



Enhancing Empathy in Medical Education: The Role of Technology and Art

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Dear Editor,

Mercer and Reynolds (1) defined empathy in the medical field as understanding patients' feelings of concern and acting on that understanding. Empathy, a cornerstone of medical care, enhances diagnostic accuracy, improves patient satisfaction, and reduces psychological distress and medical complications (2). Data show that empathetic clinicians report better patient satisfaction and demonstrate higher professional competence (3). Conversely, a lack of empathy is associated with an incompetent culture that endangers patient safety and undermines public trust in the medical community. This highlights empathy's critical role in medical care, making it an essential component of medical education (4). The Association of American Medical Colleges further underscores this by asserting that developing empathy should be a primary goal in undergraduate medical education. Consequently, many medical institutions globally have integrated empathy into their curricula (5).

In recent years, the significance of empathy among medical staff and the necessity of training this skill have been emphasized repeatedly in medical ethics meetings and conferences. Shariat and Kikhani, in a study measuring the empathy levels of clinical assistants in Iranian universities of medical sciences, reported a decline in this skill among students during their studies (6). Teaching empathy as an official component of medical courses in Iran has yet to be adopted. However, the inclusion of indirect training methods has been shown to improve students' empathy skills (7). Adopting the following approaches could effectively enhance empathic methods among medical students:

- Communication-based teaching methods: This concept aligns with Bandura's observational learning theory, a prominent social constructionist theory. The theory strongly emphasizes learning through group collaboration in scenarios reflective of everyday life (8). Consequently, it is considered one of the most effective methods to cultivate empathy on a societal level.

Medical students can benefit from watching films that portray patients' emotional states based on real-life experiences (9). Cinema education, particularly in the context of empathic interaction, has proven to be a valuable tool in healthcare education. This approach allows students to engage with a new reality, understand the characters' challenges, concerns, feelings, and emotions, and translate this perspective into their interactions with patients in real-world settings (10).

Cinema education has been recognized as a novel and engaging narrative approach for teaching and exploring health and human sciences (11). This strategy offers an innovative way to enhance understanding and empathy, making it a powerful resource for medical education.

- Reading stories: Incorporating story reading into the medical curriculum has proven to help medical students develop both cognitive and emotional empathy, as well as a more general sense of empathy. Including the study of stories in the curriculum is an inexpensive yet highly effective way to enhance empathetic skills among medical students. Teaching students how to engage with and interpret stories can foster deeper emotional connections and understanding.

Given the importance of storytelling in narrative medicine and its role in cultivating empathy, it is strongly recommended that story reading be emphasized more within the medical education curriculum. This practice is particularly beneficial for interns and staggers, as it allows them to better understand patients' perspectives and emotions, ultimately enhancing their clinical interactions and patient care (7).

- Innovative technologies, such as virtual reality: Virtual reality (VR) is gaining popularity as a supplement to traditional teaching methods. Its immersive nature significantly enhances students' motivation, engagement, and overall learning time. By integrating VR into classroom settings, students can effectively develop their emotional and psychomotor skills alongside cognitive abilities. Furthermore, VR has been shown to improve patient understanding and foster greater compassion, making it a valuable tool in medical education and healthcare training (12).

- Reflective practices: Reflective practices are increasingly acknowledged as an effective tool in medical education, particularly for fostering compassion and empathy among students. These exercises have demonstrated the ability to enhance empathy in medical trainees, as supported by self-assessment, patient feedback, and third-party evaluations. Although originally developed for broader professional contexts, Gibbs' reflective cycle framework has proven to be a valuable model for medical trainees to reflect on work situations in a structured and meaningful way. By encouraging the exploration of feelings and emotions, this framework can significantly enhance empathic capacity. Additionally, the integration of reflective exercises with the observation of visual arts is gaining momentum in medical education, offering a creative and impactful approach to developing empathy and emotional awareness in future healthcare professionals (13).

- Podcast media: Podcasts offer numerous advantages as an educational tool for medical students. Audio storytelling engages listeners by encouraging them to visualize scenes and characters, fostering imagination and the ability to empathize with others. This skill, a component of cognitive empathy, has been shown to enhance empathy in future physicians. Additionally, voice communication may facilitate greater empathetic accuracy compared to screen-based methods. Furthermore, the pre-recorded audio format provides individuals with stigmatized illnesses the opportunity to share their personal and vulnerable stories with

medical students, free from the stress and pressure of repeated face-to-face interactions (14).

- Practical and effective suggestions: To increase empathy in the medical education of Iranian students, focusing on the role of technology and art, the following solutions are suggested

- Use innovative technologies: Leverage VR to create immersive experiences that enable students to gain a deeper understanding of patients' perspectives and emotional experiences.

Integrate Patient Narratives and Reading Stories: Incorporate patient stories and curated reading materials into the curriculum to foster emotional connections and provide a comprehensive understanding of patients' challenges and experiences.

- Reflective exercises: Implement reflective exercises such as journaling and group discussions to enhance self-awareness and empathy. By reflecting on their experiences, students can develop a greater understanding of themselves and their interactions with others.

- Promote social and voluntary activities: Encourage students to engage in social services and volunteer work to interact with diverse populations, gaining insight into social determinants of health and building stronger connections with the communities they serve.

These strategies contribute to improving the quality of medical care, strengthening patients' trust in the medical profession, and preparing empathetic, future-ready physicians.

Footnotes

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