Medical malpractice in Iran: A systematic review

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Abstract
Background: Medical malpractice represents a serious problem in the health system and is one of the risk factors for patient safety which damages the patient and increases costs for the patient and the health care provider. The importance of these complaints against physicians is that litigation may continue for a long time and become problematic for patients and physicians. The objective of this study was to investigate the complaints of medical malpractices which were referred to Iran Medical Council to provide solutions to reduce the complaints and improve service delivery.

Methods: Embase, PubMed/MEDLINE, ISI/Web of Science (WOS), Scopus, and Iranian databases, such as MagIran, SID, and Irandoc, were searched from 01/01/1990 to 07/01/2018. Also, the grey literature (via Google Scholar) was searched. Studies written in English or in Persian were searched, and keywords used included malpractice, negligence, medical malpractice, physician impairment, Iran, and professional impairment.

Results: Nearly 1455 complaints (36%) of the total number of 3977 complaints were proved to be medical malpractice, and physicians were acquitted in 2542 (64%) cases. Most complaints were from gynaecologists, accounting for 43% of all complaints, followed by orthopaedic specialists who ranked second with 21.4% of the total complaints. The most type of failure was due to lack of skill (30.4%), followed by negligence (29.2%). Imprudence or indiscretion (26.3%) and noncompliance with governmental requirements (14.1%) were also in the next ranks, respectively.

Conclusion: Improving patient and physician relationships, observing medical ethics, increasing the scientific and technical skills of the medical staff, and following the guidelines and medical protocols will prevent medical malpractice. Therefore, health policymakers can reduce errors and failures by adopting continuing education on medical, ethical, and legal issues.

Keywords: Medical malpractice, Iran, Health system

Introduction
Health system is one of the most important sectors of each country’s socioeconomic activities, which spends a large amount of resources on meeting the health care needs annually (1). The main concern of policymakers in the health system is spending a substantial amount of money on health care, and thus they pay attention to the waste of resources in the health system. A part of this waste of resources is due to infringements, errors, and failures related to the provision of health services, which in general are called medical malpractice (2-4). Medical malpractice occurs when a patient comes to a physician and he/she takes the responsibility of the care and treatment, but the physi-
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Medical malpractice represents a serious problem in the health system and is one of the risk factors for patient safety (8), which damages the patient and increases costs for the patient and the health care provider (9).

On the other hand, studies have shown that increasing the number of complaints in some medical specialties reduces the willingness of candidates to enter these disciplines (10). Due to the complexity of the health system and the fact that there is no system without any fault, the incidence of medical error is inevitable in all countries (11). According to various studies, the rate of patient complaints in the world has increased in recent years (12-14). A study in 2000 showed that medical failure occurs in 5% to 18% of all hospital admissions and accounts for 98,000 deaths annually (15). Another study in 2013 found that medical errors are the third most common cause of death (440,000 deaths a year) in the United States (16).

Iran is no exception in this regard and complaints from physicians are rising in the country (13). The number of complaints of medical malpractice to the medical council of Tehran province increased from 134 in 1995 to 1270 in 2005 (17). People’s awareness of their individual rights (18), the increase in the complexity of the medical technology, the remarkable increase in the number of population (19), the collaboration of various groups of treatment in providing service to patients, the fatigue caused by daily workload, and the need to have a great deal of information about health systems are among the factors that increase complaints (20-22). The occurrence of medical errors and subsequent complaints and seeking compensation by patients confront the community, physicians, and the medical community with a growing crisis, and thus the destructive effects of this process are seen in the services provided by this expert group. These litigations are important to the physicians, as they can continue for a long time and cause serious problems, preventing the physicians to attend to their professional and personal life for weeks. Moreover, these processes cause financial loss, anxiety, psychological pressure, and damage the reputation of physicians, and harm the patients’ trust in physicians (23).

This study was conducted to investigate the complaints against medical malpractice cases referred to Iran Medical Council in various medical fields to provide solutions to reduce the complaints and improve service delivery.

Methods

This review was performed according to the “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” (PRISMA) guidelines (24). Two authors independently searched Embase, PubMed/MEDLINE, ISI/Web of Science (WOS), Scopus, and Iranian databases, such as MagIran, SID, and Irando. From 01/01/1990 up to 07/01/2018. Also, the grey literature (via Google Scholar) was searched. Studies written in English or in Persian were searched. The search strategy was as follows: (Malpractice* OR Negligence* OR medical malpractice OR physician impairment OR professional impairment) AND (Physician* OR doctor OR medical doctor OR medical practitioner OR physician associate OR physicians OR practitioner OR private physician) AND (Iran*). Medical subject headings (Mesh) and wild-card options were used where appropriate. This search strategy was planned by the help of an information specialist. In addition, reference lists of each identified study were investigated for potentially eligible studies.

Study selection and data extraction

Studies were included if they met the following criteria:
1. Study type: Studies presenting original data on medical practice claims.
2. Study setting: All of the early studies that reported the rate of medical malpractice in various medical specialties were included in the study. Studies in other medical fields, such as dentistry, nursing, and midwifery, were excluded.
3. Outcome: Claim against medical malpractice, defined as a written demand for compensation because of medical injury.
4. Published in English or Persian language.

Data extraction

Two authors independently extracted the following information from selected studies: (1) prevalence of claim against medical malpractice; (2) type of physician’s specialty; (3) year of study; (4) location of the study; (5) prevalence of proven malpractice; (6) study setting. Any disagreement in this regard was resolved through consensus, if not however, the corresponding author was consulted. Information was entered into the forms which had been designed for this purpose.

Data synthesis

A narrative synthesis of the included studies was planned. A narrative review is discursive in nature and seeks to summarize the current state of knowledge in relation to a particular domain by considering a wide variety of sources and reaching conclusions through reasoning or argument.

Results

Flowchart of screened, excluded, and included studies are presented in Figure 1. In this study, 28 studies on complaints against medical malpractice that were referred to the Legal Medicine Organization and Medical Council from 1990 to 2018 were considered (12, 14, 18, 25-44). A total of 3997 cases were investigated, of which 71.4% were about specialists’ medical malpractice in Iran after 2009 (Fig. 2).

Most studies about medical malpractice were conducted
in the provinces of Tehran, Kermanshah, and Khuzestan (Fig. 3).

Nearly 1455 cases (36%) were proved to be medical malpractice, and physicians were acquitted in 2542 (64%) cases. Most complaints were from gynaecologists, accounting for 43% of all complaints, followed by orthopaedic specialists who ranked second, with 21.4% of the total complaints. General surgeons and ophthalmologists were also subject to the highest number of complaints in the next ranks. The lowest number of complaints belonged to psychiatrists and paediatricians, with 0.6% and 0.9%, respectively (Table 1).

The most type of failure was due to lack of skill (30.4%), followed by negligence (29.2%). Imprudence (26.3%) and noncompliance with governmental requirements (14.1%) were also in the next ranks, respectively (Table 2). The highest number of failures occurred in private hospitals, accounting for 34.2% of the total proved failures. Subsequently, 22.4% of failures occurred in nonteaching public hospitals, and 21.5% of the total proved failures were in governmental teaching hospitals. Also, 12.9% of failures
occurred in private clinics, 2.1% in charity centers, and 4.7% in other health centers (Table 3).

**Discussion**

The Medical Council in Iran is responsible for investigating the professional misconduct of physicians and other relevant professions. Medical council examines the professional misconduct of physicians through a regulation entitled "disciplinary regulation for investigating the guild and professional misconduct of medical and associate professions". This regulation is the most significant legal document available on examples of medical misconduct in the country. The aim of this study was to investigate the failure of medical specialists in Iran over the past 3 decades. A total of 28 studies have investigated the failures of medical specialists in Iran over the past 3 decades.
specialists in Iran during this period, and 3997 complaint
cases of medical malpractice have been referred to the Le-
gal Medical Organization and Medical Council in these
studies.

The findings of this study showed that 36% of complaints
of medical malpractice were confirmed by the Medical
Council. In a study conducted at a paediatric health re-
search center in the United States during 1985 and 2005, it
was found that 25% of complaints from urologists were
medical malpractice (45). In European countries, 1 in every
6 physicians is prosecuted for medical misconduct. This
rate is constantly increasing in Europe, and thus defensive
medicine is becoming a global phenomenon in Europe (46).
Complaints from the physicians have psychological conse-
quences, such as stress and anxiety (47), occupational con-
sequences, such as resort to the jurisdictions and absentee-
ism (48, 49), and social consequences, such as the impact
on the reputation (50) of the physicians. The change in the
practice of medicine toward defensive medicine (51), con-
servatism, and doctors’ fear of lawsuits, which may nega-
tively affect the medical care, are other consequences. De-
fensive medicine also causes induced demand and imposes
additional costs on patients (52, 53). Therefore, it is advis-
able to investigate complaints in preliminary commissions
before referring to jurisdictions, and if necessary, summon
the physician (54).

Gynaecologists were the most specialists subject to com-
plaints (43%), followed by orthopaedic specialists (21.4%).
The results of this study are consistent with the findings of
studies conducted in Turkey (54), Taiwan (55), Germany
(56), United Kingdom (57), USA (58), and Saudi Arabia
(59), in which gynaecologists had the highest number of
complaints. The surgical team is always the main target of
medical complaints due to the invasive nature of their med-
ical practices (60). In a study in Spain, most complaints
have been reported against gynaecologists, orthopaedists,
nursing care, improving the quality and standard of deliv-
ery through holding complaints assessment committees and
precise RCAs of these types of complaints, providing
health education to pregnant women, and precise comple-
tion of clinical records are among other methods of reduc-
ing medical defects in the fields of gynaecology and obstet-
rics (14, 64, 65).

Findings of this study showed that lack of skill (30.4%) and
negligence (29.2%) were responsible for more than half of
medical malpractices. These findings are consistent with
the results of the Gundogmus (54) study, which showed
that diagnostic and therapeutic errors were the most prom-
inent factors of proved failures in Turkey. Since the lack of
skill and negligence are the main causes of many medical
effects, it seems that conducting retraining courses and col-
aborating with scientific-research associations can somewhat reduce these errors. The lack of awareness of the
medical practitioners about the legal issues and regulations
governing medical practice and the responsibility of doc-
tors towards patients is one of the main reasons for increas-
ing the number of complaints (66). In this regard, holding
workshops to teach the appropriate methods of physicians’
communication with the patients and relatives, increasing
the medical staff's communication on the legal issues of the
treatment, and emphasizing on informing the patients and
their relatives about the possible and even unpredictable
complications of diagnosis and treatment processes can help reduce medical complaints (67).

Negligence and lack of obedience of governmental regu-
lations were the other reasons for the medical defects iden-
tified in this study. Providing such measures as better or-
ganization and supervision of treatment, the intensification
of penalties, and more respect for medical ethics can be ef-
fective in this regard. In the study of Asad et al, the most
common causes of complaint of medical malpractice by pa-
tients were delay in the diagnosis and lack of follow-up and
postoperative management (68). Nicole et al, in their study,
showed that 88% of the errors in orthopaedic surgeries were
due to procedural errors and negligence (69). Acting based
on medical guidelines and protocols, holding a counselling
session to answer the questions of patients before the sur-
gery, eliminating the financial relationship between the
physician and patient completely are measures that can help
prevent patient complaints and medical malpractice (70-
72).

The findings of this study showed that 43.9% of proved
failures occurred in the public sector, including university
and nonuniversity hospitals, and 37.1% of proved failures
have occurred in the private sector. Referring a large per-
centage of people to the public sector, older diagnostic-
therapeutic equipment in public centers, the use of medical
students at these centers, and being university public sec-
tors that increase the likelihood of error, and giving more
importance to the quality of treatment in the private sector
were among the reasons for this finding.

Thus, it is essential to establish a central monitoring sys-
tem that links the 3 legal medicine organizations, the med-
cal council, and the hospital to prevent any medical error.
Moreover, providing necessary training to familiarize the
physicians with rules and medical errors should be pro-
vided continuously in-hospital training and retraining pro-
grams (73). The establishment of a reporting system by
physicians and the central system to control medical errors
will be effective in reducing medical misconduct. Moreo-

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The presentation of a complaint does not always have a negative effect, as it can be used as a way to improve work processes and a solution to increase patient safety through improving the accuracy of the treatment team and increasing clinical skills (67). As long as the root causes of the error are not identified and resolved, the error will be repeated by a particular person or any other person who replaces him. Developing a systemic attitude to errors, creating the culture of organizing, and active participation of staff in meetings that examine medical errors, creating a team for this purpose, and identifying all the causes that lead to medical errors have a significant impact on the prevention of these errors.

Conclusion

The findings of this study on medical malpractice, specialists at risk, various locations of malpractice occurrence, and the types of medical malpractice can be used as a basis for redesigning new approaches to medicine and encouraging appropriate retraining programs. Improving patient and physician relationships, observing medical ethics, increasing the scientific and technical skills of the medical staff, and following the medical guidelines and protocols will prevent medical malpractice. Therefore, health policymakers can reduce errors and defects by adopting the approach of continuous education on medical, ethical, and legal issues.

Ethical considerations

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy) were thoroughly observed by the authors.

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Conflicts of Interests

The authors declare that they have no competing interests.

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