

## Nurturing Empathy through Arts, Literature, and Role Play for Postgraduate Trainees of Ophthalmology

### Abstract

**Background and Purpose:** Empathy is essential in patient-centered compassionate health care. Lack of formal training, workload, patient factors, and digitalization have been attributed to its regression. Empathy can be nurtured by educational interventions. A structured empathy education module for postgraduate trainees is not available in India. The aim for this research was to develop, deliver, and evaluate one for ophthalmology postgraduate trainees. **Methodology:** This interventional study was conducted in the tertiary ophthalmology department of Western India during 2022–2023. Four workshops comprising of interactive lectures, literature, creative arts, and role plays were delivered with trained facilitators. Data from surveys for trainee self-assessment, patient perception of trainee empathy, pre-post knowledge test, and trainee and facilitator feedback were collected and analyzed. **Results:** Seventy-nine ophthalmology postgraduate trainees participated in this intervention. Excessive workload and lack of training were shared as the barriers to empathetic care. Trainees showed improved knowledge, skills, and attitude in empathy after the workshops. The facilitators and trainees were satisfied with the learning goals, execution, utility, feasibility, and relevance of the workshops. Ninety-three percent trainees want this module to be a part of postgraduate curriculum. **Conclusion:** This study substantiates the use of structured interactive training for cultivating empathy in postgraduate trainees. Barriers against empathy were identified and can be mitigated by restorative measures. Literature, arts, and role plays are the effective education tools for empathy.

**Keywords:** *Compassion, empathy, health humanities, hidden curriculum, postgraduate curriculum*

### Introduction

Empathy is a core value of health humanities but defining empathy across cultures and continents has been a challenge in health-care education and profession. The term “empathy” is derived from the Greek word “em” - into, “pathos” - feeling. The concept of empathy is summarized in layman terms by Alfred Adler as, “seeing with the eyes of another, listening with the ears of another and feeling with the heart of another.”<sup>[1]</sup> Clinical empathy in context to doctor–patient relationship is divided into cognitive and affective dimensions. The cognitive component is the ability to understand another individual’s experiences without invoking a personal emotional experience. This is an active skill and can be nurtured. On the other hand, the affective component is the passive emotional response of one individual to the emotions of another.<sup>[2]</sup> Goleman has shown why and how emotional quotient might be more important than intelligence quotient.<sup>[3]</sup>

Hojat *et al.* describe empathy as a cognitive attribute for inner experiences and perspectives of the patient as an individual.<sup>[4]</sup> Riess *et al.* claim that empathy plays a role in sharing of emotions, experiences, needs, and desires between the individuals and can be cultivated.<sup>[5]</sup> Patient-centered care requires that the health professional should understand the patient perspectives in an empathetic or compassionate manner.

Health humanities education has remained as a hidden curriculum in medical education. The contemporary curriculum is designed to be objective with exponentially growing scientific and technical content that does not allow nurturing humanism for trainees. Lack of role models, cognitive load, time pressure, workload, patient and environmental factors, and digitalization have been attributed to regression in empathy.<sup>[6–9]</sup> Lack of formal training in empathetic communication and humanities has led to a decline in humanism among trainees.<sup>[10,11]</sup> Lack of compassion and humanistic care from trainees often results in dissatisfied patients with nonadherence to treatment attributing to medical errors,

**Purvi R. Bhagat,**  
**Kinjal Y. Trivedi,**  
**Kamini M. Prajapati,**  
**Abhishek S. Chauhan,**  
**Neeharika Pinakin Shah,**  
**Rupal T. Shah,**  
**Ravija A. Kathiara,**  
**Wilhemina A. Asari,**  
**Vijay Rajput<sup>1</sup>**

*Department of Ophthalmology, M and J Western Regional Institute of Ophthalmology, B.J. Medical College and Civil Hospital, Ahmedabad, Gujarat, India, <sup>1</sup>Department of Medical Education, Nova Southeastern University, Dr. Kiran C. Patel College of Allopathic Medicine, Florida, United States*

**Submitted:** 12-Oct-2023

**Revised:** 18-Dec-2023

**Accepted:** 22-Dec-2023

**Published:** 20-Feb-2024

### Address for correspondence:

*Dr. Purvi R. Bhagat,  
M and J Western Regional  
Institute of Ophthalmology,  
B.J. Medical College and Civil  
Hospital, Ahmedabad, Gujarat,  
India.  
E-mail: dr.purvibhagat@yahoo.  
com*

### Access this article online

**Website:**  
<https://journals.lww.com/IJAB>

**DOI:**  
10.4103/ijabmr.ijabmr\_454\_23

### Quick Response Code:



**How to cite this article:** Bhagat PR, Trivedi KY, Prajapati KM, Chauhan AS, Shah NP, Shah RT, *et al.* Nurturing empathy through arts, literature, and role play for postgraduate trainees of ophthalmology. *Int J App Basic Med Res* 2024;14:42-7.

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poor health outcomes, and mistrust in patient-physician relationships. Loss of effective continuity of care also results in an emotional and financial burden on the families of dissatisfied patients.

Evidence shows that empathy is malleable and can be nurtured by educational and experiential interventions.<sup>[12-15]</sup> It has been documented that creative art can be an educational tool to promote a reflective, humanistic practice. This includes music, paintings, photographs, poetry, literature, and also role-plays.<sup>[16-20]</sup> Using arts and literature as pedagogical tools can cultivate the practice of “empathy” among medical trainees.

A structured empathy module for postgraduate trainees is not in practice in India. The aim of this study was to develop, deliver, and evaluate a structured interactive empathy training module for ophthalmology postgraduate trainees to enhance their empathy and identify the barriers against empathy.

## Methodology

This prospective, nonrandomized, interventional mixed methods study was conducted for postgraduate trainees in the ophthalmology department of a medical college of Western India from December 2022 to May 2023. The project was approved by the Institutional Ethics Committee. A literature review was done for empathy training and humanities in medical education. A structured interactive module for empathy training was designed by the first author. Questionnaires for trainee self-assessment of empathy, patient perception of physician empathy, pre- and post-tests, and trainee and facilitator feedback were developed [Annexure 1] using validated open access pre-existing questionnaires from the literature.<sup>[21-29]</sup> The module and questionnaires were modified after face and content validation done by the internal and external experts. A core faculty team of seven members was identified and trained to implement the module.

The consent of the postgraduate trainees was taken through an online form. The patient perceptions of physician empathy were gathered using the prevalidated questionnaire after briefing, based on their language preference (Gujarati, Hindi, and English). The questionnaire included satisfaction of interaction with a particular postgraduate student and a global rating of the experience of the encounter regarding trainee’s empathetic behavior.

The module was delivered through four interactive workshops. All the trainees were given a pre-workshop knowledge test and a self-assessment for general and clinical empathy. The details of the four workshops are provided in Table 1.

The facilitators submitted a feedback for the entire training program after the completion of the module. At 3 months, a follow-up knowledge and self-assessment was given to the trainees to assess the sustenance of the intervention.

Standard statistical analysis was performed on the data. For the analysis of general empathy scores, the item responses were scored as: Never = 0; rarely = 1; sometimes = 2;

often = 3; and always = 4 for positively worded items and reverse scored for the negative items. Similarly, for the analysis of clinical empathy scores, the item responses were scored as: Strongly disagree = 1, Disagree = 2, Agree = 3, Strongly agree = 4, and reverse scored for the negative items. Item scores were summed to derive total score for each student. All qualitative data were analyzed and segregated according to the codes and themes.

## Results

In the assessment of postgraduate trainees, the number of responses (*n*) are variable in different tools because all the trainees could not participate in all the activities all through due to their engagement in departmental responsibilities and patient care, especially those requiring emergency services.

### Patient satisfaction with physician questionnaire

Seventy-nine patients filled this questionnaire. The global rating for experience with the trainees was median of 3, on a scale of 0–5, where 0 = poor and 5 = excellent. The most common remark made by patients was that the trainees did not spend enough time with them.

### Student self-assessment of empathy

Sixty-seven trainees responded to the online survey, among which 21 belonged to year I, 12 to year II, and 20 to year III of ophthalmology postgraduation and 14 were senior residents with a mean age of 26.29 years. Fifty-five were females and 12 were males and the majority (39) was not in any relationship, 20 were in a relationship, and 8 were married.

These total scores for general empathy ranged from 38 to 67, with a mean of 53.13, with the ideal desired score being 52 and for clinical empathy ranged from 25 to 42, with a mean of 34, with the ideal desired score being 29. Although there was a difference in raw scores gender wise, with females scoring higher, there was no statistically significant difference observed. Statistical difference was seen for general empathy between year 2 and 3 as per *post hoc* analysis ( $Q = 4.13$ ;  $P = 0.02429$ ), but no difference was seen for clinical empathy between groups.

The males had a median of 6 for self-rating for empathy while the females had a median rating of 7 with no significant difference being determined by the independent *t*-test (*t*-value 1.08312,  $P = 0.141378$ ). A similar analysis according to the year of postgraduation showed medians of 6, 7, 7, and 7, respectively, for I, II, III years, and senior residents, but no significant difference as calculated by the analysis of variance test (*f*-ratio value 1.23493,  $P = 0.299221$ ).

### Student’s pre and post knowledge assessment

Seventy trainees responded to the online survey. The most common attributes for a good patient–doctor relationship as perceived by the trainees were grouped as-understanding patients well (36 responses) and effective communication skills (33 responses) followed by polite-kind behavior (17 responses). Knowledge and professional skills were listed as necessary attributes by

**Table 1: Plan of the empathy training module for postgraduate trainees of ophthalmology**

	Number of trainees and groups	Theme of session	Tool	Tasks
Week 1	All trainees	Introduction to empathy + overview of sessions	Interactive lectures	Knowledge test Self-assessment for empathy Four interactive lectures
Week 2	6 groups 10 trainees/group 1 facilitator for each group	Teaching empathy through literature	Poem, statement, scenario Small group discussions followed by large group presentations, discussions and debriefing	Write a narrative and comments on the statement “ <i>The practice of modern medicine has become more mechanical</i> ”, giving examples from own experiences Reflect and discuss on the scenario provided [Annexure 1] Read the Trigger 2 poem <sup>[9]</sup> and discuss on the same Plan for pre-session work for next session
Week 3	6 groups 10 trainees/group 1 facilitator for each group	Teaching empathy through art	Photograph, sketches, paintings, cinema, video, comic strips Small group discussions followed by large group presentations, discussions and debriefing	Pre-session work: Submit 1 video clip from an open - source OR click a photograph OR draw a sketch/painting/comic strip depicting a component of empathy Submissions were randomly grouped into 6 presentations Session Analyze, reflect and discuss on the art, deciphering attributes of a good doctor-patient relationship and various aspects of empathy
Week 4	6 groups 10 trainees/group 1 facilitator for each group	Teaching empathy through role play	Not good and good scenarios about a noncompliant patient Small group discussions followed by large group presentations, discussions and debriefing	Enact role plays based on the 2 scripts Reflect on the role plays and discuss Assessments - knowledge test, self-assessment, feedback, reflection on entire training program based on Rolfe’s model

only nine trainees. The reasons for decline in empathy during medical training were ranked on a scale of 1–7, in order of their influence, where 1 = maximal influence and 7 = least influence. These main reasons were found to be over work (37 responses) followed by the lack of formal training (16 responses) [Figure 1].

The preworkshop knowledge test scores ranged from 5.5 to 16, with a median of 11.25 out of a possible score of 20 while the post workshop scores ranged from 7.5 to 18 with a median of 13. The value of  $t$  was 3.87212 (paired  $t$ -test) and  $P = 0.00012$  making the result significant at  $P < 0.05$  showing a highly significant improvement. According to Wilcoxon Signed-Rank Test, the value of  $z$  is  $-3.457$ . The  $P = 0.00027$  being significant at  $P < 0.05$ .

The trainees rated their preworkshop empathetic behavior a median of seven, on a scale of 0–10.

### Student and facilitator feedback after completion of the workshop

Sixty-two trainees completed the online survey. The trainees rated a median of eight in their level of empathetic skills after the training workshop on a scale of 0–10. All the trainees and facilitators were satisfied with the objectives, duration, execution, usefulness, feasibility, and relevance of the workshop. They found the sessions engaging and expressed that they would like to attend such workshops again in future, making the satisfaction index 100%. Role plays were rated to be the most useful and engaging. The workshop was rated a median of 8 by the trainees and

10 by the facilitators and the probability that they would recommend these sessions for others was a median of 9 and 10, respectively, on a scale of 0–10. The “wow” moments for all were the role plays and the artworks. The facilitators also stated that this workshop was an eye opener and learning experience for them too and should be repeated regularly.

### Narratives

Table 2 shows the thematic analysis of the trainees on the statement “The practice of modern medicine has become more mechanical.”

### Reflections

Reflections were analysed for the depth in reflective writing using the modified rubric<sup>[30]</sup> [Figure 2] as well as qualitatively using content analysis [Figure 3].

### Three months’ analysis of the trainees

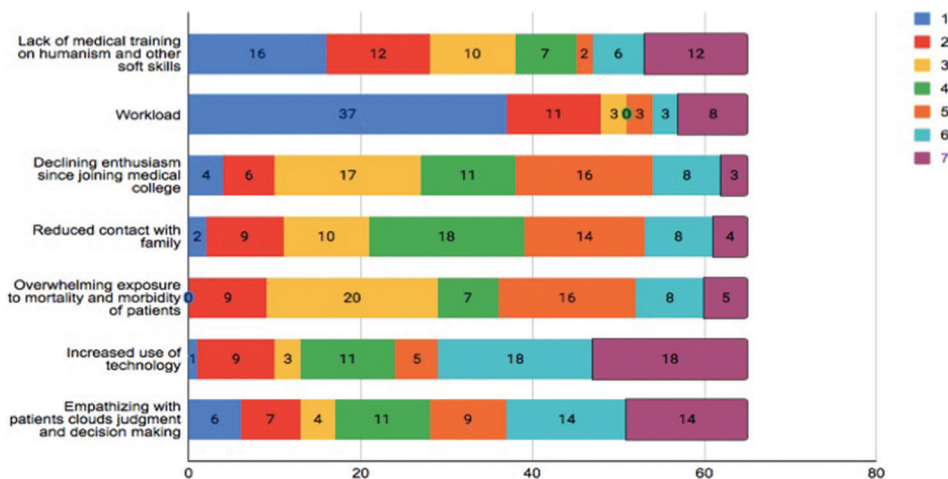
All 79 trainees participated in the 3 months’ self-assessment. The self-rating median was 8, giving a  $t$ -value of  $-5.77134$ ,  $P < 0.00001$  using the unpaired  $t$ -test, making it significant at  $P < 0.05$ . There were no statistical differences as far as year of study and gender were considered. The agreement responses for various aspects of empathy showed a better understanding and acceptance of this skill for clinical care.

### Discussion

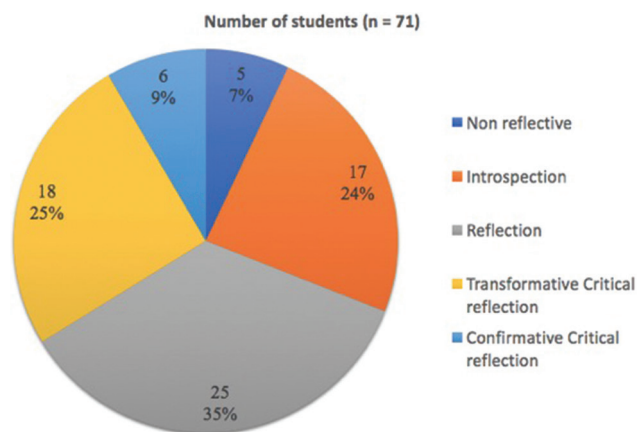
Empathy is an art and skill which can be cultivated so that experiences, needs, and suffering of patients can

**Table 2: Thematic analysis of trainee’s narratives**

Clinical practice	Patient	Physician
Cognitive enhancement	Influence of social media and internet (informed patient)	Medico legal fear (defensive medicine)
Efficiency and accuracy	Integration in clinical encounters	Efficiency over effectiveness
Convenience	Mistrust in physicians	Lack of humanism/compassion
Constant advancements	Personal attitude	Financial targets
Telemedicine/tele health		Workload leading to mechanization
		Advancement of psychomotor skills
		Physical/emotional well-being



**Figure 1: Reasons for decline in empathy during medical training**



**Figure 2: Analysis of depth of reflective writing using the modified rubric**

be understood by the physicians. This can translate into empathetic care and positive outcomes. Studies show that empathy declines during medical training and targeted interventions can enhance empathy.<sup>[5,10,31,32]</sup> Kollmer Horton have described the technical and theoretical nature of the medical curriculum which has made humanities an orphan child in the world of medical education.<sup>[33]</sup> The good news is that empathy is malleable and can be improved by educational interventions.<sup>[27,34-36]</sup> In our study, we could identify the barriers to empathetic behavior. The most critical noted were excessive workload and lack of training. Identifying

the barriers for exhibiting empathetic behavior may help to develop the strategies to overcome them. We found that self-rating improved significantly after intervention, but there was no significant difference gender wise on gender. Our purpose behind studying gender and relationship distribution was to compare it with previous studies which suggest that females and people in relationships are associated with the higher levels of empathy, but this was not so in our study possibly due to a different type of population sample.<sup>[13,37,38]</sup>

Creative arts and narrative medicine have emerged as the vital tools of medical humanities education and may contribute to the development of trainees’ empathy. Literature and arts offer a different perspective on human experience and suffering. Bentwich and Gilbey offered a novel approach of using arts to enhance empathy. Visual thinking strategy (VTS) is an inquiry-based teaching strategy which supports critical thinking skills through observation and discussion of visual art. Utilization of VTS, not requesting a significant alteration in curricula, suggests that enhancing the empathy among medical trainees can be feasible.<sup>[16,17]</sup> Kumagai concluded in their study that producing an original art work might help trainees in better understanding of patients, emotions, and their stories.<sup>[18]</sup> Artwork is used to enhance empathy along with skills in observation, critical thinking, and communication.<sup>[18,20]</sup> A study done by Shapiro *et al.* found that reading and discussing poetry and prose related to patients and doctors

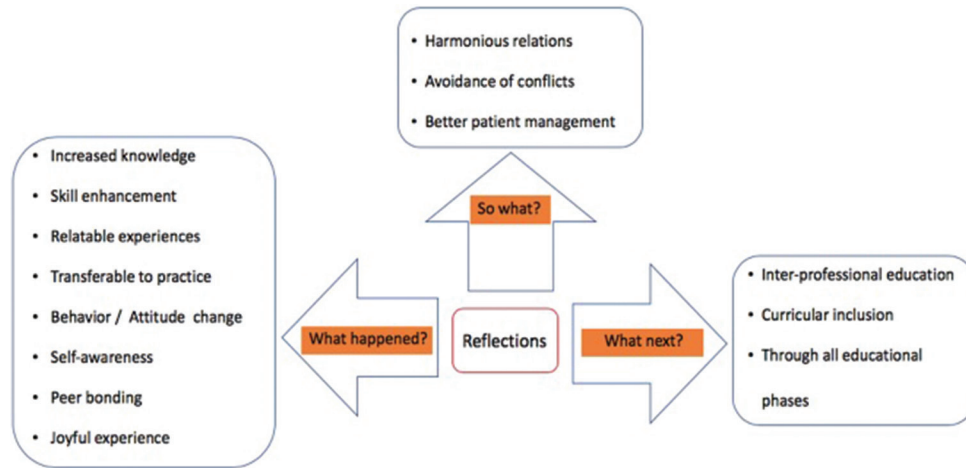


Figure 3: Content analysis of trainees' reflections

could significantly increase medical student empathy.<sup>[19]</sup> Poetry can enhance affective intelligence and deepen the understanding of compassion, empathy, and burn out through reflection.<sup>[9]</sup> A systematic review done by Batt-Rawden *et al.* had used patient narratives and creative arts, writing, drama, communication skills training, problem-based learning, inter-professional skills training, patient interviews, experiential learning, and empathy-focused training with positive effect on students.<sup>[12]</sup> We used various forms of literature and art including paintings, poem, narrative, scenario-based discussion and role-play were impactful tools in teaching empathy. The “wow” moments for all the trainees and facilitators were the role plays and the artworks. These modalities were effective by replicating real-life scenarios and conveying important messages. They enhanced the observation and analytical skills of the trainees and could help the trainees to relate easily. All the trainees and facilitators were satisfied with the program and want such training to be a part of the postgraduate curriculum.

A limitation of our study was the competing clinical responsibilities and emergency duties during these workshops. All trainees were not able to attend all the sessions, although this did not seem to have any effect on the outcomes. This study has been done in one clinical specialty in a single postgraduate training institute. There is a need to sensitize and teach postgraduate trainees of other specialties, undergraduates, and faculty. A faculty development workshop for such a training program can be effective in nurturing empathy. A 3-month follow-up assessment noted continued changes in the empathy of the participants, but long-term impact of such an intervention for sustainable empathetic behavior is needed. Regular “booster” sessions may help to gradually reach the higher level of the Kirkpatrick’s pyramid.

## Conclusion

Empathy is critical for patient centered health care. Through this study, a structured interactive training module could be developed and delivered for ophthalmology postgraduate trainees to enhance their empathy. Furthermore, barriers against empathy could be identified which can possibly be mitigated by restorative measures. Literature, arts, and

role plays have been identified as the effective education tools for empathy enhancement. This module may also open the path to the development of modules for other soft skills and for other phases of medical education which can further help to establish the platform for competency-based humanistic medical education.

## Ethical clearance

The study was approved by the institutional Ethics Committee of B. J. Medical College and Civil Hospital, Ahmedabad (Approval No.: EC/Approval/89/2022/06/10/2022).

## Acknowledgments

I sincerely acknowledge the support provided by:

1. Dr. Swati Devanhalli, Professor and Director, M and J Western Regional Institute of Ophthalmology
2. Dr. Jayesh Sachde (in-charge Dean, B.J. Medical College, Ahmedabad), Dr. Hansa Goswami (in-charge Dean, B.J. Medical College, Ahmedabad) and Dr. Rakesh Joshi (Superintendent, Civil Hospital, Ahmedabad)
3. Dr. Minakshi Parikh, Dr. Chetna Desai, Dr. Nilima Shah: Guest faculty for the sessions
4. FAIMER faculty and fellows: Designing and validation of the module and questionnaires
5. My postgraduate students.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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## Annexure

**Annexure 1:** Patient satisfaction with physician questionnaire: <https://docs.google.com/document/d/1oYBz8vUPIELcpKnauorgCSuZpmpuslPt/edit?usp=sharing&oid=108949885372727921285&rtpof=true&sd=true>, Student knowledge test- pre and post: <https://forms.gle/ptQndcAuuYmkZH2B9> AND <https://forms.gle/1Xyz9iQbV6jdmRMA7>, Student self-assessment questionnaire: <https://forms.gle/f7qAQdFTHhStAKJD7>, Student Feedback questionnaire: <https://forms.gle/mTVi6p27HXnyvhdW6>, Faculty feedback questionnaire: <https://forms.gle/7B7ma9Q6egCfmr5>, Scenario: [https://docs.google.com/document/d/1K7JFh5W\\_xQBKXjvbnblh6s1P\\_DqCtqMF/edit?usp=sharing&oid=108949885372727921285&rtpof=true&sd=true](https://docs.google.com/document/d/1K7JFh5W_xQBKXjvbnblh6s1P_DqCtqMF/edit?usp=sharing&oid=108949885372727921285&rtpof=true&sd=true).