	15	1	4	11	4	38
Missing*	0	0	0	0	0	0	0
Total perspectives coded	8	25	19	7	18	9	86

*Categories are not mutually exclusive

Written comments from the final session included “This course has given me the courage to reflect and write about subjects I do not usually share,” or “...given me a new perspective to my own experiences and has broadened my ability to view healthcare from the patient (or family) perspective,” and “finding that others share these trials and feel similarly disenchanting by these daily rigors has provided solace and reassurance”. Another physician wrote, “I have taken time to view my biases, to notice stereotyped prejudices I carry and to hopefully grow from this reflection”. One physician commented “though it is not a ‘billable amount” I think this kind of work is very important maintenance, self-preservation work (in) the medical profession,” and finally “writing it down formalizes and finalizes things in the mind”.

The reflection included both thinking and writing and was made possible for these busy practicing clinicians by

offering a safe time and place to gather and focus on empathic communication. It is important to note that these teaching sessions were approved for continuing medical education credit and were conducted on weekday mornings. The small group leaders and course participants were not paid additionally for their participation.

Table 4. Total participants (matched and unmatched) who completed the Jefferson Scale of Empathy before the course (pretest), Shortly after (Posttest1) and at the completion of the course (posttest 2)*

Groups	n	Pretest M(SD)	n	Posttest1 M(SD)	n	Posttest2 M(SD)
Experimental (E)	18	117.0 (12.8)	15	120.7 (15.6)	15	124.6 (10.7)
Control 1 (C1)	8	114.6 (8.7)	6	116.2 (10.4)	5	110.8 (10.9)
Control 2 (C2)	10	118.7 (12.1)	10	116.2 (8.4)	9	118.9 (9.1)
Van der Waerden $\chi^2_{(2)}$		1.06 p=0.59		2.12 p= 0.35		7.4 p= 0.02
Group differences		E=C1=C2		E=C1=C2		E>C1=C2

* Physicians in the experimental group reviewed assigned reading materials on narrative skills and participated in the narrative skills training program. Physicians in control group 1 reviewed assigned reading materials on narrative skills but did not participate in the narrative skills training program. Physicians in control group 2 neither reviewed the reading materials, nor participated in the narrative skills training program. Group differences were determined by Duncan post hoc mean comparison using analysis of variance.

It is plausible that the value of the faculty development program may not be specifically explained by the act of writing itself, or appropriately measured by the slight improvement of quantitative empathy scores over time, but more importantly linked to the basic allowance of time and space to reflect with peers. The positive comments from participants outlined above support the perceived value of this program. Although this type of space is more easily built into schedules of medical trainees, the competing demands in a practicing physician's work and non-work life make this type of time a precious commodity. This time with a peer group may be the true factor that differentiates our intervention group from the comparison groups. Both the reflection on personal behavior and the act of writing and sharing with peers lends itself to core reflection as defined by Korthagen and Vasalos²⁴ which is different from the usual and more superficial assessment and reflection related to specific competencies /quality indicators experienced by most practicing physicians. Levine et al have described the value of prompted narrative writing on reflection and self-awareness among interns.¹³ Indeed Mamede and Schmidt have noted a negative correlation between reflective practice and a physician's age and number of years of clinical practice.²⁵ However, Mann et al note that in practicing professionals, "the process of reflection appears to be multifactorial...In addition to reflection both on and during experience, it appears that the

anticipation of challenging situations also stimulates reflection".²⁶ It is interesting that the number of reflective pieces written in a "detached concern" format and exploring "negative" emotional tone were significant yet our quantitative empathy scores increased. This may suggest that the processing of previous experiences in a peer group setting may lead to greater empathic understanding in the future in the

"anticipation of challenging situations". Thus a focus on allowing reflection for practicing physicians could be of great value in affecting future behavior and enhancing empathic understanding in the context of patient care.

Study limitations

Our study is limited because it occurred at a single institution with a small sample of volunteer physicians. We also acknowledge the issue of selection bias in this group of volunteer physicians who likely had an interest in reflection and empathic communication. Regarding the observed JSE results, we used a nonparametric test (van der Waerden) because of our small sample size and the analysis of variance for post-hoc mean group comparisons. Additional studies are needed with a larger sample of physicians in the intervention and matched comparison groups to allow more powerful differences to be detected. It will also be important to examine not only the short-term, but also long-term effects of narrative skill training and reflective writing on physicians' empathic engagement in patient care.

Finally, we must question whether enhancing empathy may, over and above improving physician – patient communication, also improve clinical outcomes. A recent study in which a significant association was found between physician empathy scores and tangible clinical outcomes in diabetic patients (e.g., metabolic control measured by hemoglobin A1C and LDL-cholesterol test results) suggests that empathy in patient care can lead to optimal patient outcomes.²² In addition, the specific effect of writing or storytelling - as an exercise to improve empathy- on clinical outcomes should be explored. A link between storytelling by patients and blood pressure control has been observed.²⁷

Conclusion

These findings above combined with our research outcomes are promising and should encourage medical educators to design strategies for enhancing reflection and empathic behavior in medical students, residents, and specifically practicing physicians who can role model these behaviors to achieve the ultimate goal of medical practice: improving the quality of patient care. The opportunity to stop and think and also write about how our behaviors are viewed by patients is not afforded to practicing physicians routinely. Our findings suggest that creating a space for this type of experience appears to be a worthwhile endeavor for the well-being of physicians and most likely for improved patient outcomes.

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Conflict of Interest

The authors declare that they have no conflict of interest.

References

1. Commission; TJ. New and revised standards and EPs for patient-centered communication. pre-publication version. 2010 [cited November 11 2011]; Available from: <http://www.imiaweb.org/uploads/pages/275.pdf>.
2. Zolnierok KB, Dimatteo MR. Physician communication and patient adherence to treatment: a meta-analysis. *Med Care*. 2009;47:826-834.
3. Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277:553-559.
4. ABIM Foundation. American Board of Internal Medicine, ACP-ASIM Foundation. American College of Physicians-American Society of Internal Medicine, European Federation of Internal Medicine. Medical professionalism in the new millennium: a physician charter. *Ann Intern Med*. 2002;136:243-246.
5. Hojat M. Ten approaches for enhancing empathy in health and human services cultures. *J Health Hum Serv Adm*. 2009;4:412-450.
6. Hojat M. *Empathy in patient Care: antecedents, development, measurement, and outcomes*. New York: Springer; 2007.
7. Larson EB, Yao X. Clinical empathy as emotional labor in the patient-physician relationship. *JAMA*. 2005; 9:1100-1106.
8. Coulehan J. Compassionate solidarity: suffering, poetry, and medicine. *Perspect Biol Med*. 2009;52:585-603.
9. Shapiro J. Perspective: does medical education promote professional alexithymia? A call for attending to the emotions of patients and self in medical training. *Acad Med*. 2011;3:326-332.
10. Bonvicini KA, Perlin MJ, Bylund CL, Carroll G, Rouse RA, Goldstein MG. Impact of communication training on physician expression of empathy in patient encounters. *Patient Educ Couns*. 2009;75:3-10.
11. Hulsman RL, Ros WJ, Winnubst JA, Bensing JM. Teaching clinically experienced physicians communication skills. A review of evaluation studies. *Med Educ*. 1999;9:655-668.
12. Epstein RM, Hundert EM. Defining and assessing professional competence. *JAMA*. 2002; 287:226-235.
13. Levine RB, Kern DE, Wright SM. The impact of prompted narrative writing during internship on reflective practice: a qualitative study. *Adv Health Sci Educ Theory Pract*. 2008; 13:723-733.
14. Learman LA, Autry AM, O'Sullivan P. Reliability and validity of reflection exercises for obstetrics and gynecology residents. *Am J Obstet Gynecol*. 2008; 198:461.e1-8; discussion 461.e8-10.
15. Wald HS, Reis SP. Beyond the margins: reflective writing and development of reflective capacity in medical education. *J Gen Intern Med*. 2010;25:746-749.
16. Charon R. The patient-physician relationship. *Narrative medicine: a model for empathy, reflection, profession, and trust*. *JAMA*. 2001;286:1897-1902.
17. DasGupta S, Charon R. Personal illness narratives: using reflective writing to teach empathy. *Acad Med*. 2004;79:351-356.
18. Charon R. *Narrative Medicine: Honoring the stories of illness*. New York: Oxford University Press; 2006.
19. Isaacson JH, Salas R, Koch C, McKenzie M. Reflective writing in the competency-based curriculum at the Cleveland Clinic Lerner College of Medicine. *Perm J*. 2008;12:82-88.
20. Hojat M, Gonnella JS, Nasca TJ, Mangione S, Vergare M, Magee M. Physician empathy: definition, components, measurement, and relationship to gender and specialty. *Am J Psychiatry*. 2002;159:1563-1569.
21. Hojat M, Vergare MJ, Maxwell K, Brainard G, Herrine SK, Isenberg GA, et al. The devil is in the third year: a longitudinal study of erosion of empathy in medical school. *Acad Med*. 2009; 84:1182-1191.
22. Hojat M, Louis DZ, Markham FW, Wender R, Rabinowitz C, Gonnella JS. Physicians' empathy and clinical outcomes for diabetic patients. *Acad Med*. 2011;86:359-364.
23. Bryant A, Charmaz K. *The SAGE Handbook of Grounded Theory*. Los Angeles: SAGE Publications; 2007.
24. Korthagen F, Vasalos A. Levels in reflection: core reflection as a means to enhance professional growth. *Teachers and Teaching: theory and practice*. 2005;11:47-71.
25. Mamede S, Schmidt H. Correlates of reflective practice in medicine. *Adv in Health Sci Educ*. 2005;10:327-337.
26. Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract*. 2009;14:595-621.
27. Houston TK, Allison JJ, Sussman M, Horn W, Holt CL, Trobaugh J, et al. Culturally appropriate storytelling to improve blood pressure: a randomized trial. *Ann Intern Med*. 2011;154:77-84.

Appendix #1

Description of sessions

Session 1. Introduction to reflective writing/narrative medicine as a vehicle to increase empathy, and introduction to the Charter on Professionalism.

Writing prompt: Think about a time when it was a challenge to be empathic.

Session 2. The patient experience of suffering: the other side of the bedrail.

Writing prompts: 1) Reflect on any experience you have had that gave you insight into patient suffering. 2) Think about how you can honor the patient experience during bedside teaching.

Session 3. Empathy across cultural barriers.

Writing prompts: 1) Reflect upon a time when you felt different. 2) Write about an experience with a patient when you had difficulty communicating across cultural barriers. Did you recognize personal bias in the encounter?

Session 4. Use of literature to increase empathy (readers theatre).

Writing prompt: Choose a literary piece that resonated with you and write about why. (Writings compiled into a reader's theatre and read aloud during session).

Session 5. Empathic communication of treatment plans: health literacy.

Writing prompt: Write about a situation where limited health literacy affected the care of a patient- option of using “the voice of the patient”.

Session 6. Empathy to improve health care quality.

Writing prompt: Write about a situation when having been mindful seemed to have helped you prevent an error.

Sessions 1 and 6 were 4 hours and the remaining 4 sessions were 2 hours. Course participants were assigned pre-readings for each session and prior to sessions 2 through 6 were asked to write a reflective piece based on the readings and a writing prompt. Participants also engaged in reflective writing during each session in small groups with 4-5 participants and 1 group leader from the project team.

Appendix #2

Coding form

A. Conceptual Framework

1. Detached concern (shows cognitive awareness)
2. Compassionate solidarity
3. Unable to discern

B. Emotional tone

Negative

1. Anger
2. Avoidance
3. Demeaning
4. Disappointment
5. Disgust
6. Embarrassment
7. Fear
8. Guilt
9. Humiliation
10. Loss of control
11. Loss of modesty
12. Neglect
13. Pain (either physical or emotional)
14. Sadness
15. Surprise (-)
16. Exhaustion

Positive

1. Admiration
2. Happiness
3. Surprise (+)
4. Pleasure
5. Hope
6. Respect

C. Perspective

Personal story (experienced firsthand)

1. Self –narrator is experiencing the event as the patient
2. Narrator’s family member is experiencing the event as the patient

Tells the story of a patient (witnessed)

Describes the medical system

1. Complications impeding empathy
2. Culture of training/education
3. Medical error
4. Culture of the practice of medicine

D. Setting of the narrative

1. Inpatient
2. Outpatient
3. Medical School
4. Unclear
5. Other [describe]
6. Emergency Department

E. Writing style

1. Case presentation
2. Academic critique
3. Empathy thwarted
4. Allegory –life lesson story
5. Training center
6. Unclear
7. Detached opinion

Appendix #3

Frequency distribution of narratives coded by writing style by session number

Writing style	Session						Total
	1	2	3	4	5	6	
Case presentation	2	1	12	0	7	4	26
Academic critique	3	7	1	1	4	3	19
Empathy thwarted	2	0	0	0	1	0	3
Allegory-life lesson story	1	7	3	4	0	1	16
Detached opinion	0	11	3	1	5	0	20
Total writing styles coded	8	26	19	6	17	8	84