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Value Judgments on Life, Mission and Medical Ethics, and the Development of Medical Humanistic Qualities: A Survey of Medical Students

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Abstract

Objective: To understand current medical students' views on life, their mission and service to patients, and their attitudes towards medical humanities education. **Method:** A questionnaire was designed on the value judgments of medical students on life, their mission, medical ethics, and the status quo of medical humanities literacy. From January 1, 2018 to December 31, 2018, a research group interviewed undergraduates and postgraduates of the Medical College of Shanghai Jiaotong University and completed the questionnaires. **Results:** A total of 295 questionnaires were distributed and 295 (100%) were returned. One hundred male and 195 female medical students were surveyed. Among them, 176 (59.7%) had heard of and understood the concept of the humanistic spirit, and 189 (64.1%) understood the oath of medical students. When questioned about the meaning of life, 259 (87.8%) reported they tended to pursue ideals and 36 people (12.2%) preferred to pursue a happy life. A total of 186

(63.1%) thought that medical students should make saving lives and helping the sick or injured their life goals and 283 (95.9%) thought that medical workers should have both ability and morality. Compared with postgraduate students, undergraduate students had a higher level of understanding of the humanistic spirit (OR=2.194). Although 84.7% of the medical students stated that teachers had integrated humanistic ideas in the process of medical teaching, only 47.8% of them were interested in the existing humanism educational opportunities. Meanwhile, medical students who were interested in medical humanities courses were more inclined to understand the medical students' oath (OR=4.605). Interest in humanities courses was lower in male students than in females (OR=0.602), and lower in urban students than in rural students (OR=0.449). In terms of life values, male students and students from cities were more willing to pursue material well-being and female students and students from rural areas were more willing to pursue a spiritual life. **Conclusions:** The moral level of medical students and their understanding of medical humanities are generally good, but there are still some problems. The prioritization of medical humanism education remains insufficient, and students are generally not satisfied with current medical humanistic education. Teachers should pay attention to these problems to improve the quality of teaching.

Keywords

Medical students, medical humanities education, questionnaire investigation

Background

The medical model has gradually changed from a basic biomedical model to a biopsychosocial model; in line with this, the way doctors practice also needs to change (Wang, 2015). Doctor-patient relationships in China are known to be relatively tense, which is related not only to the unequal distribution of medical resources and the influence of medical insurance policy and public opinion, but also to doctor behavior, with a focus on technological improvement and a perceived lack of sympathy for patients. In essence, this may be because medical training has paid insufficient attention to humanistic education for a long time. Social situations are dynamic, and the ideological, moral, and humanistic education of medical students has always been an important issue in higher education. Medical schools worldwide grapple with how to allow humanistic education to permeate the medical field, in a way that cultivates benevolent and humanistic qualities in medical students.

We designed a questionnaire to investigate the awareness of ideological and moral concepts of medical students studying at the Medical College of Shanghai Jiaotong University, and their attitudes towards the medical humanities courses of the medical school. We further sought to use the information to enable us to understand existing problems in medical humanities teaching and explore methods of improving its quality of teaching, information of value in the long-term reform of medical humanities education.

Methods

Design

A questionnaire was designed to report on the value judgments of medical students on life, their mission, medical ethics and the status quo of medical humanistic literacy. Twenty-five questions, covered the following: (1) basic information on the students, including gender, educational background and discipline origin; (2) 11 questions to evaluate humanistic literacy; (3) eight questions about the medical humanism curriculum; and (4) two questions on social issues.

Participants

From January 1 to December 31, 2018, the questionnaire was conducted online among medical students at the Medical College of Shanghai Jiaotong University. A total of 295 questionnaires were sent out and 295 were recovered, an effective recovery rate of 100.0%.

Statistical analyses

The completed questionnaires were collected and processed by the researchers. The data were analyzed using SPSS 20.0 software, using chi square test and logistic regression. $P < 0.05$ was taken as statistically significant.

Results

General information

Of a total of 295 medical students investigated, 100 were male (33.9%) and 195 female (66.1%). Of the students, 267 (90.5%) were studying clinical medicine, two (0.68%) preventive medicine, five (1.69%) stomatology, five (1.69%) basic medicine, two (0.68%) pharmacy, three (1.02%) nursing and 11 (3.73%) other specialties. Among them, 133 (45.1%) were undergraduates, 112 (38.0%) were postgraduates, 47 (15.9%) were PhD students and three (1.02%) were at other levels. Two hundred and nineteen (74.2%) students came from cities and 76 (25.8%) from rural areas. Table 1 shows these results in detail.

Table 1

General Characteristics of the Surveyed Medical Students

Indicators		Number (%)
Gender	Male	100(33.9)
	Female	195(66.1)
Major	Clinical medicine	267(90.5)
	Preventive medicine	2(0.7)
	Stomatology	5(1.7)
	Basic medicine	5(1.7)
	Pharmacy	2(1.7)
	Nursing	3(1.0)
	Others	11(3.7)
Education	Undergraduate	133(45.1)
	Postgraduates	112(38.0)
	Ph.D	47(15.9)
	Others	3(1.02)
Students from	Town	219(74.2)
	Rural areas	76(25.8)
Know Humanism	Yes	176(59.7)
	No	119(40.3)
Most influential factors for the formation of medical students' Humanistic Quality	Family factors	73(24.8)
	School factors	57(19.3)
	Social factors	120(40.7)
	Personal factors	45(15.3)
The meaning of life	Pursuing ideal	259(87.8)
	Pursuing quality of life	36(12.2)
Medical students should take saving	Agree	186(63.1)

lives as their goal	Disagree	45(15.3)
	Unsure	64(21.7)
Qualified medical workers should have humanistic quality	Agree	283(95.9)
	Disagree	7(2.4)
	Do not care	5(1.7)
Understand the vows of medical students	Understand	189(64.1)
	Do not understand	106(35.9)
Attitude towards participating in activities related to medical humanities	Interested	141(47.8)
	Neutral	130(44.1)
	Uninterested	24(8.1)
	Yes	250(84.7)
Does the teacher integrate the relevant medical humanities knowledge when teaching	No	45(15.3)
	Written examination	100(33.9)
Which kind of assessment method of medical humanities course is preferred	Practical examination	195(66.1)
	Knowledge transfer	29(9.8)
Most effective way to improve the medical humanistic quality of medical students	Environmental edification	151(51.2)
	Own practice	110(37.3)
	Others	5(1.7)
	The doctor's attitude towards the critical emergency patients should be	Try best to help
Report to the superior		26(8.8%)
Make excuses to deny		2(0.7%)
The patient must pay first		15(5.1%)

Humanistic qualities

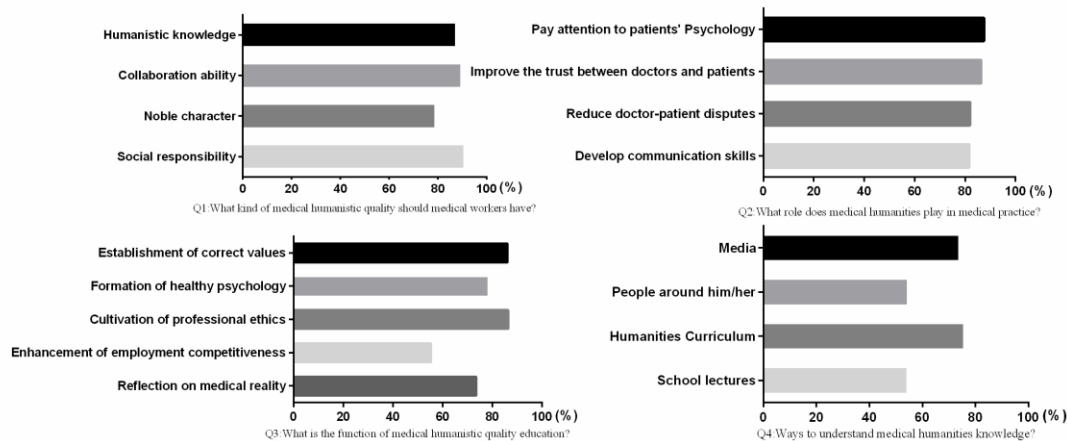
Of the 295 medical students, 176 (59.7%) had heard and understood the concept of a humanistic spirit and 119 (40.3%) did not understand this concept. One hundred and eighty-nine (64.1%) said they knew the medical student oath, while 106 (35.9%) did not remember or understand it. Among the factors influencing the formation of medical students' humanistic qualities, 120 (40.7%) thought social factors were the most important, while family factors, school factors, and personal factors were considered important by 73 (24.8%), 57 (19.3%), and 45 (15.3%), respectively. Questioned about the meaning of life, 259 students (87.8%) tended to pursue the realization of ideals and 36 people (12.2%) preferred to pursue a happy life. A total of 186 (63.1%) agreed definitively and 109 (36.9%) disagreed or were not sure whether medical students should make saving lives their life goal. On the question of whether

medical workers should have humanistic qualities, the vast majority (95.9%) of the medical students thought that medical workers should have both morals and skills, and only 12 (4.1%) considered that humanistic qualities were less important (Table 1).

Further results on medical students' understanding of humanistic medicine and how it functions, their perceptions of humanistic medical education and the influence of medical humanism on them, are shown in Figure 1.

Figure 1

Responses of Medical Students on the Qualities of Humanistic Medicine



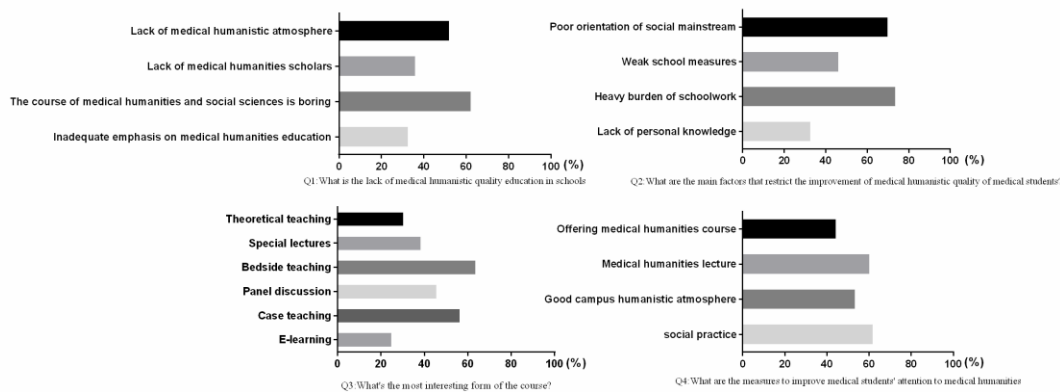
Medical humanities courses

There were some differences among medical students in their attitudes towards medical humanities-related courses and activities. A total of 141 (47.8%) showed interest in activities related to the education of humanistic qualities, 130 (44.1%) had a general interest, and 24 (8.1%) did not care. In terms of teaching methods, 250 students (84.8%) said that the teachers of professional courses had integrated medical humanities knowledge in their daily teaching, with similar acknowledgement of this from undergraduate, postgraduate, and PhD students (Table 2). However, 153 (51.9%) said that in terms of the quality of medical humanities education, the school lacked a medical humanistic atmosphere. Additionally, 183 (62.0%) thought that the content of the medical humanities curriculum was tedious and the outcome was not good. Possibly because of the lack of good quality medical humanism teaching in schools, 217 (73.6%) thought that medical students had a heavy burden of study, which took up most of the students' time, and 206 (69.8%) thought that poor mainstream orientation of medical humanities caused students to neglect the improvement of their own medical humanistic qualities. In terms of improving the teaching methods used for humanities training, 187 (63.4%) and 166 (56.3%) supported bedside teaching and case teaching, respectively, while 89 (30.2%) students were interested only in theoretical lectures. Evidently, most of the students preferred practical medical humanities teaching, with 195 (66.1%) preferring group discussion combined with clinical practice rather than written examinations (Table 1). Figure 2 further shows the understanding and abilities of medical students with regard to how the personal development of medical humanistic qualities and attitudes should be fostered.

Table 2
Students' Opinions on Teachers Integrating Medical Humanities into Medical Courses

Indicators	Group	Total	To Teachers integrate medical humanities into medical courses(%)		OR(95%CI)	P
			Yes	No		
Education	Undergraduate	133	114(85.7)	19(14.3)	1.421(0.593~3.405)	0.431
	Postgraduates	112	96(85.7)	16(14.3)	1.421(0.578~3.491)	0.444
	Ph.D	47	38(80.9)	9(19.1)	1	

Figure 2
Responses of Medical Students on the Teaching of Medical Humanism



Societal attitudes

The medical students in the survey were also invited to express their opinions on societal attitudes to the medical profession. This section of the study focused on the more serious tensions between doctors and patients. In terms of people's prejudice about medical workers and the treatment process, 178 (60.3%) thought that the main reason for this prejudice was mutual distrust between patients and doctors, and 60 (20.3%) thought that the main reason was that hospital departments' main motive was to make profit. Most medical students attributed this to patients' increasing requirements from health services and to national healthcare system investment and policies. A total of 105 (35.6%) thought that patients' expectations were too high and their awareness of the protection of their rights was high; 89 (30.2%) thought that national investment in the medical industry was insufficient, and that policies and laws relating to healthcare were defective. Table 3 provides further detail.

Table 3
Medical Students' Responses on Societal Attitudes Relating to Healthcare

Question	Option	Number (%)
What are the reasons for people's prejudice against doctors?	The work of each department in the hospital is linked with interests	60(20.3)

	Patient's awareness of self-protection is constantly increasing	33(11.2)
	Patients are not willing to cooperate with the practice of medical students	12(4.1)
	Mutual distrust between patients and doctors	178(60.3)
	The family members of the patients deliberately find fault for their interests	12(4.1)
What is the reason for the increasing tension between doctors and patients in society?	Patients have high expectations for treatment and increased awareness of rights protection	105(35.6)
	Patients with low quality do not understand the situation of doctors	20(6.8)
	Doctors are too tired	30(10.2)
	Doctors are indifferent and lack humanistic literacy.	1(0.3)
	People are deprived of morality because of the pressure of survival	12(4.1)
	Insufficient state investment, unfavorable policies and laws	89(30.2)
	Negative media orientation	38(12.9)

Correlation factor analysis of student information

Differences in the personal information of the medical students, as reflected by gender, educational background, origin and so on, may have influenced their thinking in relation to medical humanities and other choices. We conducted a correlation analysis of four issues: understanding of the humanistic spirit; understanding of the medical students' oath; degree of interest in medical humanism and related activities; and understanding of life values. Compared with doctoral students, undergraduate students indicated a greater understanding of the humanistic spirit (OR=2.194). There was no difference in understanding between graduate and doctoral students. Medical students who were interested in taking humanities courses showed greater understanding of the medical students' oath (OR=4.605) than those who were not. In terms of the degree of interest in medical humanities courses, males were less interested than females (OR=0.602), and students from cities were less interested than those from rural areas (OR=0.449). As for the understanding of life values, men were more reluctant to pursue life ideals than women (OR=0.327), and students from cities were less willing to pursue life ideals than those from rural areas (OR=0.245). Tables 4–7 have further details.

Table 4

Analysis of Factors Related to Understanding the Humanistic Spirit

Indicators	Group	Number	Know human ity (%)	OR(95%CI)	P (Multifactor analysis)
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				Single factor analysis	Multifactor analysis	
Gender	Male	100	62(62.0)	1.159(0.707~1.900)	0.896(0.518~1.551)	0.695
	Female	295	114(38.6)	1	1	
Education	Undergraduate	133	96(72.2)	2.096(1.0520~4.173)*	2.194(1.067~4.511)*	0.033*
	Postgraduates	112	53(47.3)	0.726(0.366~1.438)	0.689(0.344~1.382)	0.294
	Ph.D	47	26(55.3)	1	1	
Students from	Town	219	137(62.6)	1.585(0.936~2.684)	1.041(0.575~1.886)	0.894
	Rual areas	76	39(51.3)	1	1	
Attitude towards participating in activities related to medical humanities	Interested	141	86(61.0)	1.323(0.554~3.162)	1.815(0.709~4.645)	0.214
	Neutral	130	77(59.2)	1.229(0.512~2.951)	1.428(0.562~3.630)	0.454
	Uninterested	24	13(54.2)	1	1	

Table 5
Analysis of Factors Correlating with Understanding the Medical Student's Oath

Indicators	Group	Number	Understanding medical students' oath (%)	OR(95%CI)	P (Multifactor analysis)
Gender	Male	100	56(56.0)	0.593(0.361~0.975)*	0.802(0.459~1.399)
	Female	295	133(45.1)	1	1
Educational	Undergraduate	133	71(53.4)	0.537(0.266~1.083)	0.653(0.308~1.387)
	Postgraduates	112	84(75.0)	1.406(0.666~2.970)	1.189(0.544~2.599)
	Ph.D	47	32(68.1)	1	1
Students	Town	219	130(59.4)	0.421(0.230~0.777)	0.662(0.337~1.301)

from		9)	.769)*	1.301)	
	Rual areas	76	59(77.6)	1	1	
Interest in activities related to medical humanities	Interested	14	107(75.9)	6.294(2.478~1	4.605(1.745~	0.002*
		1)	5.989)*	12.154)*	
	Neutral	13	74(56.9)	2.643(1.056~6	2.235(0.860~	0.099
		0		.611)*	5.810)	
	Uninterested	24	8(33.3)	1	1	
	ed					

Table 6 Analysis of factors related to interest in medical humanism and related activities

Indicators	Group	Interest in medical humanistic quality activities			OR(95%CI)	P
		Interest ed	Neutral	Uninterested		
Gender	Male	43	40	17	0.602(0.375~0.964)*	0.035*
	Female	98	90	7	1	
Students from	Town	94	103	22	0.449(0.265~0.763)*	0.003*
	Rual areas	47	27	2	1	

Table 7

Analysis of Factors Relevant to an Interest in Understanding the Meaning of Life

Indicators	Group	Interest in medical humanistic quality activities		OR(95%CI)	P
		Pursuing ideal	Pursuing quality of life		
Gender	Male	79	21	0.327(0.154~0.693)*	0.004*
	Female	180	15	1	
Education	Undergraduate	111	22	0.718(0.224~2.298)	0.576
	Postgraduates	102	10	0.724(0.207~2.530)	0.613
	Ph.D	43	4	1	
Students from	Town	186	33	0.245(0.069~0.875)*	0.030*
	Rual areas	73	3	1	

Discussion

Developing humanistic qualities in medical students

With the rapid development of medical science, great changes have taken place in the medical model. Medical treatment and care may not only be limited to the disease itself, resulting in even higher personal requirements from medical students and doctors today. Fortunately, 95.9% of medical students in our survey thought that qualified medical workers should have both ability and morality. Most of the surveyed students (78.0%) confirmed that medical workers need to have humanistic knowledge, the ability to cooperate, a noble character, and demonstrate social responsibility. They were all in agreement that medical humanities played a role in medical practice, including developing the following: paying attention to patient psychology, improving the trust between doctors and patients, reducing doctor-patient conflict, and improving communication skills. Of the sample, 85.4% agreed that doctors should do their best to help patients in an emergency. These results suggest that in general, Chinese medical students have well-developed humanistic qualities. A total of 186 (63.1%) agreed that medical students should make saving lives and helping the sick or injured as their life goal, and only 109 (15.3%) chose "disagree" or "uncertain" in response to this statement. In the year 2020, when a new epidemic in the form of coronavirus infection is raging, tens of thousands of medical workers have been willing to go forward and contribute to managing the crisis; it is positive to see that more than half of our medical students provided responses consistent with this ethos. The essence of medicine is to maintain and improve human health and medical education is the basis of this.

The results also highlighted deficiencies in medical humanism education and the development of humanistic qualities in medical students. Nearly 40% of the students did not understand the related concept of the humanistic spirit, and 35.9% did not understand the medical student oath that they made when they entered their medical education, suggesting that better measures are required to enhance this before medical students enter school, and that education about the spirit of humanism should be integrated into the usual classroom and practical education. The survey found that, as a result of low understanding of humanistic qualities in some medical students, there were differences in the pursuit of life goals among medical students: 87.8% were more willing to pursue ideals, and 12.2% were more inclined to a material life. Of course, there is no right or wrong response to questions on these values. We need to further explore the changes in medical students' ideas and internal reasoning, to provide reference for the reform of medical humanities education.

Reflections on the current medical humanities curriculum

In terms of methods to improve understanding of medical humanities, 73.56% students chose the media, 54.24% learned from the people around them, 75.25% learned from medical humanities courses, and 53.90% learned from lectures. The media and humanism courses were the main ways for medical students to gain medical humanism knowledge. Media institutions should actively fulfill their social obligations, providing value guidance for medical students, and schools should also run rich and interesting humanism courses and actively implement curriculum reform. It has been found that the burnout of medical students will be significantly improved in the first three years (Von Harscher, et. al., 2018). In this study, 47.80% students showed interest in medical humanities education to promote humanistic qualities, while 52.20% showed a general interest in medical humanities, reflecting that the medical school humanities curriculum may be insufficiently interesting to attract the attention of students and further curriculum reform may be needed. At the same time, cramming the humanities curriculum must be opposed, to prevent further loss of interest by students. Medical schools should focus on active experience and avoid passive

knowledge infusion. In the comparison of various forms of humanism education, students showed less interest in classroom teaching and special lectures, and were more inclined toward developing humanistic qualities through case teaching, clinical teaching, group discussion, and bedside practice. As for methods of developing medical students' humanistic qualities, 151 (51.19%) surveyed students felt that environmental influences were very important and 110 (37.29%) felt that their own practice was very important. These findings can be used to encourage medical schools to make changes in their practical curricula. High quality medical humanities courses can also prepare medical students as they face their future work as doctors. Research by Graham and others (Graham, et. al., 2016) has shown that medical students participating in medical humanities courses show a significantly greater level of empathy than students who do not. Medical training schools need to improve the quality of medical humanities education, and ensure that humanities courses have a positive impact on medical students.

Reflections on social phenomena

Our questionnaire showed that 120 of the students (40.7%) thought that social environmental factors affect the development of humanistic qualities in medical students. Tension between doctors and patients has grown in recent times. An increasing focus on medical injury and negligence events promotes anxiety in medical students, and may influence their understanding of medical humanistic concepts and value choices. In the survey, most students thought that in the current medical environment, people's prejudice against doctors' practice mainly came from the connection between departmental work and interests, enhanced patient awareness of safeguarding rights, and increasing distrust of doctors, that is, the tension came from departmental pressure and patients themselves. Additionally, most students thought that the tension between doctors and patients stemmed from patients and national policies. From the patients' perspective, medical resources are often regarded as services and patients tend to believe that if they spend more money, they will receive a correspondingly improved treatment effect. Doctors in hospitals have been in a state of overload for a long time, and inevitably the quality of their work will decline under such circumstances. When patients are focused on treatment results, medical workers will transfer their limited energy to this, rather than humanistic care. In conditions of extremely tight medical resources, discussion of humanistic care can appear extravagant and unrealistic. Irresponsible media reporting also has a negative impact. News reporting that smears the medical industry will increase patient doubts about doctors and indirectly deepen the tensions between them. In this regard, some students proposed that measured medical reform, inclining medical resources to hospitals and doctors and actively promoting a hierarchical diagnosis and treatment system, may help alleviate conflict in the medical field and ease the anxiety of medical students.

Differences among students

In our survey, undergraduate students had a better degree of understanding of the spirit of humanism than doctoral students (OR=2.194). Medical schools should reflect on whether they neglect education on the spirit of medical humanism due to an overemphasis on scientific research and teaching. Medical students who were interested in medical humanities courses were more inclined to understand the oath of medical students (OR=4.605) than those who were not interested in these courses. These results suggest that medical schools should focus on making medical humanities courses interesting, avoiding highly theoretical and understimulating teaching. In terms of gender differences, male students were more likely to be in pursuit of material wealth and were less interested in medical humanities than female students; females were more likely to be in pursuit of life ideals and showed more interest in medical humanities. This may be owing to ongoing differences in the division of social

responsibilities between men and women in society. Men are generally the main source of family economic income; their drive to pursue material things will be stronger than that of women and they may be less interested in such abstract concepts as the humanistic spirit. However, the social status of women is constantly rising, and they continue to develop a more independent consciousness, with more opportunities to pursue their own ideals. Additionally, women's thinking tends to be more emotional and romantic, and thus they may have a greater interest in the concept of the humanistic spirit. We also found that students from urban areas wanted to pursue a more material life, while those from rural areas were more inclined to pursue life ideals. This may be because socioeconomic levels in rural areas are gradually improving, and although students from rural areas are becoming liberated from economic hardships, they may still retain their previous spiritual ideals and cultural constructs. Thus, students from rural areas may have a stronger tendency than students from urban areas to pursue and develop humanistic qualities. In the process of medical humanities curriculum reform, medical schools and teachers must be mindful of individual differences among students and teach them according to their aptitude and prior development.

Summary

In general, the morals of medical students and their cognition of medical humanities are well developed, but problems still exist. Medical humanities education still receives insufficient priority. Students are generally not satisfied with the current medical humanities curriculum, and they prefer to develop their own perceptions through personal practice rather than the indoctrination of written theoretical knowledge. This needs focus in the medical education curriculum. The purpose of introducing medical humanities into medical education in China is to educate medical students, rather than simply train them (Downie, 1999). Additionally, there are differences in students' cognition and attitude towards medical humanities. Teachers should respect students' views and pay attention to and reflect on these differences, to better improve the quality of teaching in medical humanities.

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