

An Investigation of Medical Students' Cognition on the Doctor-Patient Relationship and Their Career Choice

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Abstract: *Objective:* To investigate medical students' cognition on the doctor-patient relationship and its influence on their career choice as well as to provide reference for medical education and communication education. *Methods:* A self-compiled questionnaire survey was carried out at a medical university in W city, and descriptive statistics as well as chi-square tests were conducted. *Results:* There were significant differences in medical students' cognition of doctor-patient relationship among different genders, registered residence, only-child status, whose parents are working in the medical field, and their own evaluation of the major ($p < 0.05$); the different cognitions of doctor-patient relationship have a significant influence on medical students' career choice. *Conclusion:* Medical students' vocational cognition and educational guidance should be strengthened, hospital information should be open and transparent, media reporting of medical events should be standardized, and a doctor-patient conflict regulation mechanism should be established.

Keywords: Medical students; Doctor-patient relationship; Cognition; Career choice

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1. Introduction

For a period of time, the doctor-patient relationship in China has been hostile, medical disputes have been frequently reported, and there has been a blowout with doctor-patient conflicts, attracting widespread attention from all walks of life. The frequent doctor-patient disputes have seriously affected the professional environment of doctors ^[1]. According to the 2017 White Paper on the Practices of Chinese Doctors, 45% of doctors do not want their children to pursue a career in medicine, which greatly reduces the willingness of prospective medical students to engage in medical undertakings. Assisting medical students to establish professional confidence and cultivating high professional identity among medical students are of great significance to the future development of medical undertakings.

2. Subjects and methods

2.1. Subjects and sample size

The surveyed subjects were medical undergraduates and graduate students from a medical university in W city. A total of 1,020 questionnaires were distributed, of which 1,012 were recovered, with a recovery rate of 99.22%. There were 953 valid questionnaires, with an efficiency of 94.17%.

2.2. Methods

The questionnaire was designed by referring to literatures, group discussion, interviews, and pre-surveys. Cluster stratified sampling was conducted by trained investigators to investigate the cognitive status of medical students on the doctor-patient relationship and its impact on their career choice. The questionnaire can be divided into five sections: (1) basic information, including gender, grade, major, household registration, family economic status, parents with medical background; (2) medical students' choice of studying medicine; (3) medical students' cognition on the doctor-patient relationship; (4) the influence of medical students' cognition on the doctor-patient relationship; (5) medical students' career evaluation and career choice.

2.3. Statistical analysis and quality control

The questionnaire was sorted out, and relevant data were entered, tallied, and analyzed. All the data were examined by two people and a third person. Fifty data were randomly selected for verification. The results had high accuracy. Data processing analysis was performed using SPSS 23.0, and X^2 tests were carried out, with $p < 0.05$ being statistically significant.

3. Results and analysis

3.1. Basic information of the subjects

Out of the 953 medical students surveyed, there were 338 male students (35.47%), and 615 female students (64.53%); 642 students (67.37%) were of junior grade (freshman and sophomore), and 311 students (32.63%) of senior grade; 583 students (61.18%) were under the rural hukou system, while 370 (38.82%) students were not; 441 students (46.27%) were the only child in their families, while 512 students were not the only child in their families (53.73%); 176 students had an average household income of less than 4,000 yuan (poor), accounting for 18.47%, 483 with an average household income of 4,000 to 7,000 yuan (average), accounting for 50.68%, and 294 with an average household income of 7,000 yuan (rich), accounting for 30.85%.

3.2. Choice of studying medicine

The survey results showed that 36.7% of the students chose their current major because they liked it, 30.2% of the students chose their current major based on the opinions given by their parents and relatives, 15.9% of college applications were adjusted, 13.6% chose their major in view of job opportunities, and 3.5% of them were influenced by friends. When filling in the college entrance application, up to 42.9% were not affected by the status quo of the doctor-patient relationship, 52.4% experienced a little impact, and 4.7% of students experienced a significant impact. Among the medical students, 15.9% enjoy the course, 58.6% of students enjoy the course but had some distress, and 25.5% were indifferent or even bored (**Table 1**).

Table 1. Choice of studying medicine (n = 953)

Factor	Frequency	Percentage
Reasons for choosing the major		
Like the major	350	36.7%
Opinions from parents and relatives	288	30.2%
Influenced by friends	33	3.5%
To be adjusted	152	15.9%
Job opportunities	130	13.6%

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Factor	Frequency	Percentage
The impact of the doctor-patient relationship when filling in the application		
No difference	409	42.9%
Little impact	499	52.4%
Significant impact	45	4.7%
Evaluating the major		
Ardently enjoy	152	15.9%
Enjoy but with some distress	558	58.6%
Indifferent or bored	243	25.5%

3.3. Medical students' cognition on the doctor-patient relationship

According to the results, 46.2% of medical students felt that doctor-patient relationships are very tense, 48.5% felt that they are generally harmonious, and only 5.4% felt that doctor-patient relationships are harmonious. More female students felt that doctor-patient relationships are tense compared to male students ($X^2 = 30.188, p = 0.000$). The proportion of medical students registered in rural areas who consider doctor-patient relationships are tense was higher than those registered in cities ($X^2 = 9.915, p = 0.007$). A higher proportion of medical students who are not the only child in their families felt that doctor-patient relationships are tense compared to those who are the only child ($X^2 = 12.929, p = 0.002$). A higher proportion of medical students with non-physician parents felt that doctor-patient relationships are tense compared to those whose parents are physicians ($X^2 = 17.492, p = 0.000$). A higher proportion of medical students with poor evaluation of their major felt that doctor-patient relationships are tense compared with those who had better evaluation of their major ($X^2 = 93.992, p = 0.000$) (Table 2).

Table 2. Cognition of the current status of doctor-patient relationships [n (%)]

Factor	Harmonious	Generally harmonious	Tense	X^2	p
Sex				30.188	0.000
Man	33 (9.8)	179 (53.0)	126 (37.3)		
Woman	18 (2.9)	283 (46.0)	314 (51.1)		
Place of domicile				9.915	0.007
Rural	21 (3.6)	281 (48.2)	281 (48.2)		
City	30 (8.1)	181 (48.9)	159 (43.0)		
Only child				12.929	0.002
Yes	36 (8.2)	210 (47.6)	195 (44.2)		
No	15 (2.9)	252 (49.2)	245 (47.9)		
Parents who are physicians				17.492	0.000
Yes	12 (15.6)	35 (45.5)	30 (39.0)		
No	39 (4.5)	427 (48.7)	410 (46.8)		
Evaluation of the major				93.992	0.000
Ardently enjoy	31 (20.4)	81 (53.3)	40 (26.3)		
Enjoy but with come distress	16 (2.9)	259 (46.4)	283 (50.7)		
Indifferent or bored	4 (1.6)	122 (50.2)	117 (48.1)		

According to the results, most medical students believe that medical staffs with poor service attitude are more likely to cause tension in doctor-patient relationships than those who have better service attitude

($X^2 = 6.462$, $p = 0.040$); poor hospital environment is more likely to cause tension in doctor-patient relationships than better hospital environment ($X^2 = 7.606$, $p = 0.022$); poor verbal communication is more likely to cause tension in doctor-patient relationships compared to good verbal communication ($X^2 = 33.895$, $p = 0.000$). Medical technology, medical equipment, and other factors have no impact on the doctor-patient relationship, $p > 0.05$ (**Table 3**). From the interview, many medical students pointed out that the quality and understanding of medical knowledge among patients also affect the doctor-patient relationship.

Table 3. Factors influencing the doctor-patient relationship among medical students [n (%)]

Factor	Harmonious	Generally harmonious	Tense	X^2	p
Medical technology				2.501	0.286
Yes	25 (6.7)	174 (46.9)	172 (46.4)		
No	26 (4.5)	288 (49.5)	268 (46.0)		
Attitude toward patients				6.462	0.040
Yes	30 (4.3)	348 (49.8)	321 (45.9)		
No	21 (8.3)	114 (44.9)	119 (46.9)		
Armamentarium				3.668	0.160
Yes	2 (1.7)	56 (48.3)	58 (50.0)		
No	49 (5.9)	406 (48.5)	382 (45.6)		
Hospital environment				7.606	0.022
Yes	5 (2.3)	120 (54.3)	96 (43.4)		
No	46 (6.3)	342 (46.7)	344 (47.0)		
Verbal communication				33.895	0.000
Yes	22 (3.1)	340 (47.6)	352 (49.3)		
No	29 (12.1)	122 (51.0)	88 (36.8)		

According to the results, the method used by medical students to better understand the doctor-patient relationship is through internet media, accounting for 86.4%, followed by television and radio, accounting for 71.1%, and the least, through family and friends, accounting for 30.2% (**Table 4**).

Table 4. Methods used by medical students to better understand the doctor-patient relationship (n = 953)

Method	Frequency	Percentage
Internet media	823	86.4%
Television and radio	678	71.1%
Classroom teaching	257	27%
Family and friends	288	30.2%
Firsthand experience	154	16.2%
Others	1	0.1%

3.4. Effect of different cognitions about the doctor-patient relationship on the career choice of medical students

Among the medical students surveyed, 71.1% felt that the tension in the doctor-patient relationship has no influence on the medical profession, whereas 11% felt that the tension in the doctor-patient relationship has an effect on their career choice. The study also found that different cognitions about the doctor-patient relationship have an impact on medical students' willingness to engage in medical-related work ($X^2 =$

23.593, $p = 0.000$). If medical students are given the opportunity to change their major, the doctor-patient relationship has an influence on whether they will opt for medical-related majors ($X^2 = 16.571$, $p = 0.011$) (Table 5). It can be seen that a tense doctor-patient relationship has a negative influence on the career choice of medical students.

Table 5. Influence of the current status of the doctor-patient relationship on the career choice of medical students [n (%)]

Influence	Harmonious	Generally harmonious	Tense	X^2	P
Willingness to engage in medical-related work				23.593	0.000
Willing	42 (82.4)	326 (70.6)	313 (71.1)		
Unsure	8 (15.7)	115 (24.9)	77 (17.5)		
Unwilling	1 (2.0)	21 (4.5)	50 (11.4)		
Having the opportunity to change majors				16.571	0.011
Give up studying medicine	10 (19.6)	91 (19.7)	127 (28.9)		
Change to other medical-related majors	5 (9.8)	67 (14.5)	42 (9.5)		
Continue studying medicine	33 (64.7)	255 (55.2)	222 (50.5)		
Other views	3 (5.9)	49 (10.6)	49 (11.1)		

4. Discussion

4.1. The choice of most medical students is influenced by external factors

Medical students lack complete understanding of their major when filling in the application. Current medical majors are disliked by 63.3% of medical students, although this is attributable to external factors in the environment, which drastically diminishes medical students' capability to identify with the major. Challenging academic work and difficult doctor-patient relationships cause medical students to be extremely serious about their studies or even bored of studying, thus influencing their career choices.

4.2. News media plays an important role in building a harmonious doctor-patient relationship

In order to better understand the doctor-patient relationship, 68.2% of medical students use the internet and television to do so. News media plays an important role in building a harmonious doctor-patient relationship [2]. However, some media reporters lack medical knowledge, and in addition to the emotional bias and hype [3], while chasing interests, without full investigation, false exaggerated phenomena will negatively influence the medical industry, and there will be deviations in medical students' cognition toward the doctor-patient relationship.

4.3. Medical education lacks the cultivation of doctor-patient communication skills

Based on the investigation of the various causes of medical disputes, service attitude and communication account for the main factors influencing the occurrence of medical disputes. Cultivating doctor-patient communication skills is part of the curriculum in medical education. However, medical students do have the opportunity to practice their interpersonal skills and communication skills, thereby lacking confidence in handling and dealing with the doctor-patient relationship.

5. Suggestions

5.1. Strengthen the cultivation of medical students' vocational education and doctor-patient communication skills

First, it is important to develop professional interest in medical learning. Secondly, it is necessary to develop professional education, professional training objectives, encourage active participation, hire experienced medical staffs, and create a good medical ethics education environment. At the same time, it is crucial to strengthen the cultivation of doctor-patient communication skills among medical students, promote emotional education among medical students, educators, professional teachers, and teachers, help medical students to improve their ability to deal with frustration and pressure as well as develop courage to face medical disputes, promote doctor-patient communication courses, encourage medical students to actively participate in thinking about the doctor-patient relationship.

5.2. Strengthen the openness and transparency of hospital information

The doctor-patient relationship, which is a unique yet sensitive relationship among social relationships, is inherently characterized by unequal status and information asymmetry. Medical staffs have dominance over patients in the doctor-patient relationship, and patients hold a relatively passive role. Therefore, medical staffs should have the initiative to clear doubts and fulfill their obligation to notify. At the same time, hospitals should strive to ensure open and transparent information, minimizing the degree of information asymmetry, so that patients may also have the opportunity to look at their condition from an objective perspective.

5.3. Standardize media reporting of medical events

The media should fully perform the duties of public opinion guidance and social supervision, create a harmonious public opinion environment, objectively report and comment on medical problems with a highly responsible attitude, adhere to correct value orientation, avoid misleading the public, and give full play to positive energy^[4,5]. At the same time, the media can be linked with on-campus news and publicity web pages run by medical universities, so that medical students can correctly understand and keep up with doctor-patient events, a harmonious public opinion environment can be created, and the positive feelings of medical students about their future careers can be enhanced^[6].

5.4. Establish a doctor-patient conflict mediation mechanism

In medical disputes, the inversion of the burden of proof protects the patients and vulnerable groups, making it more difficult for the hospital to prove that there is no causal relationship between its medical behavior and the results of the damage, implying that the personal safety of doctors cannot be guaranteed. The government should establish a doctor-patient conflict mediation mechanism by playing video clips or lectures as a form of publicity, informing people through legal and formal ways, improving and safeguarding the social status of doctors, protecting the rights and interests of both, patients and doctors, as well as alleviating the worries and anxieties of medical students as “prospective doctors.”

Disclosure statement

The authors declare no conflict of interest.

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