Editorial

Empathy in the Time of Artificial Intelligence: Fiction Not Fact May Hold the Key

The older editions of Harrison’s Medicine had these words in the first chapter, “To the physician, as to the anthropologist, nothing human is strange or repulsive. The misanthrope may become a smart diagnostician of organic disease, but can scarcely hope to succeed as a physician. The true physician has a Shakespearian breadth of interest in the wise and the foolish, the proud and the humble, the stoic hero and the whining rogue. [The physician] cares for people.”[1] No definition can sum up empathy better.

One wonders why recent editions of this medical classic do not carry this profound statement highlighting healing beyond curing. An editorial illustrates how Shakespeare vividly describes insomnia on par with present understanding of sleep medicine.[2] Perhaps, no medical student today has the time or inclination to read the Bard or other literature. In the pre-antibiotic era, limited remedies compelled doctors to compensate by a cheerful demeanor, keen observation, empathy, and reassurance. A leisurely pace of work interspersed with exposure to humanities and literature enabled them to perfect the healing art.

There was “Love in the time of cholera”[3] even if there was no cure. Rapid advances in medical technology, increased specialization and subspecialization, corporate model of health care, and lack of time have adversely affected the healing touch of doctors.[4] From an art, medicine is increasingly becoming a science and big business. It is one of the oldest arts but the youngest science, softer than the hard sciences, rich in promise and possibility.[5,6] Regrettably, often cure comes at the cost of care, due to a missing link.

What is the missing link which can bridge the ancient art with the newest science to realize this promise and the possibility of both cure and care? It is empathy. Students entering medical schools are increasingly weaned off from the humanities from an early age.[7] The pressure to excel in physics, chemistry, and biology to secure admission to medical college leaves little time for the leisurely pleasure of reading literature, philosophy, or history enjoyed by an earlier generation of young people. While structured framework can work for inculcating professionalism, the emotional and psychological skills required of a doctor are acquired more subtly and informally. Concentrating on the hard sciences from young age and neglecting the arts and humanities result in an emotionally stunted doctor.[7]

Fiction not fact may hold the key to empathy. Most of us during our student days, in the seventies, were addicted to fiction, and rarely missed a movie, not without a twinge of guilt one must confess. Recent research indicates fiction readers and movie-goers, who are exposed to “fictional narration,”[8,9] may have the last laugh. Such activities besides recreation may promote empathy, and by the simulation of social experiences may improve interpersonal skills.

Association of fiction with empathy was questioned regarding the direction of the link, whether the experience of fiction leads to empathy or empathetic people are drawn to fiction. Recent experimental studies suggest the former, i.e., that exposure to fiction does lead to empathy.[10,11]

Why fiction scores over fact in developing empathy? Goldstein,[12] suggests that this is due to fiction being nonanxiety provoking compared to fact. This provides a safe haven to experience strong emotions. One can empathize strongly with a fictional character without the burden of obligation. Factual information may cause feelings of obligation toward the victims evoking denial or blunting of emotions. Because of these dynamics, one can say that fiction can serve as a “skills lab” for empathy.

Physician, heal thyself. Fiction in addition to promoting empathy to care for patients works as stress busters. Burnout among medical students and doctors is common. Fiction may help to cope with this. Nothing better illustrates this than Evelyn Waugh’s prophetic praise of Wodehouse in 1961, “Mr. Wodehouse’s idyllic world can never stale. He will continue to release future generations from captivity that may be more irksome than our own. He has made a world for us to live in and delight in.”[13] We have arrived to “…captivity…more irksome…” Regrettably, the reading habit of the present generation is at an all-time low when they need it the most. Both patients and doctors suffer.

Doctors who are writers ought to inspire the fraternity. Pulitzer Prize winning author, Dr. Siddhartha Mukherjee, an oncologist at Columbia University, no mean writer himself, is a great admirer of the Russian doctor-writer Anton Chekov.[14] Mukherjee, in an insightful essay, “Love in the time of numbness; or, Dr. Chekov, writer,” narrates vividly how numbness is an occupational hazard of doctors sometimes leading to advanced degree of desensitization.[15] Anton Chekov was also a victim
of this occupational hazard. While perfecting the skills as a diagnostician and successful doctor, the suffering of his patients, sickness and death, numbed him. Part of his anguish was also due to the moral and economic depravity of Tsarist Russia in the 1880s, a society steeped in corruption, nepotism, and censorship.\[15\]

Chekov made all efforts to resensitize himself and regain the lost empathy. This sublimation transformed him into one of the greatest short story writers of the nineteenth century. Much of his success was due to the courage to observe, describe, diagnose, empathize, and heal by medium of his stories. Chekov mentioned six principles of a good story as: Absence of verbiage, objectivity, vivid description of characters, brevity, originality, and compassion. According to Chekov, while the first five cleanse and desensitize our wounds, it is the last – compassion – that removes numbness and heals. According to Mukherjee, Chekov created a new school of literature full of humanity, a style revealing keen clinical observation and empathy. Chekov used his writing as an antidote, which while not restoring his health, he died at 44 of tuberculosis, restored his sensitivity and empathy.\[15\] His stories did the same for his readers.

With the exponential growth of health care, medical practice has increasingly become dehumanized.\[16\] How can medical students and doctors read as antidote, Shakespeare, Chekov, and regional authors, such as Premchand, the unsurpassed master of social realism?\[17\] Good fiction capturing social realism can well replace dull textbooks of Social Medicine and tedious lectures on ethics and humanities as part of the foundation course for medical graduates! Regrettably, few medical students obsessed with examinations or busy doctors have the inclination. Most will consider fiction waste of time. Despite the profession having more resources than ever, doctors are overworked nowadays. At present, 50% of doctors have burnout, and a quarter suffers from depression.\[16,18\] Burnout can cause medical errors, and such errors can precipitate burnout, setting up a vicious cycle. Burnout causes emotional detachment and adversely affects connecting with the patient.\[19\]

Where are we heading? With more technology, would future doctors become more desensitized? Eric Topol, a world-renowned cardiologist and one of the ten most-cited researchers, thinks otherwise.\[16\] He proposes that paradoxically, more advanced technologies such as Artificial Intelligence (AI), which is likely to find wide applications in healthcare, will make medical doctors human again by restoring empathy in medicine. AI will achieve this by “the gift of time.” This gift of time will be across the board from medical students to doctors.

In entrance examinations for medical colleges, there is no way emotional intelligence or empathy can be assessed. There is concern that stressing on the hard sciences may be weeding out more empathetic and caring candidates who can be better healers.\[16\] By such entrance tests, we are selecting future doctors on qualities that can be simulated and excelled by AI.\[16\] Medical students have to memorize a lot of information to pass examinations which is time-consuming. With AI penetrating health systems, medical students may not have to resort to rote learning to memorize dry facts which can be delegated to AI-enabled algorithms. Doctors with cumulative experience, judgment, reasoning skills, and intuition will still be required to oversee the outputs and applications from AI-enabled machines. However, only the very best will survive when the full potential of AI in healthcare is achieved. Moreover, the quality which will distinguish the best from the rest in the time of AI will be empathy. Human empathy is something that AI and machines cannot simulate.

The bad news is that empathy declines over the course of medical training due to the desensitizing environment. Medical professionals have lower scores on empathy quotient tests. While altruists have scored in the range of 60–70, artists and musicians around 50, doctors have around 40 ahead of psychopaths, who have around 10.\[20\]

The good news is that according to a systematic review, empathy can be enhanced among doctors.\[21\] Exposure to drama, humanities, literature, and fiction among other measures had a positive association with empathy as brought out in the systematic review. Mundane tasks which doctors perform will be delegated to AI-enabled machines. The resulting “gift of time” can enable them to indulge in arts and humanities, including reading or writing fiction. This will make them more empathetic as well as prevent burnout. Medical libraries, in addition to Harrison, Davidson, and other “sons,” may have books by William Shakespeare, Anton Chekov, Munshi Premchand, P. G. Wodehouse, and Richard Gordon. The last two authors, both humorists, lived till their mid-nineties, confirming the cliché that laughter is the best medicine! The fact and pain of daily practice blunt empathy in doctors. Fiction may enhance empathy benefiting both doctors and patients.

-- Amitav Banerjee

Department of Community Medicine, Dr DY Patil Medical College, Hospital and Research Centre, Dr DY Patil Vidyapeeth, Pune, Maharashtra, India.

E-mail: amitavb@gmail.com

Submission: 16-12-2019, Decision: 23-12-2019, Acceptance: 03-01-2020, Web Publication: 28-02-2020
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How to cite this article: Banerjee A. Empathy in the time of artificial intelligence: Fiction not fact may hold the key. Med J DY Patil Vidyapeeth 2020;13:97-9.