The Role of Clinical Empathy as Perceived by Medical Students

Niki Viradia, MS; Jesica Miroslava Godinez Paredes, MS; Grace Tews, BA; Riley M. McCarty, BS; Katherine Loper, BS; Sanjay Bhandari, MD; Pinky Jha, MD, MPH

ABSTRACT

Background: Clinical empathy is a pillar of medical practice, with evidence demonstrating improved clinical outcomes and patient resilience when physician empathy is employed effectively. Despite its well-established value, studies indicate that empathy declines significantly during the third year of medical school.

Objective: To examine how medical students perceive the importance of empathy in patient care and to identify preferred methods for teaching empathy within the medical curriculum.

Methods: A survey was distributed to 456 third- and fourth-year medical students at the Medical College of Wisconsin during August and September 2018. The response rate was 39%. Chi-square analyses compared perceptions between genders and between year groups. Students who declined to identify gender were excluded from gender-based analyses.

Results: Fourth-year students were significantly more likely than third-year students to report that working with attending physicians increased their empathy (50% vs. 34.3%, $P = .034$). Female students were more likely than male students to believe that empathy improved patient outcomes (100% vs 89.2%, $P = .003$). Educational preferences also differed by gender.

Conclusions: Medical students recognize empathy as an essential aspect of clinical care. Clinical experiences, particularly interactions with attending physicians, may enhance empathy training, and gender-based differences in educational preferences highlight the need for diversified, learner-responsive instructional methods.

BACKGROUND

In medical education, the terms empathy and compassion are often invoked as catchwords or rhetorical buzzwords, appearing frequently in medical school mission statements, program descriptions, and professional codes of conduct. While these words signal valued ideals, they are often applied vaguely, without consistent definitions, measurable competencies, or integration into formal curricula. In this sense, "empathy" and "compassion" function more as symbolic markers of what good physicians should embody rather than as clearly taught and assessed clinical skills.

By contrast, clinical empathy has been defined as a multidimensional construct that includes cognitive understanding of the patient's perspective, emotional resonance with their experience, and a behavioral component of communicating this understanding back to the patient. Genuine clinical empathy, therefore, is a teachable, sustainable skill set that requires intentional development throughout training. Prior research has demonstrated that empathy in clinical encounters enhances both patient outcomes and treatment adherence.[1] Despite this, multiple studies have documented a significant decline in empathy during the clinical years of medical school, most notably in the third year.[2,3] This decline has been attributed to factors such as heavy workload, time pressure, emotional fatigue, and a growing emphasis on technical competence over patient-centered care.[2] Such erosion of empathy is concerning, given its foundational role in fostering trust, improving patient satisfaction, and reducing physician burnout.

This study examines medical students' perspectives on empathy instruction at the Medical College of Wisconsin (MCW). Our primary objective was to evaluate third- and fourth-year students' reflections on how empathy was addressed in their preclinical curriculum.[3] Additionally, we sought to compare differences in attitudes toward empathy and preferred instructional

• • •

Author affiliations: Department of Medicine, Medical College of Wisconsin, Milwaukee, Wisconsin (Viradia, Tews, McCarty, Loper, Bhandari, Jha); Reno School of Medicine, University of Nevada, Reno, Nevada (Paredes).

Corresponding author: Niki Viradia, MS, Medical College of Wisconsin, 8701 W Watertown Plank Rd, Milwaukee, WI 53226; email nviradia@mcw.edu; ORCID ID 0000-0003-1956-6699

strategies across class years and genders. By focusing on these comparative perspectives, this study adds nuance to existing literature and provides insight into how empathy training may be tailored to better support diverse learners across stages of medical education. The study also aimed to explore students' preferred instructional methods to better understand how empathy might be most effectively taught.

Table 1. Medical Students' Perceptions of Empathy and Instructional Preferences by Academic Year

Variable	M3 (n = 105) n (%)	M4 (n = 77) n (%)	*P* value[a]
What is your opinion about the role of empathy and compassion while providing patient care?			
It improves patient outcomes	97 (92.4)	73 (94.8)	.515
It increases the patient's satisfaction with the provider	101 (96.2)	75 (97.4)	.651
It detracts from the quality of care the patient receives	6 (5.7)	0 (0)	**.033**
It causes emotional exhaustion and compassion fatigue resulting in physician burnout	27 (25.7)	17 (22.1%)	0.571
How have your compassion and empathy for patients changed since entering medical school?			
Increased	47 (44.8)	43 (55.8)	.140
In your opinion, what are the most effective methods to learn empathy and compassion in medical school?			
Lectures on empathy in an auditorium	8 (7.6)	5 (6.5)	.771
Problem-based learning with a small-group discussion (workshop format)	46 (43.8)	32 (41.6)	.762
Narrative medicine training with reflective writing sessions on empathy	40 (38.1)	29 (37.7)	.993
During standardized patient encounters (eg, OSCE)	43 (41.0)	32 (41.6)	.935
During patient interaction (eg, rounding on patients)	99 (94.3)	72 (93.5)	.827
Self-directed learning (eg, review books, online modules, and/or case studies)	21 (20.0)	17 (22.1)	.733
Do you remember discussing empathy and compassion during a lecture in the first 2 years of medical school?			
Yes	59 (56.2)	61 (79.2)	**.001**
What are your thoughts about previous lectures on empathy and compassion at MCW?			
MCW has an excellent curriculum to teach empathy and compassion	13 (12.4)	12 (15.6)	.535
The information we were taught was not helpful in teaching empathy and compassion	36 (34.3)	24 (31.2)	.659
The information we were taught was difficult to apply in clinical practice	24 (22.9)	19 (24.7)	.775

Abbreviations: M3, third-year medical students, M4, fourth-year medical students; OSCE, Objective Structured Clinical Examination; MCW, Medical College of Wisconsin.

[a]*P* values were calculated using chi-square tests. Statistically significant values ($P < .05$) are shown in bold.

METHODS

An electronic survey was sent to all third-year (M3) and fourth-year (M4) medical students at MCW during August and September 2018. Survey items were developed iteratively based on prior literature and refined with faculty input. To ensure clarity and content validity, questions were pilot tested with a small group of pre-clinical students, and feedback was incorporated to adjust wording, structure, and response scales. The final instrument included Likert-scale items, multiple-choice questions, and open-ended responses addressing demographics, attitudes toward empathy, perceived personal changes in empathy, influences from clinical experiences, preferred instructional methods, and perceived barriers to empathy education. Open-ended items were included to allow students to elaborate on perspectives not captured by fixed-choice options, thereby providing additional qualitative insight.

The survey was distributed twice, 3 months apart, to maximize response rates. The survey instrument was developed specifically for this study and was not adapted from previously validated tools. No additional pilot testing was performed.

A total of 456 students received the survey, with a 39% response rate (105 male students, 77 female students). Two respondents declined to disclose gender and were excluded from gender-based analysis. Responses of "strongly agree," "agree," "strongly increased," and "increased" were categorized as positive; all others were coded as negative. Chi-square analyses were performed using IBM SPSS Statistics, version 24 (IBM Corp). The level of statistical significance was set at $P < .05$ for all analyses. This study was reviewed and approved by the MCW Institutional Review Board; participation was voluntary and anonymous.

There were no formal changes in the empathy curriculum between the M3 and M4 years. Students' perceptions therefore reflect their clinical experiences within each respective year rather than exposure to different content, teaching styles, or instructors.

RESULTS

A survey evaluating perceptions of empathy among third-year (n = 105) and fourth-year (n = 77) medical students revealed that M3 students were significantly more likely to agree that empathic care may detract from the quality of care ($P = .033$) (Table 1). There were no significant differences between M3 and M4 students regarding perceptions of empathy's impact on patient outcomes, patient satisfaction, or physician burnout. Additionally, 44.8% of M3 students and 55.8% of M4 students reported a change in their empathy toward patients since the beginning of medical school; however, this difference was not statistically significant.

Third- and fourth-year medical students were asked whether working with an attending physician had changed their beliefs about the role of empathy in patient care. At MCW, "working with an attending" reflects students' perceptions of how specific attending physicians model empathic behavior, rather than the mere fact of participating in clinical rotations. A statistically significant difference was observed, with 33.8% of third-year students and 50.0% of fourth-year students reporting a change in belief

($P = .034$) (Figure). This suggests that the quality of role modeling by attending physicians may shape students' evolving understanding of empathy during clinical training.

Preferred instructional methods were also assessed. M4 students most frequently endorsed lecture-based formats (7.6%), whereas M3 students preferred experiential learning methods, including standardized patient encounters and Objective Structured Clinical Examinations (OSCEs) (Table 1).

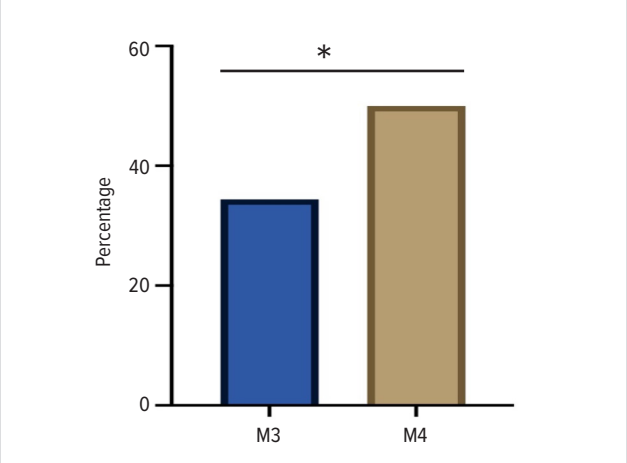
Gender-based comparisons revealed similar patterns: male students preferred lecture-based formats (10.8%), whereas female students preferred experiential learning methods (Table 2). These differences, however, were not statistically significant.

Table 2. Medical Students' Perceptions of Empathy and Instructional Preferences by Gender

Variable	Female (n = 78) n (%)	Male (n = 102) n (%)	*P* value
What is your opinion about the role of empathy and compassion while providing patient care?			
It improves patient outcomes	78 (100)	91 (89.2)	**.003**
It increases the patient's satisfaction with the provider	78 (100)	97 (95.1)	**.047**
It detracts from the quality of care the patient receives	1 (1.3)	5 (4.9)	.180
It causes emotional exhaustion and compassion fatigue resulting in physician burnout	12 (15.4)	30 (29.4)	**.027**
In your opinion, what are the most effective methods to learn empathy and compassion in medical school?			
Lectures on empathy in an auditorium	2 (2.6)	11 (10.8)	**.035**
Problem-based learning with a small group discussion (workshop format)	38 (48.7)	40 (39.2)	.202
Narrative medicine training with reflective writing sessions on empathy	33 (42.3)	36 (35.3)	.364
During standardized patient encounters (eg, OCSE)	42 (53.8)	33 (32.4)	**.004**
During patient interaction (ie, rounding on patients)	75 (96.2)	95 (93.1)	.381
Self-directed learning (ie, review books, online modules, and/or case studies)	12 (15.4)	26 (25.5)	.100

Abbreviation: OSCE, Objective Structured Clinical Examination.
P values were calculated using chi-square tests. Statistically significant values ($P < .05$) are shown in bold.

Figure. Percentage of Students Reporting That Working With Attendings Physicians Improved Their Perception of Empathy



Abbreviations: M3, third-year medical student; M4, fourth-year medical student.
*Significant difference, $P = .034$, chi-square test.

DISCUSSION

This study supports previous findings that empathy declines during the third year of medical training. Third-year students were significantly less likely than fourth-year students to report that working with attending physicians increased their empathy, suggesting that continued clinical exposure may mitigate empathy erosion.[3-5] Moreover, M3 students more frequently perceived empathy as distracting to patient care—an attitude not shared by M4 students—further supporting the notion that clinical experience positively shapes empathy perception.[6-8]

Gender differences were notable. Female students more often believed empathy improves patient outcomes and satisfaction, whereas male students were more likely to associate empathy with physician burnout. This suggests gender-based differences in how empathy's role is conceptualized. These findings also highlight gender-specific preferences that may inform curricular design. Because no baseline data from the first- and second-year students were collected, conclusions regarding the erosion of empathy are limited; alternatively, the data may indicate a modest increase in empathy with additional clinical experience.

Educational preferences also diverged. Males favored lecture-based formats, whereas females preferred experiential learning through standardized patient encounters such as OSCEs. These distinctions underscore the value of incorporating diverse teaching methods to support varying learning styles.[6]

In the future, curricula could incorporate targeted strategies to cultivate and sustain empathy. Structured role-modeling opportunities could pair students with attending physicians recognized for empathic communication, complemented by reflective exercises to reinforce observed behaviors.[9] Second, experiential learning modules, such as standardized patient encounters and OSCEs, should be expanded to allow students to practice empathic skills in a low-stakes environment.[10] Longitudinal reflection and feedback mechanisms, including periodic reflective assignments or small-group discussions across clinical years, may help maintain awareness and encourage the ongoing development of empathy throughout training. Implementing these approaches offers concrete pathways for curriculum designers to enhance both the teaching and practice of clinical empathy.

Despite these limitations, the study highlights important implications for medical education. Few students reported that the current curriculum effectively taught empathy and attending role

models appear to influence students' beliefs. Because the empathy curriculum remained unchanged between the M3 and M4 years, observed differences in student responses likely reflect variations in clinical experiences rather than differences in instructional content, teaching style, or faculty.

CONCLUSIONS

This study highlights the influence of clinical experiences and attending physicians' role modeling on medical students' perceptions of empathy, suggesting that observed differences between third- and fourth-year students reflect the cumulative effect of clinical exposure rather than formal curriculum changes. Gender differences in perceptions of empathy and preferred learning styles underscore the importance of considering learner diversity when designing educational interventions. While the current curriculum was perceived as insufficient for teaching empathy, structured role-modeling, structured role-modeling, experiential learning, and longitudinal reflection offer practical strategies to foster empathic skills. These findings provide actionable guidance for medical educators seeking to maintain and enhance empathy throughout medical training, ultimately supporting improved patient care and professional development.

Financial disclosures: None declared.

Funding/support: None declared.

REFERENCES

1. Kim SS, Kaplowitz S, Johnston MV. The effects of physician empathy on patient satisfaction and compliance. *Eval Health Prof.* 2004;27(3):237-251. doi:10.1177/0163278704267037

2. Del Canale S, Louis DZ, Maio V, et al. The relationship between physician empathy and disease complications: an empirical study of primary care physicians and their diabetic patients in Parma, Italy. *Acad Med*. 2012;87(9):1243-1249. doi:10.1097/ACM.0b013e3182628fbf

3. Hojat M, Vergare MJ, Maxwell K, et al. The devil is in the third year: a longitudinal study of erosion of empathy in medical school. *Acad Med*. 2009;84(9):1182-1191. doi:10.1097/ACM.0b013e3181b17e55

4. Chen DC, Kirshenbaum DS, Yan J, Kirshenbaum E, Aseltine RH. Characterizing changes in student empathy throughout medical school. *Med Teach*. 2012;34(4):305-311. doi:10.3109/0142159X.2012.644600

5. Santos MA, Grosseman S, Morelli TC, Giuliano IC, Erdmann TR. Empathy differences by gender and specialty preference in medical students: a study in Brazil. *Int J Med Educ*. 2016;7:149-153. doi:10.5116/ijme.572f.115f

6. Neumann M, Edelhäuser F, Tauschel D, et al. Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Acad Med.* 2011;86(8):996-1009. doi:10.1097/ACM.0b013e318221e615

7. Mansfield F. Supervised role-play in the teaching of the process of consultation. *Med Educ*. 1991;25(6):485-490. doi:10.1111/j.1365-2923.1991.tb00102.x

8. Epstein RM, Cole DR, Gawinski BA, Piotrowski-Lee S, Ruddy NB. How students learn from community-based preceptors. *Arch Fam Med*. 1998;7(2):149-154. doi:10.1001/archfami.7.2.149

9. Wallace AG. Educating tomorrow's doctors: the thing that really matters is that we care. *Acad Med*. 1997;72(4):253-258. doi:10.1097/00001888-199704000-00008

10. Fowell SL, Bligh JG. Recent developments in assessing medical students. *Postgrad Med J.* 1998;74(867):18-24. doi:10.1136/pgmj.74.867.18

advancing the art & science of medicine in the midwest

WMJ

WMJ (ISSN 2379-3961) is published through a collaboration between The Medical College of Wisconsin and The University of Wisconsin School of Medicine and Public Health. The mission of *WMJ* is to provide an opportunity to publish original research, case reports, review articles, and essays about current medical and public health issues.

Visit www.wmjonline.org to learn more.