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Original Article

Structural Factors Underlying Medical Malpractice: From the Perspective of Social Science Experts and Medical Specialists

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Abstract

Introduction: Medical malpractice is generally attributed to the lack of individual competence of physicians, but from a sociological point of view, it is a problem that arises in a social context influenced by external factors and variables. The purpose of this study was to determine the structural factors that underlie the formation of medical malpractice.

Methods: This qualitative study was conducted using the content analysis method in 2018. The research population consisted of practitioners and experts in the fields of medicine and social sciences in Iran. The participants were selected using purposive sampling and the sample size was determined based on the theoretical saturation. The data were collected through interviews with a total of 13 experts who participated in the study. The data from the interviews were transcribed and the data were analyzed using a content analysis method to extract related categories and subcategories.

Results: Based on the data analysis, 24 subcategories and 6 main categories including the political economy of health, healthcare system problems, the position of physicians in the socioeconomic structure, weak supervision on physicians, undesirable quality of medical education, and the role of physicians' civil liability insurance were identified as the structural factors accounting for medical malpractice in Iran.

Conclusion: Structural reform of the healthcare system, provision of amenities, facilities, and human resources, reconsidering the power of physicians by modifying the physician-patient relationship and taking into account patients' rights, careful and scientific supervision of physicians' performance, accepting the necessity of medical transparency, improving the quality of medical education, and finally the resolution of the contradiction in the role of civil liability insurance of physicians can be used by health policymakers and decision-makers in planning to prevent medical malpractice.

Keywords: Medical malpractice, Medical errors, Structural factors

Introduction

With the frequent occurrence of medical malpractice, there is a growing concern in the community that the institution of medicine is not functioning properly and is unable to meet social expectations. When medicine appears in a threatening form, the interaction between the physician and the patient ends up in conflict, and the therapeutic relationship between these two social actors ends with the patient's complaint against the physician. Besides, medical malpractice can have other unintended consequences, such as encouraging physicians to request unnecessary tests and destroying the confidence required for joint physician-patient decisions (1).

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A physician commits medical malpractice if he/she fails to perform any of the diagnostic and treatment steps including careful examination, timely diagnosis, correct treatment and surgery, follow-up and consultation and guidance under medical and scientific standards (2) and brings about the harm to the patient due to failing to act under customary professional standards. According to this definition, medical malpractice refers to errors that cause harm to the patient but could have been avoided by the physician (3).

In various studies, medical malpractice has been considered as a medical problem, especially since the 1970s. In the early new century, the United States faced a medical malpractice crisis for the third time in three decades (4). This issue was so serious that, according to a study performed at Johns Hopkins University, 250,000 deaths occurred due to medical malpractices from 2000 to 2008 (5) and now medical errors are the third leading cause of death (6). In Iran, litigating and handling medical malpractice complaints began since 1986 (7), and a review of annual statistics shows that medical malpractice complaints are a growing phenomenon as the number of medical malpractice commissions increased from 1854 in 2006 to 2925 in 2010 across the country (8). In the 2010s, this figure underwent an upward trend, and medical malpractice cases increased by 27.2% in 2016, increasing the number of cases from 5670 in 2015 to 7214 in 2016 (9).

Medical malpractice is currently a major concern worldwide. In high-income countries, a significant number of patients are exposed to harm while receiving healthcare, resulting in permanent injuries, prolonged hospitalization, and even death. In low- to middle-income countries, a combination of adverse factors such as staff shortages, inadequate structures, large numbers of patients, lack of equipment, lack of basic facilities, and poor health contribute to insecure patient care. The cost of loss of life or permanent disability resulting in loss of efficiency and productivity for patients and families is estimated at billions of dollars annually (10).

Vozikis and Riga suggested that factors including the complexities of the healthcare system, physicians' reluctance to record errors, lack of leadership and supervision, and the insurance reimbursement system contributed to the occurrence of medical errors (11). A study by Ofuebe et al. in Nigeria showed that factors associated with medical errors were long working hours, monitoring and management practices, number of patients, and extra workload (12). In their study, Tsiga et al. acknowledged that hospital organizational factors play a major role in medical errors (13). Pienaar maintained that the increase in medical malpractice complaints was a result of medical industry development and the laws that provide the appropriate context for complaints (14). Thrope has also found that in US states where insurance premiums have increased, medical malpractice claims have also increased (15). In their systematic review in Iran, Rashidian and Joudaki found that studies have rarely addressed the systemic and procedural causes of offenses (16). Javaheri concluded that due to social and normative dysfunctions in Iran, there is still no sufficient capacity to realize the clarification of medical errors (17).

Most studies have looked at medical malpractice as a phenomenon confined to the examination room, influenced by the individual characteristics of the physician and patient, and the type of disease and less attention has been paid to structural factors affecting it. To determine structural factors, it is essential to find out which characteristics of the institution of medicine, the healthcare system, and the economic and political structure lead to the formation of medical malpractice. Finding the answer to this question can be a prerequisite for any policy or decision to prevent and reduce medical malpractice.

Considering the importance of medical malpractice as a problem threating the health of patients imposing various costs to victims and leading to the public mistrust in the healthcare system and its actors, and given that there has been no significant study of structural factors underlying medical malpractice, a qualitative study that provides a detailed analysis of the issue seems necessary. Since addressing the structural factors of a problem such as medical malpractice requires choosing an effective and appropriate method, surveying the views and opinions of experts and practitioners who have knowledge and expertise on this issue can be helpful. Accordingly, the present study was conducted to explain structural factors accounting for medical malpractice from the perspective of social science experts and medical specialists.

Methods

This qualitative study was conducted using the content analysis method in 2018. The research population consisted of medical specialists and

social science experts in Iran. The participants were selected using purposive sampling and based on the inclusion criteria. The sample size was determined based on theoretical saturation. Accordingly, 13 experts participated in the study. Table 1 presents the participants' demographic data.

The data were collected by conducting interviews with experts. The criteria for selecting participants were relevant education in the fields of social sciences and medicine, having at least a work on medical malpractice in the form of an article, interview, or lecture, and the willingness to participate in the interview.

At first, a list of 23 specialists and experts was prepared based on the first two inclusion criteria. Interview requests were then sent to each specialist via email or Telegram. Upon receiving initial response and agreement, arrangements were made for telephone interviewing. Due to the difficulty of interviewing professionals for their academic and professional engagements and the lower possibility of conducting face-to-face interviews, rhetoric interviews were conducted by which a professional or expert delivers a speech on the topic in question instead of taking an interview (18) and provides a detailed answer to the question.

To introduce the interview topic to the participants, a short text was prepared that defined medical malpractice, its characteristics, and status in Iran. This text, along with the research questions, was sent to each expert and they were asked to answer the interview questions in their own preferred method including a face-to-face interview, telephone interviewing, audio recording, or written responses. The interview question was: Which structural factors underlie medical malpractice in Iran?

According to the participants' preferences, five interviews were conducted in person, three interviews were conducted by telephone, and four interviews were in writing. One of the participants also sent his recorded audio via Telegram. The audio recordings of the face-to-face and telephone interviews were transcribed and their transcripts were sent to the participating experts to revise any possible inconsistencies and clarify any ambiguous point. The duration of the face-to-face interviews was 30 to 60 minutes. The interviews were conducted for three months, from January to March 2018. The study was not geographically restricted, and experts anywhere in Iran could participate.

Participation in this study was completely voluntary based on informed consent. The text that was sent to each participant explained the study, its objectives, and the reason(s) for selecting the participant. They were assured that their identities would be confidential and that the answers would be used without their full name. They were also assured that the interviews would only be used in this research work. The participants' voices in telephone and face-to-face interviews were recorded upon their informed consent. The participants were allowed to leave the study at any time they wished and stop interviewing.

The collected data were analyzed through content analysis. To this end, the interview transcripts were reviewed and this process was repeated two or three times if necessary. Moreover, the previous works of each expert related to the problem under study were also reviewed to remove any ambiguity and inconsistency from the transcripts. First, the sentences and phrases related to the research question were identified and coded. Subsequently, the codes were categorized and placed in similar subcategories based on a set of codes containing similar concepts. Each of the closely related subcategories was chosen and labeled based on their contents.

The credibility of the data was ensured by the fact that the researcher had been studying medical malpractice for two years before data collection. The data were collected from specialists in both social and medical sciences. The data from each interview were provided to the interviewee and their comments were used to make revisions and remove inconsistencies if necessary. The interview transcripts and the related codes and categories were reviewed by two faculty members and their views were used in all stages. The dependability of the data was confirmed by an external observer who was an expert in qualitative research and medical sociology. Furthermore, the procedures taken to conduct the study including the data collection and analysis process were checked and showed adequate confirmability. Finally, to ensure the transferability of the data, the details of the research procedure were described in the Methodology Section and some statements made by the participants were quoted in the Results Section.

Results

Six main categories were extracted from the interview data, which are discussed below.

Table 1. The participants' demographic data

Row	Gender	Age	Occupation/position	Education	Field of study
1	Male	62	Faculty member & professor	Ph.D.	Sociology
2	Male	53	Faculty member & professor	Ph.D.	Anthropology
3	Female	54	Faculty member & professor	Ph.D.	Sociology
4	Male	66	Faculty member & professor	Ph.D.	Philosophy of education and sociology
5	Male	57	Faculty member & professor	Ph.D.	Sociology
6	Male	46	Dentist	Ph.D.	Dentistry and anthropology
7	Male	63	Social science researcher and journalist	Master	Social science research
8	Male	55	Physician and the head of the Dispute Resolution Council based in Iran Medical Council	Ph.D.	Medicine
9	Male	36	Faculty member & professor	Ph.D.	Medical anthropology
10	Male	43	Surgeon and Orthopedist	Ph.D.	Medicine
11	Male	50	Faculty member, professor, & fellowship in renal diseases	Ph.D.	Medicine
12	Male	61	Faculty member, professor, & fellowship in cancer surgery	Ph.D.	Medicine
13	Female	46	Faculty member & professor	Ph.D.	Medicine and medical ethics

1. The political economy of health

Political economy is rooted in two major economic and political orders both influencing how resources are allocated to society. In fact, the political economy goes beyond simple economics and refers to the social and institutional processes that are chosen by political and economic elites to allocate resources and serve the interests of different groups. The experts believed that the dominance of capitalist mode of production, structural inequality and unequal distribution of wealth, and consequently the unequal distribution of health services, privatization of the healthcare system, commodification of health, the formation of medical capitalism, the hegemony of treatment over prevention and health, and health marginalization are among hallmarks of the political economy of health in Iran that pave the way for medical malpractice. Concerning the formation of the medical industry, a sociologist (Participant 1) stated, "*Medicine is offered in Iran and money is circulating. Some kind of medical capitalism has been formed. I think the medical industry aims to increase its turnover, no matter what happens*". Participant 2, an anthropologist, considered that the dominance of treatment over prevention contributes to medical malpractice and said, "*Medical malpractice is constructed in the medical system's exposure to problem of health and illness. Our medical system, by focusing on the issue of treatment and marginalizing health and prevention, forms the kind of discourse that contributes to the spread of medical malpractice*".

2. Healthcare system problems

Increasing the medical service load to public hospitals, lack of medical and hospital facilities, lack of human resources, the superiority of service quantity to quality, increased medical service load to compensate for low tariffs, and the financial relationship between physicians and patients were among the factors considered by the experts as the underlying causes of medical malpractice. Concerning the lack of hospital facilities, a medical ethicist (Participant 13) stated, "*When people are unable to use private hospitals, they have to go to public hospitals and their expectations do not match the facilities in public hospitals. This lack of facilities, in general, makes patients dissatisfied*".

3. The position of physicians in the socioeconomic structure

One of the factors affecting medical malpractice is the status of physicians and medical power in society. Physicians' access to material privileges and high level of social prestige, and their position at the top of the class hierarchy created conditions that facilitate medical malpractice. This position has been considered by the experts from two perspectives: the socio-political position of physicians concerning the patient and society and their class location and access to material resources. Participant 6, a dentist and medical anthropologist, said, "*One of the causes of medical malpractice is the high-power distance between the physician and the patient. In the process of medical education, the physician learns that he/she is the only omniscient that is aware of the human body and that his/her understanding is superior to what the patient says and feels. So, the diagnosis process is associated with more attitude errors and biases. Also, the treatment process will not lead to desired outcomes in the absence of patient participation*".

4. Weak supervision on physicians

According to the findings of the present study, the weakness of regulatory bodies and inadequate legal

structure, lack of transparency and resistance of physicians to pursuing medical malpractice, and failure to report medical errors are among the factors affecting medical malpractice. Participant 4, an expert on the philosophy of education and sociology, highlighted the lack of transparency, "*Groups like physicians have special privileges form a social capital in their group that results in the lack of transparency and they tend to justify issues related to their group. The mechanism of this social capital is dark and its hardcore does not allow truth and justice to expose themselves*".

5. Undesirable quality of medical education

According to the participants, the weaknesses of medical education and the training of physicians who do not have sufficient competency for medical practice can affect medical malpractice in several respects including the increasing number of medical students, lower quality of education in medical universities, and ineffective medical techniques. Participant 8, a physician, stated, "*We are a moderately developing country, and the education at our universities follows the same trend. Although the infrastructure is good, medical education is not at a level that can be considered standard*".

6. The role of physicians' civil liability insurance

Medical professionals consider the existence of insurance as a necessity with positive function that safeguards the practice environment, protects the physician from inherently risky medical practices, and is a solution to avoid defensive and conservative medicine. However, according to social scientists, insurance is considered a guarantee for and a facilitator of medical malpractice. From this perspective, the insurance industry means the commodification of human life and is a mechanism that has replaced ethics in the physician-patient relationship.

Participant 12, a physician, agreeing with insurance, said, "*Insurance is normal protection for the physician and the patient. It provides security for the medical practice environment. When physicians are less willing to enter potentially dangerous areas, insurance coverage solves this problem*". In contrast, Participant 1, a sociologist, viewed insurance as a facilitator of medical malpractice and stated, "*Insurance creates a safer environment for the physicians inducing them not to be too concerned about medical malpractice and errors. Paying the premium for the private sector with its huge resources is not so difficult. The fact that all legal solutions lead to insurance and the payment of compensations and blood money shows the commodification of human life*".

Table 2 presents a summary of the findings of the interviews with the experts:

Table 2. Medical malpractice categories and subcategories

Row	Subcategories	Categories
1	The hegemony of capitalism Structural inequality, unequal distribution of wealth, and consequently the unequal distribution of health services Privatization of healthcare system The formation of medical capitalism The dominance of treatment over prevention and health	The political economy of health
2	Increasing the medical service load to public hospitals Lack of medical and hospital facilities Lack of human resources The superiority of service quantity over quality Increased medical service load to compensate for low tariffs Financial relationship between the physician and the patient	Healthcare system problems
3	The socio-political position of physicians The class location of physicians	The position of physicians in the socioeconomic structure
4	Weak regulatory bodies and inadequate legal structure Lack of transparency and resistance of physicians to pursuing medical malpractice cases Failure to report medical errors	Weak supervision on physicians
5	The increasing number of medical students Decreasing the quality of education in medical universities Inefficient medical education methods	Undesirable quality of medical education
6	A solution to defensive and conservative medicine A form of guarantee for and facilitator of medical malpractice The insurance industry is responsible for the commodification of human life A mechanism replacing ethics in the physician-patient relationship	The role of physicians' civil liability insurance

Discussion

According to the results of this study, six factors were identified as structural factors accounting for medical malpractice in Iran. The first factor was the political economy of healthcare system. This finding is in line with Lown's study that showed the expansion of capitalism and market dominance over all aspects of human life, including the right to health, are responsible for problems in the healthcare system including medical malpractice in the United States (18).

This finding can be explained in light of the fact that health systems are not separate social constructs and are generally influenced by the political and economic structure and level of development of a country (19). The domination of capitalist relations changes health as a universal right into a commodity that people can afford it based on their financial ability. In such a situation, the fundamental goal of the healthcare system, rather than the provision of public health, would be to make a profit by selling health goods. Such a system depersonalizes the patient and sees him or her at most as a client, thus damaging the physician-patient relationship. In such circumstances, the occurrence of medical malpractice will not be unexpected.

The second factor underlying medical malpractice is the specific problems of the medical system. From the experts' point of view, the current state of the health system, especially in the public sector, has also provided grounds for medical errors and malpractice. The increased medical service load to public hospitals, lack of facilities, lack of medical staff, the superiority of quantity of medical services to quality, reduced physicians' income, and consequently, an increase in the number of patients visited by each physician and their long working hours during the day are factors that may account for medical malpractice especially in the public sector. This finding is consistent with a study by Tsiga et al. (13) who showed hospital organizational factors are involved in the occurrence of medical errors. Besides, Ofuebe et al.'s study (12) also found that long working hours, large numbers of patients, and excessive workloads were some of the factors contributing to medical errors.

Based on these findings, it can be suggested that developing countries often have serious shortcomings in the provision of desirable resources and quality. The budget is limited and, there is insufficient money for healthcare especially in economic crises. Moreover, more budgets are allocated to political activities compared to the healthcare system, and these countries are facing corruption and lack of control (19). In Iran, as a developing country, there are many problems in the healthcare system. For instance, the per capita hospital bed is 1.56 beds per thousand people, which is very low (20). Furthermore, the low rate of 1.12 physicians per 1000 population indicates the limitation of hospital facilities to meet the needs of the population in Iran (21). On the other hand, economic disparity, low income, and high cost of private hospitals have made the majority of the population unable to use private healthcare services (22). Therefore, people prefer to use public-sector health services at lower prices (23). However, the public healthcare system is facing numerous problems, which makes it susceptible to medical malpractice.

According to the findings of this study, the position of physicians in the socioeconomic structure and power of medicine is a factor that contributes to medical malpractice in Iran. Other studies also pointed to the position and power of physicians as a factor underlying medical malpractice and patient complaints against physicians (e.g. Annandale, Fielding, and Mulis) (24-26). This finding can be justified based on the fact that one of the characteristics of the institution of medicine is backing of dominant class's interests in the class structure of contemporary society and thus supporting the capitalist economy (27). Indeed, in capitalist societies, medicine has important functions and is a factor of social control (28). In this society, therefore, physicians have been accorded a special place in the social hierarchy, and the power and the privileged position of medicine can be the key to explaining various health problems (27). Accordingly, it can be suggested that the physician's high power concerning the patient and his or her decisiveness in treatment decisions can lead to actions and interventions that lead to injury to the patient and the occurrence of medical malpractice.

The fourth factor contributing to medical malpractice is the lack of supervision on physicians. According to the interviewees, the weaknesses of regulatory bodies, inadequate legal structure, lack of transparency, the resistance of physicians to pursuing medical malpractice, and failure to report medical errors are among the factors influencing medical malpractice. This finding is almost in line with Javaheri's study that showed although there is growing public demand for transparency in the institution

of medicine and specifically clarification of medical errors in Iran, the necessary infrastructure has not yet been fully provided (17). Ofuebe's study also pointed to the weakness of supervision and management as a contributing factor to the occurrence of medical errors (12). Acceptance of professional control and medical dominance by the political structure makes physicians free from external controls, and in the case of medical malpractice, it is difficult to deal with it, except in cooperation with physicians.

Another factor that underlies medical malpractice is the inefficiency and weakness of the medical education system, which leads to the training of physicians who do not have sufficient skills in practicing medicine. An increased number of medical students and ineffective medical education are among the characteristics of the education system that facilitate medical malpractice. The occurrence of medical malpractice can be attributed to the lack of scientific competence and skill of physicians and hence to the medical education system in charge of and accountable for training physicians who are not qualified. This finding is in line with the findings of Noah's study that confirmed the role of the medical education system in the occurrence of medical malpractice (29) and also a study by Waters et al. who showed a significant difference between schools of medicine in terms of medical malpractice committed by their graduates (30). Of course, the role of the education system cannot only be reduced to its failure to train professional qualifications but at the same time, its ineffectiveness in professional ethics training can also influence medical malpractice. For instance, Bosk's study found that physicians' failure to apply their competencies has two dimensions: Technical errors that mean failure to apply the set of available medical knowledge and ethical errors that imply a failure to comply with professional codes of conduct (24).

The present study found two conflicting perspectives about the role of medical liability insurance on medical malpractice. The opposing perspective considered insurance as a guarantee for medical malpractice and stated that the entry of the insurance industry to protect physicians means the commodification of human life and it is a mechanism that has replaced ethics in the physician-patient relationship. However, according to the supporting perspective, the existence of insurance will reassure physicians and distance them from defensive medicine.

The impact of liability insurance on the occurrence of medical malpractice seems to be dependent on the approach taken by the judicial systems to medical malpractice. In judicial systems where medical malpractice is compensated by payments made by offenders, resorting to liability insurance will be an inevitable way to protect physicians.

As this study employed a qualitative design and its sample size was small, its findings cannot be generalized. Using the opinions of experts and professionals in other fields could help enrich the study, which unfortunately was not possible. Further studies using other methods such as focus group discussions with the involvement of specialists in different fields can help to better understand the structural factors underlying medical malpractice in Iran.

Conclusion

Medical malpractice is a social problem influenced by the economic and social structure, and on a smaller scale, it is affected by problems of the health system and medical education. The health system and the requirements it imposes on medicine, when involved in structural problems, will lead to medical malpractice as an expected outcome. According to the findings of the study, structural reforms should be made to the healthcare delivery system and the view that considers health as a commodity should be abandoned. Besides, efforts should be made to provide the required facilities and human resources. Physicians' position in the socio-economic structure and medical power needs serious rethinking. Another issue is the careful and scientific supervision of physicians' performance and the provision of a context for physicians to report medical errors without fear of punishment. The admission of medical students should be based on the qualifications of the individual and the needs of the country. The contradiction inherent in physicians' civil liability insurance should be remedied in such a way to avoid the formation of defensive medicine and provide the basis for voluntary medical error reporting.

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Conflict of Interest

There is no conflict of interest in this study.

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