Advances in the Study of Factors Influencing of the Risk Perception in the Doctor-Patient Relationship: Based on the Medical Side Perspective

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Abstract. The risk of doctor-patient relationship seriously affects the psychological health of doctors and the healthy development of hospital treatment environment. It is crucial to investigate the influencing factors of risk perception of doctor-patient relationship to avoid the risk of doctor-patient relationship and improve the treatment level. According to the search results from databases as well as the number of citations and research topics of screened articles, we extracted a total of influence factors from the above screened articles. Conducting descriptive statistics on their frequencies, we analyzed each influencing factor using WordCloud diagram. The factors influencing RPDPR on the medical side include doctor-patient communication, doctor-patient trust, media and quality of medical services. Based on the medical side perspective, this study explores the progress of research on the factors influencing the risk perception of doctor-patient relationship in order to increase the level of doctor-patient trust, improve doctor-patient relationship, and build a harmonious society.

Keywords: Doctor · Doctor-patient relationship · Risk perception · Influencing factors

1 Introduction

As China's medical reform process continues to advance and the level of medical services steadily improve, but still cannot fully meet the increasing medical needs of patients, the doctor-patient relationship (DPR) is a hot topic of concern in the current society. DPR is an objectively formed interaction between doctors and patients in the process of medical services, which is the most fundamental of medical interpersonal relationships. A good DPR is the guarantee of successful medical treatment and the key to improving the quality of care and preventing medical disputes. Due to the differences in professional environment and subjective conditions between doctors and patients, different expressions and communication skills, it is easy to generate cognitive misalignment and cause various conflicts. Based on the special nature of medical work, risks from patients, hospitals, and society are widely present in daily medical work [1]. The White Paper

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on the State of Physician Practice in China shows that 66% of physicians in China have personally experienced incidents of doctor-patient conflict, 51% of physicians have suffered from verbal violence, and over 30% have experienced violent treatment by patients [2]. The continuous deterioration of the DPR in recent years and the numerous incidents of medical disturbances have highlighted the importance of research related to the risk of the doctor-patient relationship (RDPR) in healthcare management [3].

RDPR can be understood as the uncertainty of the expected outcome or loss during the interaction between the doctor and the patient. If the inputs and rewards of this mutually beneficial relationship between doctor and patient are not equal, or if one side feels that the other is not giving the rewards and benefits that they should be, a psychological gap can easily arise, leading to conflict. From the medical side perspective, defensive medical practices such as increased consultations, avoidance of high-risk patients, over-prescribing of medications to avoid potential risks, and the occurrence of demand-inducing behaviors on the part of the healthcare provider, can all contribute to increased medical costs [4].

Risk perception refers to an individual's perception of objective external risk, a concept that is part of psychology and has also been applied in fields such as sociology. When Lechowska [5] conducted her study on flood risk management, she defined risk perception as "the assessment of the probability of hazard and the probability of outcome (usually negative consequences) as perceived by society". Han Qing et al. [6], in their study of the relationship between risk perception and emotional and psychological well-being in the New Coronary Pneumonia outbreak, suggested that risk perception of New Coronary Pneumonia is a cognitive response and assessment of its threat. Aycock, D. M. et al. [7] applied risk perception to stroke interventions, suggesting that risk perception is key to understanding people's thoughts about risk and adopting preventive health-related behaviours. Zhang, X. W., et al. [8] used nursing staff as their subjects and concluded that risk perception is the attitudes, perceptions and subjective judgments that individuals display when faced with risk. In conclusion, risk perception reflects people's subjective judgments about specific risks and has a role in predicting hazards and guiding decision-making [9].

Hospital management in China has basically been carried out gradually since the founding of PRC, especially for the management of DPR, which initially developed smoothly in a publicly funded medical system and a strong collectivist ideological and political environment. With the reform of the market economy in the 1970s, hospitals moved into a modern stage of development and conflicts of interest began to emerge in DPR, prompting hospitals to begin to recognize and manage doctors and patients in a simplistic manner. In the mid to late 1990s, the medical technology developed rapidly. Unequal distribution of health resources, the asymmetry of information and the awakening of patients' rights increasingly intensified conflicts in DPR, so hospitals set up departments or personnel to receive complaints, but it was only a reactive and primary management due to the occurrence of doctor-patient conflicts. Since we entered the 21st century, China's medical and health care industry has been booming, various medical-related laws and regulations have been introduced one after another, while the conflict between doctors and patients has become more acute and prominent. Hospitals were confined to an administrative framework with ineffective management effect. In 2005,

the Ministry of Health launched the "Year of Hospital Management" campaign, which led hospitals to pay real attention to their own management and attempt to standardize the management of DPR, requiring doctors to comply with regulations in order to resolve doctor-patient disputes. Foreign experts and scholars have conducted research on DPR for a long time, mainly from the following perspectives: social role theory of doctors and patients, doctor-patient communication theory, research on the health insurance system and research on information asymmetry. In addition, on the basis of relative theories, foreign scholars have also conducted in-depth research on the factors influencing DPR, the interaction as well as the distribution of rights between doctors and patients [10].

Most of the existing literature looks at the influence of certain factors on DPR from the perspective of one side alone, or studies the factors affecting RDPR from both doctors and patients or one side, but few studies have focused on the risk perception and influencing factors of DPR from the medical side perspective. This study explores the factors influencing the risk perception of doctor-patient relationship (RPDPR) from the medical side perspective, in order to improve the level of doctor-patient trust, decrease the tensions between doctor and patient, and build a harmonious society.

2 Methods

2.1 Sample and Data Collection

In order to explore the factors influencing RPDPR from the medical side perspective, we searched the CNKI (China National Knowledge Infrastructure), Wanfang Database, CBMdisc (China Biology Medicine disc), PubMed database, SCIE database, ScienceDirect (SDOS), three Chinese databases and three English databases each. The search period was from the establishment of every database to March 1, 2021, and the search term "risk of doctor-patient relationship" was used to obtain 5, 21, and 12 Chinese articles in the former three databases, respectively (42, 6, 0 English articles were obtained in the latter ones). Using the same search method, "perceived risk in the doctor-patient relationship" was used to obtain 0, 3 and 1 Chinese articles (83, 78 and 33 English articles). Based on this, these articles were screened again according to the number of citations and their research topics. The criteria to qualify are as follows: (a) classic literature on topics related to RPDPR; (b) research subjects are medical parties, including physicians, nurses, medical technicians, and hospital managers; (c) literature in Chinese or English. We finally got 10 papers in Chinese and 5 in English.

2.2 Measures Used

We extracted a total of "risk control mechanism", "doctor-patient communication", "doctor-patient trust", "medical service quality", "hospital grade" and other influence factors from the above screened articles, and conducted descriptive statistics on their frequencies. The details are shown in Table 1.

Table 1. Characteristics of the literature included in this study.

First Author	RCM	DPC	DPT	MSQ	MSA	ME	HG	DP	HR	M	LR	MI
Hongmei Yao [3] 2014	2	11	0	8	3	7	0	0	0	0	2	7
Jiangjie Sun [11] 2016	0	2	0	0	2	0	1	2	0	2	0	0
Lei Fang [12] 2013	0	1	0	6	3	1	0	3	0	1	0	4
Bin Huang [13] 2019	0	9	7	4	1	2	0	1	3	6	1	0
Hua Wang [14] 2019	0	4	43	3	1	2	6	0	1	1	0	0
Wenhui Gao [15] 2018	0	22	0	1	1	1	0	6	1	2	1	0
Chuang Tan [16] 2017	0	22	25	2	3	1	0	0	0	3	2	2
Xiaying Liu [17] 2007	0	5	3	5	1	0	0	2	0	6	3	1
Xinhe Zhao [18] 2020	0	16	4	4	0	0	1	0	2	0	3	0
Guoci Qin [19] 2014	2	18	9	4	2	2	0	2	4	8	2	4
Yaniv Hanoch [20] 2018	0	1	0	0	0	0	0	0	1	1	0	0
Twibell RS [21] 2018	0	6	1	0	0	0	0	0	0	0	0	0
Jiang Jie Sun [22] 2020	0	2	75	0	1	0	0	0	2	2	2	0
Renkema E [23] 2014	0	3	1	3	0	0	0	0	0	0	0	0
Tran TQ [24] 2020	0	14	2	0	0	0	5	1	0	1	0	0
Total	4	136	170	40	18	16	13	17	14	33	16	18

Note: RCM: Risk Control Mechanism; DPC: Doctor-patient Communication; DPT: Doctor-patient Trust; MSQ: Medical Service Quality; MSA: Medical Service Attitude; ME: Medical ethics; HG: Hospital Grade; DP: Doctors' Pressure; HR: Health Resource; M: Media; LR: Laws and regulations; MI: Medical insurance.

3 Results

As we can see from Table 1, the scholars are generally more concerned with DCT, DPC, M and MSQ. We analyzed each influencing factor and obtained the WordCloud diagram as shown in Fig. 1.

Combing the selected articles for an overview, we concluded that the researchers' exploration of the themes of RPDPR on the medical side can be broadly summarized in the following four areas.

3.1 Doctor-Patient Trust

It is supposed to be a community of shared destinies for doctors and patients, but in recent years DPT has been decreasing and conflicts have been frequent. A retrospective analysis by Hillen MA et al. [25], pointed out that doctors' professional level, sincere quality and patient-oriented behavior could enhance DPT; Yang Xueshi et al. [26] concluded that the level of DPT was low in China from the medical side perspective, which is related to factors such as doctors' titles, education level, and working environment, and

Fig. 1. WordCloud diagram.

the information asymmetry between doctors and patients and the lack of protection of doctors' right to life and health are also significant reasons for the deterioration of DPT relationship. The medical profession should provide as much accurate information as possible to patients and their families. On the other hand, they should proactively use online media and other means to provide medical information and health knowledge to public so that patients can effectively and conveniently gather the information they need, and at the same time, publicize the unpredictable nature of medical services and enhance social understanding. In addition, complaints are an important channel of communication between doctors and patients. The medical profession should encourage patients to reflect their problems, and respond to reasonable requests in a timely manner, making full use of the opportunity to handle their complaints for positive coordination and improvement, thereby winning patients' trust [27].

3.2 Doctor-Patient Communication

Communication has become the first choice to address the problem of patients requesting changes to their treatment plan or non-compliance with the doctor's plan when the patient's outcome is poor. Medical services have a high technological content, and medical staff are in a leading and dominant position in the treatment activities by virtue of their medical knowledge and expertise in providing services to patients and having special intervention rights in the treatment. With the rapid development of medical science and technology, the use of new medical equipment has improved the efficiency of diagnosis and treatment, while at the same time, it has also affected the interaction between doctors and patients. On the one hand, medical workers rely on medical equipment and data, largely ignoring the subjective wishes and feelings of patients; on the other hand, patients are generally not sufficiently aware of the high risks and specificities of the medical profession, the limitations of medical development, and the principle of permissible harm in medical activities where a greater health benefit is obtained at a lesser cost. They fantasize that advanced medical technology can be a cure-all, and unrealistic expectations are likely to cause RDPR [28]. Deng Lili et al. [29] used dichotomous logistic regression analysis to conclude that doctors' heavy workload and lack of skills are the main reasons for poor communication.

At present, initial results have been achieved in the field of DPC, and scholars at home and abroad mostly focus on the meaning, role and influencing factors of DPC, etc., limited to the theoretical level with no quantitative research. At the same time, we should also clearly realize that the existing DPC model is difficult to adapt to the real needs of domestic reality due to piles of complex factors. From the perspective of medical side, continuously and effectively improve hospital processes as well as DPC system, establish a performance assessment index system for medical safety and doctor-patient disputes, prevent medical risks, and promote standardization and professionalism in DPR harmony. Communication is an art, and the training enhances the communication skills of the doctors and strengthens their awareness of communication through case studies, and also helps patients to better understand their illness and relieve their confusion [10], so that they can cooperate and reduce RDPR.

3.3 Medical Service Quality

Reforming the medical management system and straightening out DPR have become important elements of the new medical reform. Medical institutions are looking forward to reforming their management and operation mechanisms and building a harmonious DPR through the new healthcare reform programme [30]. MSQ contains two elements: technical quality and functional quality, i.e. how well patients get medical effects from the service and their perceived state during the process. MSQ is the foundation of the hospital. Improving MSQ can reduce RDPR. As the main body of current medical and health services, hospitals should recognize that providing effective treatment to patients is the basis of their business, constantly improve the means of treatment. Establish a system for medical quality monitoring and evaluation, medical risk assessment and management, regulate the behaviour of doctors, achieve patient satisfaction in terms of efficacy, and improve DPR. Explore new models of financial compensation for medical malpractice to circumvent financially driven doctor-patient disputes deliberately fostered by patients and their families [31]. At the same time, with the business training and assessment system improved, doctors should continue to improve their medical expertise, take responsibility for each patient in the process of consultation, strive to eliminate misdiagnosis and medical errors, enhance patients' trust in doctors and reduce RDPR [32].

There is much room for expansion in the exploration of MSQ, both in terms of theoretical and empirical research. Most of the existing reports on improving MSQ focus on a specific study area scope, and the findings are strongly correlated with specific environments and conditions [33]. Total quality management in part of the domestic hospitals is still in an exploratory stage, and a systematic quality management system at the overall level has not yet been formed.

3.4 Media

Among the reports on DPR, the conflict between doctors and patients is a prominent and important feature, which is easy to attract people's attention, so it has become a popular topic for most M. In order to quickly gain traffic or attract attention, some news M platforms deliberately embroider the truth and report critically on the medical side

even when they do not realize the real situation, amplifying the confrontational conflict between doctors and patients; while in most cases, it is easy for the general public to sympathize with the weak, and incidents of medical disputes quickly form a proliferation and spill over online, overshadowing rational voice. Emotional language, inaccurate reporting and handling of the situation prevent the public from exploring the truth. Due to the timeliness and lagging nature of the news, subsequent disclosures of the real situation or reversals of events often receive less attention. The widespread dissemination of public opinions on such emergencies tend to mislead the public and cause adverse social effects, and some healthcare workers may develop a rebellious mentality, exacerbating tensions between doctors and patients, to the detriment of problem solving. While focusing on DPR, M should conduct in-depth investigations to identify the main conflicts in the relationship between doctors and patients, find out the root causes of the problems, and guide the public to pay attention to the deeper reasons for the conflicts, so as to view the current conflicts rationally.

Currently, compared with studies related to M and RPDPR, most researchers focus on studying the impact of M on DPR, and most of these studies are based on specific cases as well as specific M categories, so the findings may not be comprehensive enough and lack authenticity and reliability. Common research methods include literature research, content analysis, and interview methods, which put emphasis on theoretical research and lack some empirical research. Researches related to M and RPDPR also need to be further developed.

4 Conclusion

Through the above analysis, we can conclude that the factors influencing RPDPR on the medical side include DPC, DPT, M and MSQ. As a typical social risk, RDPR combines psychological, somatic and financial risks, and its propagation/evolutionary paths and measurement methods starve for further research. Most of the existing studies focus on physicians and nurses, and future studies should lay stress on other medical groups such as medical technicians and hospital administrators. Moreover, due to the small sample size and uneven quality of relevant studies, it is recommended to conduct a large sample of high-quality studies to further explore the current situation of RDPR and its influencing factors from the medical side perspective in China, and to provide theoretical basis and intellectual support for the government/hospital to carry out risk-level management of DPR. As far as I am concerned, I will pay more attention to the depth and breadth of research in future studies and research, and I look forward to working with more professionals to professionalize hospital management and spare no effort to bring harmony to doctor-patient relationship, to enrich and promote the research results on reforming the internal management of hospitals, and to make my own contributions to public health.

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Conflicts of Interest. The authors declare no conflicts of interest regarding the content and implications of this manuscript.

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