Summary of a Workshop on the Humanities and Soft Skills in Medical Education

Ellen Bay*

The role of humanities in the teaching of medical students

Carlo Orefice
Josep-E. Baños

DR. ANTONI ESTEVE FOUNDATION

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A workshop about the study of the humanities in medicine was held in September 2017 in Siena, Italy. It was called *Soft Skills in Medical Education: The Role of Medical Humanities in the 21st Century*, and it featured presentations by those working in the field of medicine and medical education. In 2018, the Dr. Antonio Esteve Foundation published a summary of the workshop presentations in an article entitled "The Role of Humanities in the Teaching of Medical Students." The following is a summary of the Dr. Antonio Esteve article.
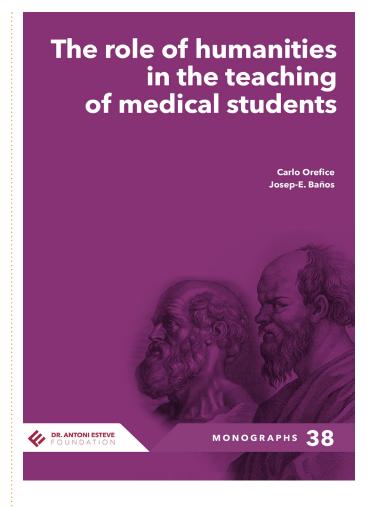
What is meant by the terms "medical humanities" and "soft skills?" A variety of definitions were proffered at the Siena workshop. They can be summarized as follows: "Medical humanities" are non-scientific disciplines such as literature, cinema, writing, music, art, and history, that contain content that can be used to teach medical students about medicine and related issues from a non-scientific vantage point and that thus serve to broaden the students' knowledge base and encourage the development of soft skills.

"Soft skills" are those abilities that the practitioner possesses that are dynamic, intangible, and evidenced within the context of the practitioner-patient relationship, including the ability to perceive, observe, and interpret information; critical-thinking, problem-solving, and decision-making skills; relational competencies such as effective communication, empathy, and cultural understanding; the capacity for emotional modulation and psychological self-monitoring; ethical and values-based decision-making; open-mindedness; and the willingness to engage in continuing education and exploration of alternative ideas.

Historically, the humanities have made significant contributions to medical education. Prior to the 1900s, medical education and practice relied heavily upon approaches based in psychology, philosophy, and the arts.

Within the realm of psychology, early practitioners cultivated trust by demonstrating the ability to cure while competing against charlatans, and the quality of the doctor-patient relationship was considered key to healing. Physicians built business through caring involvement and relational skills.

Philosophy was equally decisive in determining early approaches to medical education. For example, Hippocrates (c. 460–370 B.C.) advanced clinical observation as an educational tool while promoting confidentiality. Andreas Vesalius (1514–1564) altered the philosophy of medical education by introducing a hands-on approach to dissection, which replaced the standard lecture-based model.

The visual arts also played an important role in early medical education. Drawing, painting, and sculpture were used to illustrate symptoms of disease and teach anatomy in an era in which the study of anatomy was the cornerstone of medical learning.

But things changed in the twentieth century, when rapid scientific and technological advances became the new focus in medicine. Some important scientific discoveries included diagnostic blood tests, DNA, vitamins, antibiotics, and vaccines, to name a few. Among the many technological advances were organ transplants, the heart-lung machine, robotic and laser surgery, and advanced imaging techniques such as the ultrasound and CT scan. Computers and the invention of new materials, such as plastics, further propelled the rate of medical advance.

*   Socia de Trémedica, Estados Unidos. Dirección para correspondencia: ellenbay7@gmail.com.

In fact, science and technology grew so rapidly in the twentieth century that many new fields in medicine emerged, such as anesthesiology, endocrinology, immunology, and oncology, among others.

Due to the focus on science and technology, disease and the treatment thereof increasingly became considered more as stand-alone issues, largely separate from human experience. When examined solely through the lens of science, it was easier to dismiss the human complexities influencing disease processes. In the twentieth century ,less time than ever was dedicated to non-biological aspects of illness and engaging with patients. The resulting lack of patient trust was evidenced through increasing numbers of malpractice lawsuits.

Yet events in the twentieth century also demonstrated the need for the medical humanities. For example, World War II played a key role in the creation of the Nuremberg Code, a set of ethical principles guiding human experimentation. And, as science and technology advanced, so did ethical questions surrounding its use, such as in the case of organ transplantation. Today, bioethics is part of the standard medical curriculum.

The benefit to medical students of studying non-medical subjects, such as bioethics, played a role in the 1972 decision of the Milton Hershey College of Medicine of Pennsylvania State University to formally incorporate the humanities into the medical curriculum. Other schools worldwide soon followed suit. Today, many universities offer courses in the medical humanities. For example, at Harvard University, visual arts are used to teach clinical observation skills. At Georgetown University, novels are used to explore belief systems regarding disease and medical practice.

Part of the reason for incorporating the humanities into the medical curriculum was to teach the soft skills that cannot be taught directly through the sciences and thus improve the overall quality of patient care. Disciplines in the humanities that can be useful in teaching soft skills include literature, creative and reflective writing, music, visual arts, cinema, and the history of medicine.

Literature is an effective tool in the study of medicine, as it can used to describe human experiences, social stigmas and ethical dilemmas surrounding disease and medical practice. For example, the 2013 novel *The Lost Origin* by Matilde Asensi offers insights into Cotard's syndrome and psychosis. The book *Morphine* (1925) by Mikhail Bulgakov deals with opioid addiction and withdrawal. The study of such works of literature allows students to experience the emotional components of disease and consider illness in light of social and situational complexities. It lends a historical and contextual framework in which to consider ethical and medical dilemmas. Thus, the study of literature can increase empathy, enhance critical thinking, and promote ethical reasoning.

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Some physicians share their unique perspectives through writing. In the 1800s, physician and playwright Anton Chekhov (1860-1904) wrote about his experiences as a tuberculosis patient from both a personal and professional perspective. In the 1937 novel *The Citadel*, Doctor Archibald Joseph Cronin describes turn-of-the-century health issues associated with mining, medical ethics, and the corrupt health system of the era. The novel was influential in the creation of England's National Health System. Physician John le Carré wrote about ethical issues in the development of new medications in the 2001 novel *The Constant Gardener*. His novel was influential in the drafting of the Helsinki Declaration, a policy statement establishing safeguards in human experimentation. In sum, novels written by physicians offer unique insights into illness. They also can be used to broaden students' understanding of social issues and highlight the need for growth in the realm of medical politics and policies.

Medical students also can benefit from writing, specifically reflective writing. Reflective writing is a deliberate and conscious effort to document one's own objective experiences and subjective reactions. It helps students cultivate a sense of clinical competence and professional identity. Research on reflective writing shows that it increases the ability to observe, relate, assimilate, and analyze experiences while allowing students to express feelings, develop coping skills, and critique their own emotional and professional responses.

Imaging studies prove that music can alter brain function and that it has protective and curative properties. For example, in a recent study, a meta-analysis and meta-regression of randomized controlled trials demonstrated the positive effects of music therapy on patients with stroke, dementia, Parkinson's disease, and multiple sclerosis. Across the board, music led to measurable gains in motor function and cognition. If students are taught to consider such findings, they learn to be open-minded, value alternative and adjunctive therapies, and collaborate with professionals in other fields in order to promote overall patient well being.

The study of art can hone clinical observation and interpretation skills. For example, the painting *The Three Graces* (1630-1635) by Peter Paul Rubens consists of the image of three sisters, each of who demonstrates features of the pathologies and abnormalities associated with familial benign hypermobility syndrome, as well as other ailments. The study of works of art such as this allows students to train the clinical eye to perceive rather than to merely "see." Through art, students learn to describe and interpret clinical data. Artwork also can be used to encourage reflection, discussion, and teamwork, as students share impressions with others, and thus learn to value differing interpretations of the same visual data.

Cinema is also a useful tool through which the medical hu-

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manities may be taught. For example, students can learn about issues surrounding drug abuse and withdrawal by watching movies such as *Awakenings* (1990), *Lorenzo's Oil* (1992), and *Dallas Buyer's Club* (2013). Such movies stimulate students to reflect upon ethics, doctor-patient relationships, and pharmacological and therapeutic issues. The features of illness are exemplified not only through visual input but also through a character's demeanor, actions, and dialogue. Students who watch movies critically can learn to be open-minded and broaden their perspectives through discussion with classmates.

The study of the history of medicine is an important learning tool. It helps students understand how the science, technology, culture, society, and events of an era help to determine the medical concepts, approaches, and treatments of the day. The study of the history of medicine gives students a broader knowledge base and helps them to consider multiple, non-scientific factors that affect every medical encounter. For example, physicians working in rural areas with a rich history of traditional medicine might tailor their approach when discussing medical issues with those who live in the region.

There are various approaches to incorporating the humanities into the medical curriculum. One approach is to broaden the curriculum to include courses in the humanities. For example, requiring students to take a class in medical history in addition to core science classes. Another approach is to integrate aspects of the humanities into the medical curriculum for a defined purpose, such as showing clips from a movie like *One Flew Over the Cuckoo's Nest* (1975) to illustrate the stigma of mental illness. A third approach is to teach the humanities through independent study. For example, having students read *Frankenstein* (1818) before taking a class in bioethics. A final approach is for professors to teach soft skills by directly incorporating elements of the humanities into the curriculum.

Despite growing acceptance of the importance of the humanities in twenty-first century medical education, there is need for empirical data to substantiate claims as to its benefits. Opinion surveys suggest that medical students benefit from the study of the humanities. However, professionals agree that the topic requires further exploration and documentation. To this end, participants at *Soft Skills in Medical Education: The Role of Medical Humanities in the 21st Century* concluded the workshop by affirming that they will continue to explore the role of the medical humanities by holding ongoing discussion forums, creating university-wide networks for the exchange of ideas, and establishing an international master's degree program for the medical humanities.

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