Investigation and Analysis of the Differences Between the Medical Personnel’s and General Population’s View on the Doctor-Patient Relationship and Its Causes

Tianqing Sang  
Nanjing University of Chinese Medicine  https://orcid.org/0000-0002-8851-7797

Hongli Zhou  
Liaoning University of Traditional Chinese Medicine

Muhan Li  
Nanjing University of Chinese Medicine

Wenting Li  
Nanjing University of Chinese Medicine

Haibo Shi  
Wuxi xishan hospital of Chinese medicine

Haibin Chen  
Nanjing University of Chinese Medicine

Hongguang Zhou (✉️ 260105@njucm.edu.cn)  
https://orcid.org/0000-0002-6315-7713

Research

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Abstract

**Background:** Due to economic development and an increase in the aging population, the demand for medical resources is increasing. A good doctor-patient relationship (DPR) can optimize patients’ medical experience and improve treatment efficiency. The DPR, however, is currently in crisis in China. To explore ways to improve DPR, this study assessed the views on the status of the DPR, medical services, and the general situation of medical work among medical personnel (MP) and the general population (GP).

**Methods:** This cross-sectional study, conducted between December 2019 and March 2020, targeted the MP and the GP in Nanjing City, Jiangsu Province, and Zhengzhou City, Henan Province. The MP and the GP answered a self-administered questionnaire through Questionnaire Star and WeChat apps. Wilcoxon's Sign Rank Test, Chi-square test, and frequency distributions and percentages were used to process the data.

**Results:** Only 11.04% of the MP and 14.89% of the GP believed that the current DPR was harmonious. Moreover, 54.55% of the MP and 71.12% of the GP believed that the medical industry was a service industry. While 14.29% of the MP and 64.44% of the GP thought medical stuff earned high salaries, 19.48% of the MP and 47.11% of the GP wanted their children to be in the medical industry. The recognition of the current status of the DPR did not affect the GP’s preference for their children's practice (p<0.05). Most MP hoped to improve salaries (40.26%), followed by safety (17.53%) and social status (12.99%); only 8.44% of the MP wanted to improve the DPR.

**Conclusion:** The MP’s and GP’s views on the current status of DPR, the importance of medical service attitudes, and the general sense of the medical industry were similar. However, there was a significant difference in the perception of the nature of medical services and the income of the people employed in the medical industry between the two groups. Balancing the expectations of patients in the medical industry and increasing public awareness of the actual situation in the medical industry may be a feasible way to improve the DPR.

1. **Background**

The doctor-patient relationship (DPR) is the interactive relationship in the medical service activities between doctors and patients, as well as between the individuals and social groups that are closely related to the interests of both parties. Globally, due to the commercialization and privatization of the medical industry, the DPR has undergone tremendous changes over the past few decades [1]. DPR has changed from being doctor-centric to patient-centric. This patient-centric model of DPR reduces physician dominance, advocates greater patient control, and encourages more mutual participation. This has become the predominant mode in clinical practice today [2].

The People's Republic of China is a developing country with a population of about 1.4 billion. In China, medical resources are dominated by public ownership. To offer better health care, since the 2010s, the Chinese government has adopted a series of effective reforms that include expansion of the social health
insurance, reform of the public hospitals, and strengthening of primary care. These reforms have succeeded in reducing mortality, increasing life expectancy, and providing better primary health care [3, 4]. However, as the aging population continues to increase, China's limited medical resources will face huge challenges in the future [5]. A good DPR can optimize patients’ medical experience and improve treatment efficiency, outcomes that are important to both the doctors and patients. While the DPR has been the focus of public opinion, currently, it is in crisis in China, and its quality has continuously worsened. However, only a few in-depth and comprehensive studies have focused on improving the DPR by investigating medical personnel (MP) and the general population (GP) simultaneously.

In recent years, the demand for better health care in the third world countries has gradually increased, and an expanding aging population has become a global health care problem due to limited medical resources [6]. This study used an online survey to compare the differences in perception between 154 MP and 329 GP on the status of DPR, medical services, and the general situation of medical work; the study also explores a feasible way to improve the DPR. This study can provide guidance for improving the utilization rate on limited medical resources.

2. Methods

2.1 Study design

This was a cross-sectional study, and data were collected using questionnaires.

2.2 Population and Data Collection Procedure.

The scope of this research survey was limited to Nanjing City, Jiangsu Province, and Zhengzhou City, Henan Province. A total of 154 MP and 329 GP participated in the study. Data were collected using a self-administered online questionnaire, distributed through Questionnaire Star and WeChat apps. While participation in the study was voluntary, the participants received monetary compensation. All participants signed the informed consent form attached to the questionnaire prior to answering any question. The participants had 15 minutes to answer the questionnaire.

2.3 Questionnaire

Self-administered questionnaires covering three aspects were answered by the participating MP and GP. The first part of the questionnaire used by the MP included items on sociodemographic factors: Gender, Age, Job title (Primary, Intermediate, Deputy Senior, Advanced), Department (Internal Medicine, Surgical, Obstetrics and Gynecology, Pediatrics, Emergency Department, Medical Technology Department, and Other Auxiliary Departments), Years on the Job, Hospital Type (Traditional Chinese Medicine, Modern medicine and Integrated Chinese and Western Medicine), Hospital level (Community, Level 2, Level 3, Other Medical Institutions), Practice Category (Nursing, Traditional Chinese Medicine Physician, Modern Medicine Physician, Integrated Chinese, and Western Medicine Physician), Education (Technical Secondary School/College, Undergraduate, Master's degree, Ph.D. and Above), and Place of Residence
(Village/Township/Town, County-level Cities/Prefecture-level Cities, Provincial Capital Cities/Municipalities). The first part of the questionnaire used by GP included items on sociodemographic factors: Gender, Age, Place of Residence (Village/Township/Town, County-level Cities/Prefecture-level Cities, Provincial Capital cities/Municipalities), Education (Elementary School and Below, Junior and High school, Technical Secondary School/College, Undergraduate, Postgraduate and Above), Job type (Institution/Civil Service, Private Enterprise Employees, Self-employed, Unemployed and Student), and Previous Hospitalization (Yes or No).

In the second part of the questionnaire, the participants were asked whether the medical industry belonged to the service industry and whether the service attitude of medical personnel with professional skills was important; responses from the MP and the GP were investigated separately. And investigated GP about whether the service attitude of medical staff is appropriate compared with government staff/service staff. The third part of the questionnaire was aimed at finding the difference between the MP's and GP's perception of the medical industry. The MP and GP's views on the medical staff's income level and whether they wanted their children to be in the medical field were investigated as well. Finally, the MP's opinion on how to improve in routine medical work (Social Status, Salary, Safety, Work time, Night Shift Frequency, Cumbersome Hospital Assessment, Doctor-patient Relationship, Working Environment) was also investigated.

2.4 Statistical analysis

All data were incorporated into a Microsoft Excel spreadsheet. Data analyses were done using SPSS, version 22.0, and SPSSAU, version 20.0. Wilcoxon's Sign Rank Test was implemented to compare the differences in attitude scores between the two groups. Chi-square test was used for categorical data between the groups, and categorical data were summarized using frequency distributions and percentages. A value of p<0.05 was considered significant.

3. Result

3.1 Characteristics of the sample

A total of 41 (26.62%) of the 154 MP believed the DPR to be tense, 96 (62.34%) thought it to be average, and only 17 (11.04%) though it to be harmonious. Of the 329 GP, 88 (26.75%) believed that the current DRP was tense, 192 (58.36%) thought it was average, and 49 (14.89%) thought it was harmonious. The cognitive difference of the current situation for the DRP between medical personnel and non-medical personnel is shown in Figure 1. Among the MP, age, gender, department, years on the job, professional title, hospital level, type of practice, education, and place of residence had no statistical significance on the evaluation of the DPR (p>0.05). In the GP, gender, work type, education, place of residence, and prior hospital admittance had no statistical significance on the evaluation of the DPR (p>0.05); the data are given in Table 1. Age, however, was a statistically significant factor in the GP on the evaluation of the DPR (p=0.01); the data are given in Table 2. With age, GP tended to think GRP is harmonious, as shown in Figure 2.
Table 1. General population data of 154 MP and the difference in the perception of the status of the doctor-patient relationship among groups. (TCM: Traditional Chinese Medicine; MM: Modern Medicine; ICWM: Integrated Chinese and Western Medicine Physician.)
| Group                | Harmony (%) | Normal (%) | Tense (%) | X² | P      |
|----------------------|-------------|------------|-----------|----|--------|
| Gender               |             |            |           | 0.01 | 0.995 |
| Male                 | 6(35.29)    | 35(36.46)  | 15(36.59) |    |        |
| Female               | 11(64.71)   | 61(63.54)  | 26(63.41) |    |        |
| Age                  |             |            |           | 3.97 | 0.86  |
| ≤25                  | 4(23.53)    | 21(21.88)  | 9(21.95)  |    |        |
| 26-35                | 7(41.18)    | 52(54.17)  | 24(58.54) |    |        |
| 36-45                | 2(11.76)    | 7(7.29)    | 4(9.76)   |    |        |
| 46-55                | 4(23.53)    | 14(14.58)  | 4(9.76)   |    |        |
| ≥56                  | 0(0.00)     | 2(2.08)    | 0(0.00)   |    |        |
| Department           |             |            |           | 5.788 | 0.926 |
| Internal Medicine    | 10(58.82)   | 46(47.92)  | 22(53.66) |    |        |
| Surgical             | 1(5.88)     | 20(20.83)  | 9(21.95)  |    |        |
| Obstetrics and Gynecology | 1(5.88) | 3(3.13) | 2(4.88) |    |        |
| Pediatrics           | 1(5.88)     | 5(5.21)    | 2(4.88)   |    |        |
| Emergency department | 0(0.00)     | 2(2.08)    | 0(0.00)   |    |        |
| Medical Technology department | 0(0.00) | 4(4.17) | 1(2.44) |    |        |
| Other auxiliary departments | 4(23.53) | 16(16.67) | 5(12.20) |    |        |
| Years on the Job     |             |            |           | 8.645 | 0.373 |
| ≤5                   | 10(58.82)   | 69(71.88)  | 31(75.61) |    |        |
| 6-10                 | 2(11.76)    | 6(6.25)    | 2(4.88)   |    |        |
| 11-20                | 1(5.88)     | 2(2.08)    | 4(9.76)   |    |        |
| 21-30                | 4(23.53)    | 16(16.67)  | 4(9.76)   |    |        |
| ≥31                  | 0(0.00)     | 3(3.13)    | 0(0.00)   |    |        |
| Job title            |             |            |           | 11.014 | 0.088 |
| Primary              | 10(58.82)   | 71(73.96)  | 30(73.17) |    |        |
| Intermediate         | 5(29.41)    | 13(13.54)  | 5(12.20)  |    |        |
| Deputy Senior        | 0(0.00)     | 6(6.25)    | 6(14.63)  |    |        |
| Advanced             | 2(11.76)    | 6(6.25)    | 0(0.00)   |    |        |
| Hospital type          | 1.715  | 0.788 |
|-----------------------|--------|-------|
| TCM                   | 12(70.59) | 59(61.46) | 24(58.54) |
| MM                    | 3(17.65) | 20(20.83) | 7(17.07)  |
| ICWM                  | 2(11.76) | 17(17.71) | 10(24.39) |
| Hospital level        | 3.332  | 0.766 |
| Community             | 2(11.76) | 7(7.29)  | 2(4.88)   |
| Level 2               | 2(11.76) | 21(21.88) | 8(19.51)  |
| Level 3               | 12(70.59) | 56(58.33) | 28(68.29) |
| Other medical institutions | 1(5.88) | 12(12.50) | 3(7.32)   |
| Practice category     | 8.032  | 0.236 |
| Nursing               | 0(0.00) | 4(4.17)  | 2(4.88)   |
| TCM physician         | 14(82.35) | 68(70.83) | 32(78.05) |
| MM physician          | 1(5.88) | 11(11.46) | 7(17.07)  |
| ICWM physician        | 2(11.76) | 13(13.54) | 0(0.00)   |
| Education             |        |        |
| Technical secondary school/college | 0(0.00) | 7(7.29)  | 3(7.32)   | 9.707  | 0.138 |
| Undergraduate         | 5(29.41) | 41(42.71) | 11(26.83) |
| Master's degree       | 9(52.94) | 45(46.88) | 24(58.54) |
| PhD and above         | 3(17.65) | 3(3.13)  | 3(7.32)   |
| Place of residence    | 3.38   | 0.496 |
| Village/township/town | 4(23.53) | 11(11.46) | 6(14.63)  |
| County-level cities/prefecture-level cities | 3(17.65) | 35(36.46) | 15(36.59) |
| Provincial capital cities/Municipalities | 10(58.82) | 50(52.08) | 20(48.78) |

Table 2. General population data of 329 GP and the differences in the perception of the status of the DPR between groups.
| Group                        | Harmony (%) | Normal (%) | Tense (%) | $\chi^2$ | P       |
|------------------------------|-------------|------------|-----------|----------|---------|
| Gender                       |             |            |           | 1.695    | 0.428   |
| Male                         | 23(46.94)   | 71(36.98)  | 33(37.50) |          |         |
| Female                       | 26(53.06)   | 121(63.02) | 55(62.50) |          |         |
| Age                          |             |            |           | 25.26    | 0.001   |
| $\leq$25                     | 0(0.00)     | 16(8.33)   | 12(13.64) |          |         |
| 26-35                        | 4(8.16)     | 57(29.69)  | 19(21.59) |          |         |
| 36-45                        | 12(24.49)   | 44(22.92)  | 21(23.86) |          |         |
| 46-55                        | 16(32.65)   | 47(24.48)  | 23(26.14) |          |         |
| $\geq$56                     | 17(34.69)   | 28(14.58)  | 13(14.77) |          |         |
| Job type                     |             |            |           | 15.394   | 0.052   |
| Civil Service                | 16(32.65)   | 70(36.46)  | 20(22.73) |          |         |
| Private enterprise employees | 17(34.69)   | 70(36.46)  | 42(47.73) |          |         |
| Self-employed                | 6(12.24)    | 21(10.94)  | 7(7.95)   |          |         |
| Unemployed                   | 10(20.41)   | 21(10.94)  | 10(11.36) |          |         |
| Student                      | 0(0.00)     | 10(5.21)   | 9(10.23)  |          |         |
| Education                    |             |            |           | 13.57    | 0.094   |
| Elementary school and below  | 3(6.12)     | 1(0.52)    | 1(1.14)   |          |         |
| Junior and high school       | 10(20.41)   | 40(20.83)  | 18(20.45) |          |         |
| Technical secondary school/college | 16(32.65)   | 45(23.44)  | 27(30.68) |          |         |
| Undergraduate                | 17(34.69)   | 80(41.67)  | 29(32.95) |          |         |
| Postgraduate and above       | 3(6.12)     | 26(13.54)  | 13(14.77) |          |         |
| Place of residence           |             |            |           | 5.188    | 0.269   |
| Village/township/town        | 8(16.33)    | 32(16.67)  | 14(15.91) |          |         |
| County-level cities/prefecture-level cities | 9(18.37)   | 50(26.04)  | 31(35.23) |          |         |
| Provincial capital cities/Municipalities | 32(65.31)   | 110(57.29) | 43(48.86) |          |         |
3.2 Differences between the MP’s and the GP’s perception of medical services

A total of 84 (54.55%) of the 154 MPs believed that the medical industry was a service industry, and 70 (45.45%) thought it was not. A total of 150 (97.4%) MP thought that the service attitude of medical staff was as important as professional skills, and only 4 MP (2.6%) considered it was not. While 234 (71.12%) of the 329 GP thought that the medical industry was a service industry, 95 (28.88%) did not. Interestingly, 315 (95.74%) GP thought that the attitude of medical staff is more important than professional skills and only 14 GP (4.26%) considered it to be unimportant. The difference between MP and GP’s perception of medical services is shown in Figure 3. Age, gender, department, years on the job, job title, hospital level, practice category, education and place of residence had no statistical significance for the MP’s perception on whether the medical industry was a service industry (p>0.05); the data are shown in Table 3. Gender and prior hospitalization were statistically significant factors for the GP’s perception of whether the medical industry was a service industry. Education has statistical significance for GP’s perception of the importance of the service attitude of medical staff (p<0.05); the data are given in Table 4. The GP’s perception difference in service attitudes between medical staff and government staff/service staff is shown in Figure 4. Comparison of the service attitudes between the medical staff and the government staff shows that 45.15% of the GP believed that the service attitude of both sectors was good in general, while 26.06% believed the service of the medical staff was better, and only 6.06% thought service attitude was bad in both sectors. A comparison of the service attitudes between the medical staff and the service staff shows that 41.25% of the GP believed that the service attitude of the service staff was better, 17.58% thought that the medical staff was better, and only 1.52% thought both were bad.
Is the medical industry a service industry?

|                          | χ²   | P    |
|--------------------------|------|------|
| Years on the Job ≤5/6-10/11-20/21-30/≥31 | 10.413 | 0.034 |
| Hospital type TCM/MM/ICWM | 8.286 | 0.016 |

Table 4. Differences in the GP's perception of medical services.

(a) Compared with professional skills, is the service attitude of medical staff important?

|                          | χ²   | P    |
|--------------------------|------|------|
| Gender Male/Female       | 6.684 | 0.010 |
| Previous Hospitalization Yes/No | 30.08 | 0.000 |

(b) Is the medical industry a service industry?

|                          | χ²   | P    |
|--------------------------|------|------|
| Education Elementary school and below, Junior and high school, Technical secondary school/college, Undergraduate, Postgraduate and above | 20.807 | 0.000 |

Figure 3. Differences in perception between the MP and the GP on medical services.

Figure 4. The GP’s perception of the difference in service attitude between medical staff and government staff/service staff.

3.3 Differences in Perception between the MP and the GP on the medical industry

3.3.1 Differences in perception between the MP and the GP on medical industry income

Of the 154 MP, 132 (85.71%) thought that medical staff did not earn high salaries, and only 22 (14.29%) thought they did. All factors such as age, gender, department, years on the job, job title, hospital level, practice category, education, and place of residence had no statistical significance for MP’s cognition of the medical staff’s income level, (P>0.05). Of the 329 GP, 117 (35.56%) thought that medical staff did not earn high salaries, and 212 (64.44%) thought they did. Two factors, age and job type, have statistical significance for MP’s cognition of the medical staff’s income level (P<0.05); the data are given in Table 5.
The difference between the MP’s and GP's perception of the medical staff's income level is shown in Figure 5.

Table 5. Differences in GP's perceptions of income from the medical industry

| Group             | X²   | P     |
|-------------------|------|-------|
| Age               | 10.874 | 0.028 |
| ≤25/26-35/36-45-46-55/≥56 |      |       |
| Job type          | 10.213 | 0.037 |
| Civil Service, Private enterprise employees, Self-employed, Unemployed, Student |      |       |

Figure 5. Differences in perception between the MP and the GP on medical staff income level.

3.3.1 Differences between MP and GP in choosing whether their children are engaged in the medical industry

Of the 154 MP, 74 (48.05%) did not want their children to be in the medical industry, and only 30 (19.48%) wanted that. In contrast, 155 (47.11%) of the 329 GP wanted their children to be in the medical profession, and only 65 (19.76%) did not. The difference between the two in choosing whether they preferred their children to be in the medical industry is shown in Figure 6. Several factors, such as job title, education, perception of medical staff’s income, and what MP prioritized to improve in routine medical work, were statistically significant for the MP to choose whether they wanted their children to be in the medical industry (p<0.05); the data are shown in Table 6. Age, job type, cognition of medical staff’s income level, perception differences in the DPR were statistically significant factors for the GP to choose whether they wanted their children to be in the medical industry (p<0.05); the data are given in Table 7.

Among the 154 MP, the most wanted to improve their salary (40.26%), followed by safety issues (17.53%); the improvement of the working environment was the least preferred factor (3.25%), as shown in Figure 7.

Table 6. Differences affecting MP’s choice of whether their children are engaged in the medical industry.
### Table 7. Differences affecting the GP’s choice of whether their children should be in the medical industry.

| Group                                             | \( \chi^2 \) | P    |
|---------------------------------------------------|--------------|------|
| Job title                                         | 13.032       | 0.043|
| Education                                         | 13.301       | 0.038|
| Whether medical staff belong to high-income groups.| 12.318       | 0.002|
| MP's choice of what they want to improve in routine medical work. | 34.86        | 0.002|

### Figure 6. Differences between the MP and the GP on whether their children should be in the medical industry.

### Figure 7. MP’s choice of what they want to improve in routine medical work.

## 4. Discussion

### 4.1 Analysis of the status of the DPR between the MP and the GP and the difference in perception about medical service

Our data on MP’s and GP’s perception of the DPR show that only 11.04% of the MP and 14.89% of the GP believed that the current DPR is harmonious. This indicates that the DPR is at a relatively tense level in China, which is consistent with previous research [7]. A significant percentage of the participants, 97.4% of the MP and 95.74% of the GP, believed that the service attitude of medical staff was as important as the MP’s professional skills. Moreover, 54.55% of the MP believed that the medical industry was a service industry, and 71.12% of the GP believed that the medical industry was a service industry. These data
show that while the MP and the GP had a similar understanding of the importance of service attitude in the medical industry, the two groups’ opinions differed when it came to the nature of the service of the medical industry. The GP tended to think that the medical industry was a service industry, while the MP thought the opposite was true. This may lead to differences in the expectations and communication methods between doctors and patients during medical treatment, which exacerbates the DPR crisis [8]. A comparison of the service attitude between medical staff with government staff showed that 26.06% of the GP thought that medical staff offered better service, and only 6.06% thought that the government staff offered better service. Compared with traditional service industries, 17.58% of the GP thought that medical staff offered service, and 41.25% thought that the reverse was true. This indicates that the service attitude of medical staff is between that of government staff and staff of traditional service industries and is significantly better than the non-traditional service industry. This suggests that to a certain extent, the service attitude of medical staff is not directly responsible for the tension in the DPR.

4.2 Analysis of the difference between MP’s and GP’s general perception of the medical industry

Our data show that 85.71% of the MP thought that they did not earn high salaries while 14.29% thought they did. Among the GP, 35.56% thought that MP did not earn high salaries while 212 (64.44%) thought they did. These data show that there was a difference in perception on MP’s income between the MP and the GP: the majority of the GP thought the MP’s income was high while the reverse was true for the MP. While 47.11% of the GP wanted their children to be in the medical profession, only 19.48% of the MP wanted that. Age, job type, cognition of medical staff’s income level, and the status quo of doctor-patient relationship differences had an impact on whether GP wanted their children to choose the medical profession. Interestingly, the recognition of the current status of the doctor-patient relationship did not affect GP's choice in this regard. Among the GP who wanted their children to be in the medical industry, 83.84% thought the DPR was currently tense, and only 14.89% thought the DPR was harmonious. Our data on the MP’s preferred aspect to improve the routine medical works show that majority of the MP hoped to improve their salaries (40.26%), followed by safety (17.53%) and social status (12.99%); only 8.44% wanted to improve the DPR. Our data is consistent with the results of another study [9]. These results suggest that the GP’s perception of the medical industry does not change with either tense or harmonious DPR. The factors medical practitioners need to improve most are related to personal life, such as salary, safety, and social status.

4.3 Conclusions

Economic development and an increase in the aging population have heightened the demand for medical resources [10]. While China is in a period of rapid economic development, her large population, the polarization of the rich and the poor, the increase in the aging population, and the uneven distribution of medical resources have created complex problems in China's medical industry [11, 12]. Rational allocation of medical resources and finding ways to improve treatment efficiency are two of the most pressing issues right now. Finding a way to increase the DPR, in this context, can play an important role in reforming China's health care system. Since the medical industry closely related to people's wellbeing,
improved DPR would be mutually beneficial to both the doctors and the patients. For example, improved DRP can improve treatment efficacy and better medical experience to the patients, while it will provide the doctors with better working environments and increase work efficiency. Although the Chinese government has taken many measures to improve the DPR, success has been minimal.

This study indicates that the MP's and the GP's perception of the current status of DPR, the importance of medical service attitudes, and the general sense of the medical industry are similar. Both groups believe that DPR is currently tense and affirm the importance of service attitude in the medical industry. It reflects their affirmation of the medical industry by choosing whether children are engaged in medical treatment. Their main difference lies in the perception of the nature of medical services and the income of the medical industry. Unlike the MP, the GP believed that the medical industry belongs to the service industry and that medical personnel belonged to the high-income group. In recent years, the problems in the DPR in China has intensified. The general public believes this happens because the patients do not understand the medical staff's instructions and do not pay attention to the instructions. Thus, the media always tends to portray doctors and nurses as heroes. Headlines such as "Sick doctor goes to work", "Writing medical orders while dripping", "Working continuously for 48 hours during the Spring Festival" encourages doctors to sacrifice themselves for patients [13, 14]. Continuously raising the moral standards of the medical industry and raising the professional positioning of the medical industry while ignoring the needs of medical personnel as ordinary people will inevitably increase their professional burden as patients will have unreasonable expectations from the medical staff. Studies have shown that violent medical injuries mostly occur in areas where high-quality medical resources concentrated, such as top hospitals, and this mostly happens because patients expect too much from the doctors [15, 16]. Whether the MP's and the GP's different perceptions about the nature of services in the medical industry is related to high demands and ethical standards set by public opinion needs to be investigated in the future. The solution to the DPR crisis lies in addressing the problem from both the medical professionals' and patients' perspectives, finding the key discrepancies, and implementing measures to minimize those discrepancies. Balancing the expectations of patients in the medical industry and increasing public awareness of the real situation in the medical industry may be a feasible way to improve the DPR.

Declarations

Ethics approval and consent to participate

All aspects of the study protocol, was authorized by the Institutional Review Board at Nanjing University of Traditional Chinese Medicine before the initiation of this study. All participants were allowed at least 15 min to complete the questionnaire. They read the consent form attached to the paper questionnaire and provided informed consent prior to answering any questions.

Availability of data and materials

All data supporting the study is presented in the manuscript or available upon request from the corresponding author of this manuscript (Hongguang Zhou) at Email: 260105@njucm.edu.cn
Conflicts of Interest

The authors declare no conflicts of interest

Consent for publication

The authors of this study declare that they have no objections to the publication of this article. The individual person's data in any form (including any individual details, images or videos) in this manuscript, all consent for publication from that person, or in the case of children, their parent or legal guardian.

Authors' Contributions

STQ and ZHL contributed equally to the manuscript. ZHG designed the research. STQ and LMH contributed analytic tools, ZHL, SHB and LWT collected and processed the data. STQ, ZHG and CHB critically reviewed the manuscript and assisted in the final write-up of the manuscript. All authors read and approved the final manuscript.

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**Figures**

![Figure 1](image-url)

**Figure 1**

Differences between the MP and the GP in the perception of the DPR.
Figure 2

Cognition of DPR by GP of different ages.

Figure 3

Differences in perception between the MP and the GP on medical services.

Figure 4

The GP's perception of the difference in service attitude between medical staff and government staff/service staff.
Figure 5

Differences in perception between the MP and the GP on medical staff income level.

Figure 6

Differences between the MP and the GP on whether their children should be in the medical industry.

Figure 7

MP's choice of what they want to improve in routine medical work.