Insights into medical humanities education in China and the West

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Abstract
Medical humanity is the soul of health education. Beginning medical students are taught various aspects of basic medicine, such as biochemistry, anatomy, and immunology. However, cultivation of the humanistic aspects of medicine has received increasing attention in recent decades. We performed a comparison study based on a literature search and our experience with medical humanistic courses in Western and Chinese medical colleges. We found both similarities and disparities in humanities courses offered in Western medical colleges and Chinese medical colleges. The delivery of humanities courses, such as medical sociology, medical ethics, medical psychology, and medical history, is widespread and helps to prepare students for their transformation from medical students to skilful medical professionals. Both Western and Chinese medical colleges offer a variety of medical humanistic courses for undergraduate students. Although Chinese medical humanistic education has undergone major changes, it still requires improvement and educators can learn from Western practice. We hope that our analysis will contribute to education reforms in the medical field.

Keywords
Medical education, humanistic cultivation, humanities courses, comparative study, undergraduate students, China, ethics

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Introduction
Throughout medical history, the healing power of the humanistic approach has ensured that many patients have been at least partially healed, despite receiving ineffective or harmful remedies based on incorrect theories of disease. Although medical knowledge and facilities have improved in modern times, the scientific approach to treatment will never overshadow the art of healing.

Considerable attention has been paid to the training of future physicians, including their academic achievements and aspects of their personality, such as moral reasoning, compassionate listening, and empathy for patients. In his book *The Place of the Humanities in Medicine*, Eric J. Cassell argued that humanity-oriented professional courses can provide substantive education, particularly when they focus on clients rather than disease. This suggests that the cultivation of a humanistic approach should be established on the very first day of medical education courses.

Basic medical education
In China, medical education is composed of three stages: basic medical education, clinical education, and internship. Basic medical education introduces students to the medical world. This first stage is crucial, and should ideally provide freshmen with a foundation in a thorough understanding of humanistic ideas.

Basic medical education is a necessary requirement for prospective medical professionals. In this phase, students are taught various aspects of basic medicine such as anatomy, biochemistry, physiology, genetics, and immunology.

Incorporation of humanistic education into traditional biomedical courses
The delivery of traditional biomedical courses used to be prescribed and even dull, simply because teachers were accustomed to a conventional teaching style and were afraid of making changes to course delivery. Under the guidance of humanities professionals, the teaching of such courses has become more integrated and experiential. Since 2001, a series of innovations has been implemented at the School of Medicine at Shanghai Jiao Tong University, China. In the human anatomy course, teachers show students the anatomy museum. Before the start of any anatomic procedures, students are asked to observe a moment of silence to express their gratitude to the individuals who have voluntarily donated their bodies and contributed to the advancement of health care.

For the regional anatomy laboratory reports, students are required to note down their personal reflections after each anatomic procedure. They include a paragraph about their internal conflicts and feelings, which may refer to their gratitude and respect to donors and their determination to pursue a medical career. Equal respect is shown at the end of each term for those animals that have been used in experiments and sacrificed. Teachers and students stand in silence, lay a wreath and eulogise about the animals’ contributions to medical development in front of a gravestone erected for experimental animals.

Biochemistry, genetics, and immunology are rapidly developing courses. Lecturers illustrate the creativity of medical research by referring to major discoveries and innovations and recounting anecdotes about Nobel Laureates in medicine. The discovery of *Helicobacter pylori* deeply impresses students, when they are told that Dr. Marshall risked his own life drinking contaminated water to prove that *Helicobacter pylori* causes gastritis. Marshall’s persistence helped him to win the Nobel Prize in Physiology or Medicine and made a global contribution to medicine.
Early exposure to clinical practice: a new approach in basic humanistic education

In addition to the required foundational courses in medicine, the development of humanistic care has become increasingly important over the past few decades.

The desirability of early exposure to clinical practice is accepted worldwide, and its importance has been particularly recognised in developing countries. For instance, the South Africa Health Professions Council has contributed to educational reform for medical workers. Medical freshmen undertake health care visits in Year 1 to enhance their knowledge of future professional environments and to promote their enthusiasm for medicine. Both direct assessment (a survey) and indirect assessment (student comments about their experiences) revealed positive findings. Many students expressed their gratitude for the provision of an insight into daily medical practice and 69% of students identified hands-on experience during ambulance duty as their most rewarding experience.2 Most students felt they could learn from the health care visits and were better prepared for medical practice.

Medical colleges in China have similar programs that run for approximately 1–2 weeks. One study conducted by Peking University assessed student experiences using questionnaires and reports. Students reported the development of greater understanding, purpose and effectiveness, made comments about how the management of the course could be improved, and provided suggestions about early exposure to clinical practice. The results showed that all the students felt that they had benefited from the activities and achieved perceptual knowledge of clinical work; 61.5% of students reported that the early exposure to clinical practice had greatly helped them.3 The general aim of such courses is to offer students a positive vocational perspective, to reinforce their original desire to study medicine and to serve as an introduction to actual medical practice.

Potential of art and leisure activities in cultivating medical humanity

Some researchers have suggested that recreation and leisure activities, such as going to the cinema, reading, singing, and physical exercise, can have positive effects on the development of medical humanity in students. A survey study at Harvard University in the USA showed that students who were willing to attend medical humanity courses were frequently involved in physical training and activities such as football; some philosophers have considered that the ‘beautiful game’ can provide a basis for discussions about cultural practices.4,5 Another study revealed that yoga activity could improve students’ attendance of anatomy classes.6 These findings suggest that such activities help students to cope with different situations in medical cases. Arts and sports activities could help to prepare students for challenging cases.7 Similar research in China on the important role of leisure activities in cultivating medical humanity is lacking. This topic deserves more attention and future investigation.

Medical humanities courses

Medical humanities courses in top American and Chinese medical colleges

In medical humanities courses, students receive a moral-oriented education. This involves the development of self-discipline and awareness, the acquisition of knowledge about basic medicine and an understanding of the practicalities of a medical career. To successfully prepare for and deal with real-life healthcare issues, qualified medical professionals need several important qualities, including calmness,
care, insight, patience, and courage. The aim of medical humanities courses is to help students to prepare for their gradual transformation from students to skilful medical professionals.8

The top 20 medical colleges in the USA all offer elective medical humanities courses to students at all grades; 20% of colleges provide specifically named medical humanities courses and 40% have established a humanities division, or facilities for the teaching of humanities for human development. The top three curricula are social medicine, medical ethics, and medical psychology. Harvard University provides the most extensive humanities teaching, which covers 32 different issues under 8 themes (Table 1 shows the top 20 medical colleges in the USA and their curricula).

Most colleges use traditional lectures. However, students at the University of California, San Francisco, have a greater choice of teaching methods. They can either join a medical humanities interest group or attend the humanities book club and enjoy a spiritual feast. In addition, they have access to multiple peer-group seminars for independent or supervised study. Other colleges use problem-based learning (PBL) and achieve good results. Some researchers have proposed the use of web-based learning for medical humanities courses and suggested that this method can enhance reflective study, develop an understanding of other viewpoints and help to develop creativity via engagement with the arts.9 Most importantly, medical humanities courses are open to all medical students. To summarise, humanistic courses in American medical colleges are characterised by five specialties:

1. Randomness. Real medical cases are used with no unitive instructional program;
2. Effectiveness. Each course is mainly focused on difficult medical problems in related fields;
3. Flexibility. Various teaching methodologies are used;
4. Intersectionality. Education in social science with health economics or health policy is provided by humanities professionals;
5. Continuity. Humanities courses are offered to students at all grades to help them learn the appropriate skills.10

In comparison, Chinese medical colleges universally lag behind Western colleges in their medical humanities teaching content, style, and methodology. Recent statistics show that insufficient importance is placed on medical humanities in the Chinese medical education system.10 The top 10 medical colleges in China offer a few social medical courses and a small range of course types. Only 1 in 10 universities has a specific medical humanities institute. Popular social courses like history of medicine are available only at Peking University and Fudan University. The most varied curriculum is provided by Shanghai Jiao Tong University, which has approximately 15 courses, some of which focus on current issues, such as medical career planning and health economics and policy. In addition, there are three army medical colleges, the Second Military Medical University, the Third Military Medical University and the Fourth Military Medical University, which teach aerospace psychology, medical ethics and health science from a military perspective. In terms of methodology, lectures are the most popular form of delivery. However, a few colleges have initiated other more practical approaches. Both the quantity and quality of medical humanities courses in China are insufficient. However, the courses that are offered have some merits:

1. Meeting basic needs: important social courses like medical sociology and
| University/College (USA)               | Curriculum                                                                 | Specialty                                                                                                          |
|---------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Harvard University                    | Global health and social medicine, Medical ethics, History of medicine,    | Arts & Humanities Division; most medical humanities courses, Humanities Center                                    |
|                                       | Moral experience in medical anthropology, and others.                      |                                                                                                                  |
| Johns Hopkins University              | Social medical courses                                                    | Humanities Center                                                                                                  |
| University of Pennsylvania            | Bioethics                                                                 | Habitat for Humanity                                                                                              |
| Stanford University                   | Social medical courses                                                    | School of Humanities and Science                                                                                 |
| University of California, San         | Introduction to narrative medicine, The healer’s art                       | Medical humanities program, medical humanities interest group, book club                                          |
| Francisco                             |                                                                           |                                                                                                                  |
| Washington University in St. Louis    | Philosophy-neuroscience-psychology                                         | Interdisciplinary project in the humanities, Interdisciplinary centers, Humanities and History of Medicine          |
| Yale University                       | Medical ethics, History of medicine                                         | /                                                                                                                 |
| Columbia University                   | Medical ethics, History of medicine                                        | /                                                                                                                 |
| Duke University                       | Humanities in medicine lecture series                                     | Non-medical humanities, Interdisciplinary centers: Trent Center for Bioethics, Humanities and History of Medicine   |
| University of Chicago                 | Healer’s art, Theories of medical ethics, Doctor–patient relationship       | /                                                                                                                 |
| University of Michigan                | Medical history, Literature and medicine, Ethics                            | /                                                                                                                 |
| University of Washington              | Justice in health care, History of eugenics, The human face of medicine     | Interdisciplinary centers: Center for Bioethics and Social Science In Medicine & Center for Medical History, Department of Bioethics and Humanities |
| University of California, Los Angeles | History of social studies of medicine                                      | /                                                                                                                 |
| Vanderbilt University                 | Elective rotation in clinical ethics                                        | /                                                                                                                 |
| University of Pittsburgh              | Bioethics                                                                  | Center for Bioethics and Law, Habitat for Humanity, School of Arts & Humanities                                   |
| Cornell University                    | Medical ethics                                                             | Twice-yearly online case discussions on clinical and research ethics, Department of Medical Social Sciences        |
| University of California, San Diego   | Social medical courses                                                    | /                                                                                                                 |
| University of Texas Southwestern      | Interactive ethics program                                                | /                                                                                                                 |
| Medical Center                        |                                                                           | /                                                                                                                 |
| Feinberg School of Medicine           | Social medical courses                                                    | Department of Medical Social Sciences                                                                            |
| Northwestern University               |                                                                           | /                                                                                                                 |
| Baylor College                        | Medical meaning & the physician–patient relationship, Foundations of medical research | Medical humanities program; Partial courses require instructor approval, Medical humanities program; Partial courses require instructor approval |

Table 1. Medical humanities courses in the top 20 medical colleges in the USA (data from US News and World Report and official university websites, 2016).
ethics are available to Chinese medical students.

2. Early exposure: all social medical courses are offered in the first and second year of basic medical education so that students are simultaneously exposed to humanistic cultivation and professional knowledge.

3. Mandatory humanistic education: some humanistic courses are mandatory to ensure that students will acquire fundamental knowledge. (Table 2 shows the top 10 medical colleges in China and their curricula).

**Primary humanistic courses**

Our research indicates that medical sociology, medical ethics, medical psychology, and medical history are the most well-received medical humanities courses in China and other countries. Therefore, we now describe these courses and describe how they are presented in China and other countries.

**Medical sociology: Patient–Doctor I.** Medical sociology is an emerging medical humanities area in China. In contrast, the concept of medical sociology was developed decades ago in the West and courses have an excellent reputation. Patient–Doctor I (PDI), is a medical humanities course offered to students in their first year at Harvard School of Dental Medicine in the USA. It helps and encourages students to value relationships with their patients, treat them with enthusiasm and respect and communicate well with them.11 The university administration collected PDI course assessment, admissions data, National Board test scores, and data on interactive student–patient abilities. They noticed significant linear relationships between PDI assessment scores and clinical performance, including manual skills and humanistic and interactive student–patient ability scores (p = 0.03).11

In China, the concept of medical sociology has a unique connotation. Medical health reform and doctor–patient

### Table 2. Medical humanity courses in the top 10 medical colleges in China (data from official university websites, 2016).

| University/College (China)          | Curriculum                                      | Specialty                      |
|-------------------------------------|-------------------------------------------------|--------------------------------|
| Tsinghua University                | Science and philosophy, Communication,          | /                              |
|                                     | Human and society, and others                   | Institute of Medical Humanity  |
| Peking University                  | Medical psychology, Sociology, Ethics, and others| Provincial key program        |
| Fudan University                   | History and heritage, and others                | /                              |
| Shanghai Jiao Tong University      | Medical career planning, Health economics, and others| /                              |
| Huazhong University of Science     | Medical ethics, Sociology, Psychology, and others| /                              |
| and Technology                     |                                                  |                                |
| Sun Yat-Sen University             | Social medical courses                          | /                              |
| Sichuan University                 | Social medical courses                          | /                              |
| The Second Military Medical University | Social medical courses                  | Military characteristics        |
| The Fourth Military Medical University | Aerospace psychology, and others             | Military characteristics        |
| The Third Military Medical University | Constitution science, Medical ethics         | Military characteristics        |
relationships are closely related to medical sociology. The frequent murders of medical practitioners and the public misunderstanding of doctors has led some medical students to give up their pursuit of a medical career. At this critical time, there is a great need for medical sociology education, as it could promote the sustainable development of the health care industry.

Medical ethics. Medical ethics is an important part of medical humanities education. It focuses on knowledge, abilities, and attitudes with the aim of empowering practitioners in the ethics of decision making. In view of the importance of medical ethics, we systematically analysed the contents and methods used in medical ethics courses.12,13

Problem-based learning. PBL is more useful than lectures for medical ethics teaching and learning.14 Peer-supervised PBL can be used when there are shortages in teaching resources and can improve teaching efficacy.15

PBL is used in medical ethics courses at the University of Texas, USA. Classes comprise seven to nine students and two advisors in realistic clinical scenarios. The appeal of using PBL to teach ethics is that it places ethical problems in the context of clinical problems encountered by physicians. Students actively analyse each case, systematically consider the respective approaches to each problem and think about and identify the ethical, behavioural, and diagnostic problems with their peers. The PBL approach also appeals to clinicians, who often lament that students on the wards frequently fail to recognise ethical problems, even if those same students can skilfully reason about problems once they are identified.16

Medical ethical reasoning is of great importance in further occupational preparation.

Medical ethical reasoning. Medical ethical reasoning is the foundation of ethics reasoning and includes (1) problem identification and information collection; (2) decision making; (3) treatment planning and (4) clinical behavioural observation. The final aspect is affected by both individual and wider social factors, such as conflicts, family support, and accessible resources. Experts need to consider all aspects of a case and make conclusive ethical decisions. The model is a very important foundation for ethical reasoning and learning.17

Despite the great importance attached to medical ethics education in China, its problems are obvious and the situation is far from optimistic. Outdated materials and dull methods are two prominent shortcomings. Medical ethics textbooks can remain unchanged for a couple of years, resulting in outdated information. In addition, in contrast to teaching in other countries, students in China are introduced to only the major ethical issues, such as brain death, euthanasia, and informed consent.

Medical psychology. In addition to medical sociology and medical ethics, medical psychology is a core humanistic subject. Medical psychology is now incorporated into basic medical education and combines clinical psychology, health psychology, and behavioural medicine. Medical students in the USA are required to familiarise themselves with patients’ lives, personal histories, values, and attitudes during the learning process and to develop self-awareness, personal growth, and well-being.18

Chinese medical psychology was founded by Professor Zan Ding. Owing to his efforts, the concept of disease-related mental health was gradually accepted by his colleagues at Peking Union Medical College and was disseminated nationwide. Despite Zan Ding’s early death, medical psychology is widely accepted as an
important part of medical humanities courses in China. In Chinese medical colleges, psychological concepts are currently closely aligned with concepts from medical ethics and overlap with the topics discussed in medical sociology, particularly doctor–patient relationships. This means that the importance of medical psychology can be overlooked. However, the importance of medical psychology education lies more in self-supervision. Medical students have more responsibility and a greater burden than other undergraduate students, as they must memorise everything they have learned and attempt to use the knowledge in future clinical scenarios. In addition, their tight study schedules leave very little time to develop personal hobbies or to take part in extracurricular activities. This heavy load affects the mental health of medical students. Medical psychology courses can help students to identify their mental health problems, address them appropriately and ask psychological professionals or mentors for help.

Medical history. Medical history is receiving increasing attention both in China and other countries. A consideration of medical history is the basis of medical education, as it allows students to identify and reflect on historical medical advances and mistakes. Many changes to medical practice have threatened the integrity of this revered profession, including the decline of professional autonomy and the erosion of moral integrity. An awareness of medical history allows students to review the development of medical practice and to regain confidence and professional self-identity.

In China, medical history was generally taught using a lecture-based teaching style. However, students often showed insufficient interest in the subject and paid little attention to the important developments in medicine. In addition, Chinese medical history classes only focused on traditional Chinese medicine history and did not include comparisons with Western medical innovations. Recently, there have been many changes to medical history teaching in China. Following other medical humanities courses, the teaching of medical history now mainly uses PBL. Courses now focus on the real-life significance of medical history and involve students in extracurricular activities such as medical history museum visits and medical revolution debates. In addition, the PBL model encourages students to collect historical information after class and share their findings, which can increase their active learning potential.

In the USA, the delivery of medical history courses reflects a sense of respect for the profession and honours the rich heritage of medicine. Bryan and Longo have argued that history of medicine education contributes to nostalgic professionalism and strengthens students’ sense of belonging and solidarity as members of an honourable profession. Those authors attempted to introduce students to history of medicine courses, which included early exposure to preclinical and clinical departments, formal lectures, and informal mentoring. Such measures can attract students and inspire active learning and thinking. Bryan and Longo argue that an understanding of developments in medicine can help to determine students’ future career paths. In choosing specialties and subspecialties, students tend to narrow their choices; however, an awareness of the history of medicine could help students to choose their specialty with greater understanding and an increased sense of identity.

In Australia, medical students receive medical history courses to broaden their horizons and develop critical thinking. At Monash University, an elective medical history course was introduced to students in the first year of their medical education. No timetables or detailed contents for this
course were developed, because staff believed that the method was more important than the contents. The staff adapted medical history teaching methods used in medical schools overseas and added their own elements. Students were often given several topics to work on for extra-curricular assignments and were allowed to use the Internet and academic books for data collection. In class, students were asked to share their thoughts about the assignment in detail. The assessment was an essay on a topic of the students’ choice. The best report was rewarded with 100 dollars and the essays reflected what students had learned during the semester.24

Conclusions

Medical humanities education is very important to the development of a successful medical practitioner; it can influence clinical performance and increase empathy for patients.25 Unsatisfactory doctor–patient relationships can lead to mistrust and even clashes between physicians and patients. Tucker et al. analysed the patient–physician relationship in China and suggested that medical humanities should be a core component of clinical training. In addition, they suggested that it is very important to promote experiential learning and partnerships between the community and medical schools. It is also vital to improve the evaluation of medical humanities education to rebuild physician–patient trust and restore harmonious mutual relationships in medical care.26,27 Therefore, we believe that medical humanities education should be implemented at an early stage of medical education, as students need to know the requirements for becoming a qualified and humane physician before they learn anything else. A comparison of medical humanities teaching in China and Western countries can identify differences, help to improve our own methods and teaching styles and expand the horizons of our medical students. If we really want to strengthen medical humanities education, we need to create a suitable atmosphere for positive learning and select students based on their humanistic qualities as well as their professional behaviours.28 The following are some recommendations for educational reforms in medical humanities education in China. First, we should integrate humanities and social science resources and improve medical humanities curricula. Second, we should optimise teaching methods and improve teaching effectiveness. Third, we should establish close links with clinical practice and train students in medical humanistic practice. Finally, we should reform methods of evaluating medical humanities and establish a formative assessment system. Medical humanities education is based on the belief that the best doctors and nurses are humans before they are health care workers. First and foremost, medicine is a learned and humane profession.

Authors’ contributions

Y. Qian, Q. Han, W. Yuan and C. Fan participated in the study design, searched databases and drafted the manuscript. W. Yuan and C. Fan conceived the initial idea and participated in the data analysis. Y. Qian wrote and revised the manuscript. All authors read and approved the final manuscript.

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