Original Article

Investigation of medical error-reporting system and reporting status in Iran in 2019

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Abstract:

INTRODUCTION: Reporting medical errors is a major challenge in patient safety and improving service quality. The purpose of the present study is to investigate the status of error reporting and the challenges of developing an error-reporting system in Iran.

METHODS: This study was designed with qualitative approach and grounded theory method in teaching hospitals affiliated to Iran University of Medical Sciences. The views of safety authorities at various levels of management, including those responsible for safety at the Ministry of Health, Vice Chancellor and Hospitals affiliated to Iran University of Medical Sciences, were investigated in 2019 regarding adverse events.

RESULTS: Four major themes were identified included iceberg reporting and disclosure, weak reporting, underreporting, and non-error disclosure. The most common problems in reporting medical error were non-involvement of physicians in the error-reporting process, structural (human and information) bugs in root cause analysis sessions, and defective error prevention approaches designed based on the failure mode and effects analysis.

DISCUSSION: Despite a large number of medical errors occurred in health-care settings, error reporting is still very low, with only a limited number of errors being reported routinely in hospitals and the rest are minor and occasional reports.

CONCLUSION: Creating a mandatory error-reporting system and requiring physicians to report and participate in error analysis sessions can create a safety culture and increase the error-reporting rate.

Keywords:

Error disclosure, error reporting, Iran, patient safety

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Introduction

Error is defined as the failure to complete a planned action or to use a wrong plan to achieve the goal and it is a sign of a failure in patient safety measures and a clear indication of a lack of quality in health-care delivery.[1] According to estimates, almost one in every 10 people admitted to hospitals is experiencing an adverse event, about half of which is preventable, also about one-third of these events also affect the patient, which can vary from increasing the length of hospital stay to death.[2,3]

Medical errors are a global challenge in various fields of medicine, diagnostics, surgery, and care, which, in addition to developed countries, in other countries, including Iran, is associated with greater severity and frequency, leading to more deaths and imposing greater economic burden on health systems and countries.[4-6]

In a review study, Weingart et al. estimated that medical error rates in the US were 3.7% and in Australia 13.7% of total admissions.[7]

In the Chaudhry *et al.*'s study, a university hospital in the United States performed an error rate of 10.4%,[8] and in Russia, the error rate was reported to be between 2.9 and 3.7 per thousand patients admitted to the hospital.[9]

However, accurate statistics on medical error rates are not available in Iran, although Jolaee *et al.* reported 19.5% of medical error rates in nursing.[10] However, the rate of general error in Iran, like other Middle Eastern countries, is higher than in developed countries, especially in the field of medication, and needs immediate attention.[11,12]

Different systems around the world have been designed and implemented based on the specific situation of each country, including challenges, health-care delivery structure, safety culture, and health policies, which are divided into two types of mandatory and voluntary reporting.[13,14]

Once the data are entered, health-care organizations can evaluate and review the causes and create a process to reduce the risk of error. Since reporting both types of errors and near misses has become a key for patient safety, health-care organizations and patients can benefit from active reporting. Therefore, reporting creates a process where errors and near-error cases can be communicated to key stakeholders.[15]

According to internal investigations, reporting errors in Iranian hospitals is inefficient and only a small numbers of errors are reported.[16] Internal studies have indicated the lack of a systematic mechanism for identifying, reporting, and disclosing errors as one of the major weaknesses and challenges of the health system in the country to reduce similar medical errors in the future and seriously require the attention of health-care policy makers.[17,18]

In a 2010 study of physicians' views on medical error disclosure, Shwikhi *et al.* found that 92% of physicians considered medical error disclosure as one of the main challenges of the health system and 88% of them created a comprehensive system for disclosure. Improved error disclosure was deemed necessary.[19] Jolaee *et al.*) 2011(examined the Nurses' Medical Errors and demonstrated that the organized system of error reporting and documenting system can be very effective. [20] Fahimi *et al.*, examining the implementation errors of the intensive care units (ICUs) in 2007, stated that the lack of an organized system was a major contributor to the failure to detect and prevent errors.[21]

While, based on the results obtained from studies carried out in Iran, the frequency and prevalenceof medical errors is much higher than that of the official report, and according to the latest studies, the prevalence of medical errorsincreases even up to 50%, the official reporting of in-hospital and out-of-hospital errors is much lower than the results obtained from the studies.[22] Also, in a study conducted through a regular review in 2017, the prevalence of drug errors by nurses in Iranian hospitals was 53% and the rate of reporting those errors to nursing managers was 36%. This high prevalence and low reporting of drug errors in Iranian nurses has raised serious concerns about patient safety in Iranian hospitals.[23]

Therefore, this study was conducted to investigate the real situation of the reporting system, as well as the variety of medical errors to examine the views and opinions of experts and personnel involved in the patient safety process at different levels of health care. Since, according to several studies in the field of patient safety, the highest rate of errors belonged to educational hospitals, they need more attention and focus compared to other hospitals, so we designed and implemented this research in educational hospitals affiliated to the University of Medical Sciences Iran.[22]

Methods

Due to epidemiological challenges, there are few methods to evaluate error reporting such as participant bias due to lack of equal participation of all groups in reporting and prioritization and inappropriate weighting of reported errors,[24] and the majority of studies descriptive, cross-sectional sampling was conducted internally to investigate the cause of underreporting.[25-29] In this study, in-depth qualitative method with Grounded Theory approach was used to investigate in-depth reporting and personnel perspectives in the ranks and headquarters.

The study population consisted of 4 hospitals affiliated to Iran University of Medical Sciences and all management levels related to patient safety at the University and Ministry of Health.

In order to collect data, 31 semi-structured interviews were conducted in person with first-line care personnel (including physicians and nurses), Deputy of Safety of Health and Ministry of Health, Hospital Safety and Quality Control, Medical Equipment, Laboratory Supervisor, Educational and Clinical Supervisors, and the hospital's medical assistant. At this point, the samples were coded to maintain the confidentiality of the data.

The data collection tool was an in-depth interview, in which the interviews were conducted individually and in a place where calm and comfortable. After introducing himself, the researcher gave a brief explanation of the research and its objectives, emphasizing the

confidentiality and obtaining the interviewee's consent to record the interview, and began the interview. While asking questions and recording the interview by the voice recorder, the researcher also took notes. The duration of each interview was between 30 min and an hour. It should be noted that in 6 of the interviews, due to the dissatisfaction of the interviewees with the recording of their voices, only the interviews were transcribed.

Then, the main question of the study was asked. The initial interviews were accompanied by a general question entitled "What is the status of hospital reporting errors?" It started, but depending on the type of responses provided by the interviewees during these interviews, as well as the analysis that was done, during these interviews and subsequent interviews, other questions were asked, such as: "How is the reporting system designed in your hospital?" "What are the reported errors?" "Are the errors disclosed to patients, their companions and their families?" "What are your main problems in reporting?" "What is the reason for under reporting in doctors, nurses and students?", "Why aren't the error-reporting statistics accurate and clear?" and "What solution or suggestion do you suggest to solve reporting problems and improve the reporting system?"

For sampling, the purposeful method and snowball were used first. In order to start the interview, the interview was started with the safety officer of the hospital, and then, based on the results of the analysis of the first interview and the codes obtained, as well as the proposal of the interviewee, we went to the next interviewees. After each interview, the next questions and the next interviewee were identified. The next sample was selected from people who had rich information on patient safety and were also willing to participate in the study. In subsequent interviews, a theoretical approach was used to gather different perspectives and increase the richness of the data, so that it was tried to collect the opinions of all medical personnel, including doctors, nurses, and managers at different levels.

Eligibility criteria are as follows:
- Medical personnel who serve patients directly, who have observed, reported, or recorded medical errors
- Hospital managers who have observed a medical error or are involved in the reporting, disclosure, registration, or analysis of errors
- Patients who have experienced medical error and can be accessed through the HIS system, hospital managers, physicians, and other hospital staff
- Be available and responsive when studying.

Furthermore, a three-way technique (text reviews, document viewing, and interviews) was used to increase the validity of the findings. In addition to examining the organizational chart, forms, instructions (Voluntary Error Reporting Form, 28 Accident Reporting Form, Iran University of Medical Sciences Medical Error Management Form 1398 and Forms and Credit Guidelines) the study conducted an investigation into Safe Surgery Checklist and Types of Clinical and Safety Guidelines (Such as guidelines for the prevention and control of infection, guidelines from the World Health Organization on blood and immune products, and waste management guidelines). Finally, double check was also used to analyze the data and the text of the interviews and the codes of the interview were checked and reviewed by another researcher.

The audio file of each participant was saved with his/her own code number and typed manually. MAXQDA 2010 software was used to analyze the data. The codes were classified into three categories: open codes, central codes, and selected codes. The steps of data analysis include implementing the text of the interviews and typing them, carefully studying the typed texts frequently, identifying the basic concepts in each interview, categorizing the codes, finding the axial codes, and identifying the relationship between these axes and finally selective coding.

This research has the code of ethics from Iran University of Medical Sciences, number IR.IUMS. REC.1396.9321532005. The interviews emphasized the confidentiality of the data and that the interview data were used anonymously and solely for research purposes.

Results

The results of the conversations on reporting and error disclosure are shown in Table 1. According to the results of the discussions, the phenomenon of underreporting and non-reporting of errors is a major challenge in hospitals:

"The first challenge is that a lot of mistakes happen and no one reports,"

"Something was being done... I believe that the rate should increase, reporting should increase."

The results of conversations with different people including different managers, physicians, nurses, and paramedics show that the phenomenon of reporting and disclosing errors is like an iceberg, so that although physicians make a major contribution to causing medical errors, especially serious errors, almost all of the errors reported are committed by nurses and almost no errors are reported or disclosed by other groups:

Table 1: Error-reporting codes

Code	Segment
Ice mountain reporting and disclosure of errors\Weakness of reporting\Doctors refuse to report	One of the problems is that because doctors are one of the most important members of the medical team and the subject of the errors is financially debatable, it has credibility, prestige and many other things, so they don't like their errors to be reported. It is only the nursing team and perhaps the paraclinic whose errors are reported
Ice mountain reporting and disclosure of errors\Weakness of reporting\Doctors refuse to report	Safety has its own culture, so that if this culture is not established in the hospital, doctors do not know how to swim in safety pool in order to be a good swimmer, that is, to know how to be honest with their mistakes and report it
Ice mountain reporting and disclosure of errors\Weakness of reporting\Doctors refuse to report	When we got a little better in the nursing system, we went to the doctors. The doctors were very resilient, more than the nurses, because they had never been evaluated for performance
Ice mountain reporting and disclosure of errors\Weakness of reporting\Doctors refuse to report	In my opinion, any part of the patient's safety that is related to the medical group is a challenge; it is very difficult to bring doctors in this circle
Ice mountain reporting and disclosure of errors\Weakness of reporting\Doctors refuse to report	No, at least so far no training course has been held for us, and of course, I'm not saying that these courses has been zero but very limited, Most training is limited to a series of training that, if we don't know them, can cause an acute problem for the patient or the doctor, maybe to the same extent
Ice mountain reporting and disclosure of errors\Weakness of reporting\Educational weakness	I saw the biggest challenge in the group of doctors; in fact, our nursing staff has greatly increased their safety culture. Unfortunately, there is still no executive power in the medical team to persuade them, but we persuaded our nurses to do so
Ice mountain reporting and disclosure of errors\Weakness of reporting\Educational weakness	Many health therapists do not recognize errors, for example, they do not know that something that happened is an error, they say, was it a mistake to report it! Like when they didn't get conscious consent from the patient before the surgery
Ice mountain reporting and disclosure of errors\Weakness of reporting\Educational weakness	Unfortunately, I don't know where to go if I make a mistake, although it's not too long since I came as a resident student
Ice mountain reporting and disclosure of errors\Weakness of reporting\Educational weakness	The reason for not paying attention and not reporting errors is the lack of awareness and the consequent lack of attitude
Ice mountain reporting and disclosure of errors\Weakness of reporting\Educational weakness	In my opinion, the main challenge is that doctors are unfamiliar with the patient's safety standards and principles. When they don't know, they don't follow my standards, they don't follow its principles
Ice mountain reporting and disclosure of errors\Weakness of reporting\Fear of consequences\Fear of legal prosecution	You see, these cases are considered prosecution, and the plaintiffs are being prosecuted
Ice mountain reporting and disclosure of errors\weakness of reporting\Fear of consequences\Fear of legal prosecution	Because the court blames both the offender and the hospital
Ice mountain reporting and disclosure of errors\Weakness of reporting\Lack of attention to patient rights	If you are aware, you will have a verbal conflict with them. We do not have any patient public Involvement in Iran at all. In our hospitals, patients' rights are not respected. patients cannot change your doctor if they wish
Ice mountain reporting and disclosure of errors\Weakness of reporting\Weak patient involvement	Patient public Involvement is considered as one of the developmental measures in Iran accreditation program, Involvement of the patient in care is considered as one of the most advanced measures of credit, which our treatment centers have not paid much attention to, and in fact we have done very little in this regard
Ice mountain reporting and disclosure of errors\Weakness of reporting\Weak patient involvement	The patient who cooperates, but it depends on our training, it depends on us what facilities we have provided for them, to what extent we have involved them in safety, so the participation of patients is not high because we did not plan for them
Ice mountain reporting and disclosure of errors\Weakness of reporting\Weak patient involvement	Patients and they're accompanies report a lot of cases, especially falls, Patients usually participate in reporting and patient safety measure if they were aware
Ice mountain reporting and disclosure of errors\weakness of reporting\under-reporting	The most important mistake for us was to fall, followed by nosocomial infections
Ice mountain reporting and disclosure of errors\Weakness of reporting\No disclosure	However, if something happens to the patient that causes permanent damage or death to the patient, the hospital is responsible for the cost, for example, if the patient here gets a third-or fourth-degree decubitus ulcer, the hospital would have to pay for it
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Our health-care system is not very different from the rest of the world, but while the rate of nosocomial infections in developing countries is about 15% to 16% in normal areas and about 30% in special wards, it is about 1.33% in our country
Ice mountain reporting and disclosure of errors\weakness of reporting\No disclosure	Something was being done I believe that the rate should increase, reporting should increase
Ice mountain reporting and disclosure of errors\Weakness of Reporting\No disclosure	Disclose of error is considered as one of the developmental measures in Iran accreditation program

Contd...

Table 1: Contd...

Code	Segment
Ice mountain reporting and disclosure of errors\Weakness of reporting\No disclosure	So far, no special attention has been paid to the issue of disclosure
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	The most frequent reports are as follows: falls, Decubitus ulcer, embolism (special and internal wards, in general in long-term hospitalized patients, as well as embolism in the elderly, pregnant women, mental disabilities, patients taking sleep medications and diabetic patients).
Ice mountain reporting and disclosure of errors\Weakness of reporting\No disclosure	We try not to disclose even if, it seems to me that it is not right to disclose that such a mistake has happened, but if this happened, the hospital is obliged to fix the problem and pay the patient bill
Ice Mountain Reporting and Disclosure of Errors\Weakness of Reporting\under-reporting	The most frequent reports are as follows: Falls, decubitus ulcer, embolism (special and internal wards, in general in long-term hospitalized patients, as well as embolism in the elderly, pregnant women, mental disabilities, patients taking sleep medications and diabetic patients)
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Hospitals need to be honest with themselves about their medical error statistics. The hospital must be honest with itself so that it can manage the amount of errors. It is not in my interest to say that the rate is 40%, but it is in their interest if they say it is 15 percent, Two years later, this 15 percent can really reach 12 percent
Ice Mountain Reporting and Disclosure of Errors\Weakness of Reporting\under-reporting	Pharmacological errors are not reported at all by supervisor; cover up errors for fear of being reprimanded by a metronome or hospital director or hospital manager
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Errors in the operating room are usually either not reported or too late after the event, which is what we find out. Some errors in parts like ICU or others that are closed and its commute is less likely to report to us unless we accidentally notice it
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Because we can't report a falls, the patient himself says, The one who knows the patient we can't hide, you can't report the error, or the patient with a Decubitus ulcer, The patient sees this bedsore, you can't hide it, such mistakes are always obvious
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Where they report, they only talk about the fall that is, but even if the test results of the patient are announced late by the laboratory. It is also a kind of error and needs to be reported
Ice mountain reporting and disclosure of errors\Weakness of reporting\Nurses as the only reporting group	Nurses report a lot of errors, doctors don't report any mistakes at all, and Diagnostic units such as laboratories and radiology usually do not report errors, and their errors are usually reported by clinical units
Ice mountain reporting and disclosure of errors\Weakness of reporting\Nurses as the only reporting group	Doctors usually try to cover up, and even nurses who report they don't usually work with them
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	Patients are of different ages, we have children, we have older people, we have seizures, burns sometimes have disabilities, people with disabilities and many who are not used to bed, and, and this causes them to fall
Ice Mountain Reporting and Disclosure of Errors\Weakness of Reporting\under-reporting	However, they are also afraid because of their grades, they are afraid that they will not be able to pass the courses, they also do not want their mistakes to be revealed, then their professors or high semesters who do not report their mistakes
Ice mountain reporting and disclosure of errors\Weakness of reporting\No disclosure	Bad new
Ice mountain reporting and disclosure of errors\Weakness of reporting\Failure to report	The first challenge is that a lot of mistakes happen and no one reports
Ice mountain reporting and disclosure of errors\Weakness of reporting\Failure to report	Until many years ago, there was much less medical error reporting, now that most errors are reported through nursing systems, the nursing systems that usually find these errors fill and sending us voluntarily anonymous forms
Ice mountain reporting and disclosure of errors\Weakness of reporting\under-reporting	The biggest thing we have right now, and a lot of focus on that, is the issue of patient falls
Ice mountain reporting and disclosure of errors\Weakness of reporting	Sometimes a doctor's error report is reported by a paramedic, or the doctor reports a nurse's error, thank God

ICU=Intensive care unit

"Safety has its own culture, so that if this culture is not established in the hospital, doctors do not know how to swim in Safety pool in order to be a good swimmer, that is, to know how to be honest with their mistakes and report it."

"When we got a little better in the nursing system, we went to the doctors. The doctors were very resilient, more than the nurses, because they had never been evaluated for performance."

"Doctors usually try to cover up, and even nurses who report they don't usually work with them."

"Nurses report a lot of errors, doctors don't report any mistakes at all, and Diagnostic units such as laboratories and radiology usually do not report errors, and their errors are usually reported by clinical units."

"Until many years ago, there was much less medical error reporting, now that most errors are reported through nursing systems, the nursing systems that usually find these errors filling out and sending us voluntarily anonymous forms."

"The errors reported are more of a nursing error than a medical one. Does it really mean among nurses? I told you that your doctor doesn't actually report many errors."

"Patients and their accompanies report a lot of cases, especially fallsPatients usually participate in reporting and patient safety measure if they are aware."

In addition to surgeons and specialists who do not typically report and disclose their errors, interns, residents, and other studentsdo not report errors committed by themselves, nor by their respective professors or high semester students:

"However, they are also afraid because of their grades, they are afraid that they will not be able to pass the courses, they also do not want their mistakes to be revealed, then their professors or high semesters who do not report their mistakes."

Another issue in reporting is related to the types of errors reported, the important challenge being that reporting errors is very incomplete and involves only a few obvious errors, including falls, Decubitus ulcer, and nosocomial infections, such that in most cases, reporting an error is only reported as falling from the bed:

"For us, the most important mistakes were falls, and then it was nosocomial infections."

"The biggest thing we have right now, and a lot of focus on that, is the issue of falling."

"Departments and hospitals that report errors only report falls, That is, they only recognize the fall as an error, while even if the lab announces the patient's test results late, it's a mistake and needs to be reported."

"The most frequent reports are as follows: Fallings, bed Decubitus ulcer, embolism (special and internal wards, in general in long-term hospitalized patients, as well as embolism in the elderly, pregnant women, mental disabilities, patients taking sleep medications and diabetic patients)."

Based on discussions and existing documents, high incidence of cases such as falling and bed ulcer compared to underreporting and failing to report other errors is for reasons such as obvious nature of them, that these errors cannot be hidden, so that they can be reported and tracked even by the patient himself or with the patient's companion as well as reports of falls and bed ulcers even before Hospitals accreditation plan and now in parallel with accreditation as part of national quality indicators, quarterly (every 3 months) reports are reported by hospitals to the Ministry of Health.:

"Patients are of different ages, we have children, we have older people, we have seizures, burns sometimes have disabilities, people with disabilities and many who are not used to bed, and this causes them to fall out of bed."

"Because we can't report a fall from the bed, the patient himself says, the one who knows the patient we can't hide, the patient has a broken tooth, you can't report the error, or the patient with an ulcer wound, The patient sees this wound, you can't hide it, such mistakes are always obvious."

"Patients report a lot of cases anyway, especially falls, they usually know about falls, and they report, for example, but they usually participate with knowledgeable companions."

Errors such as medication errors are usually not reported or if reported by caregivers to their supervisors, they are usually covered by their authorities and not reported to the safety officer:

"Medication errors are not reported by supervisor at all, nurses cover up for fear of being reprimanded by the hospital's metronome or chief or hospital manager."

Or these reports are delayed:

"Errors in the operating room are usually either not reported or too late after the event, which is what we find out. Some errors in parts like ICU or others that are closed and its commute is less likely to report to us unless we accidentally notice it."

In many cases, when errors are reported apart from obvious cases (fallings or bed Decubitus ulcer), they are often observed and reported by other safety personnel or experts.

"Sometimes a doctor's error report is reported by a paramedic, or the doctor reports a nurse's error, thank God."

The next issue is the statistics on reports of nosocomial infections being sent to higher levels, including the Department of Health, the University, and the Ministry of Health, so that most of the reports are inconsistent with the facts and situation:

"Our health-care system is not very different from the rest of the world, but while the rate of nosocomial infections in developing countries is about 15% to 16% in normal areas and about 30% in special wards, it is about 1.33% in our country."

These are clearly indicative of the lack of transparency in reporting medical errors, and even at the level of Ministry of Health managers are aware of problems related to underreporting and non-reporting of errors:

"Hospitals need to be honest with themselves about their medical error statistics. The hospital must be honest with itself so that it can manage the amount of errors. It is not in my interest to say that the rate is 40%, but it is in their interest if they say it is 15%, 2 years later, this 15% can really reaching 12%."

Another phenomenon similar to the iceberg, obtained from interview results, is the failure to disclose errors. Errors are not disclosed to patients or their companions except at minor:

"So far, no errors have been reported in hospitals here. I think the disclosure of errors is one of the advanced measures of accreditation program."

The disclosure phenomenon is limited to obvious errors only in certain cases and is intended to further offset the costs of treatment due to the error:

"However, if something happens to the patient that causes permanent damage or death to the patient, the hospital is responsible for the cost, for example, if the patient here gets a third-or fourth-degree Decubitus ulcer, the hospital would have to pay for it."

"We try not to disclose even if.., it seems to me that it is not right to disclose that such a mistake has happened, but if this happened, the hospital is obliged to fix the problem and pay the patient bill."

Discussion

The problem of unsafe care and the need for efficient reporting systems is well understood and it is clear that reporting systems should be the cornerstone of overall patient safety reform.[24] However, the problems and challenges associated with reporting and error reporting identified two main challenges in the results:

While, according to the results of the interview, the most serious errors, especially egregious onesare mostly committed by doctors (mistakes leading to death or impairment) almost no errors committed by doctors are reported or disclosed; In fact, doctors have not taken the patient's safety seriously yet, nor they know much about the program and its components, as doctors do in the field of patient safety, especially reporting and disclosing errors differently from other health-care staff. Most physiciansfocus more on patient treatment processes and fundamental challenges such as legal and judicial aspects of errors than on patient-centeredness and patient safety issuesIn addition to faculty members, the same is true for students of different medical levels.

In the developed countries, most of the reports were carried out by nurses at the outset of the patient safety movement, but due to the efforts made by physicians who also cooperated more in this regard, the result of a study conducted by the England revealed that most reports of unintended events and errors were often made by nurses, and the participation of other groups was poor.[30] A review of the 5-year report (from 2005 to 2010) of Medicare accidents to the UK National Reporting and Learning System in 2010 accounted for 10% of total patient safety accidents,[31] notably that more than half of each Annual reported drug accidents have increased significantly and consistently over the total of patient safety events.[32] Other studies carried out in the UK reporting and learning system show that overall, from 2003 to 2013, reporting rates have increased exponentially.[33]

Souzani *et al*. showed that in the field of medication errors, only about 38% of the errors are committed by nurses and the rest are committed by other groups (39% by doctors and 23% by pharmacies).[34] A study conducted at Amirkola Children's Hospital in 2015 also found that most of the reported errors (about 72% of the errors) were reported by nurses.[27]

In a census of managers, managers, nurse heads (metrons), supervisors, and heads of nurses from 32 hospitals covered by Mazandaran University of Medical Sciences (2011), approximately 39% of managers experienced near-misses. Sixty-nine percent reported that errors were reported in the hospitals where they worked.[35]

In fact, nonparticipation of physicians as a major component of treatment in reporting errors and safety sessions has led to a large portion of medical errors and cases to remain hidden and in fact, no clear and transparent statistics are being reported by physicians to hospitals and other subsidiary agencies, which in turn affects error reporting in other health-care groups,

and minimize reporting and disclosure rates in these groups, as well. Moreover, the results of the interviews showed, under-reporting of errors among nurses as the only group reporting errors was evident in all hospitals, and the reports provided were limited and occasionally related to obvious errors such as falling from beds and Decubitus ulcer. A review of literature reveals that these results are in line with the findings obtained from other studies conducted in Iran.[36]

While most of the researches on patient safety have focused on drug errors, this is in stark contrast to in-hospital and out-of-organization reporting to the Department of Health and Universities Ministry of Health and clearly it shows the unwillingness of health-care professionals and hospitals to actually detect and report errors.[22,23]

However, Other studies showed that physicians are not actively involved in the process of reporting errors, the residents present reports only in some cases and -error- reporting is often practiced by pharmacists to track medication errors and by nurses to report accidentsAlthough they are often involved in the routine care, they have a lot of experience and clinical judgment; as a result of being a senior physician, they are in a good position to identify errors.[37-39] The results of the study done by Chaudhry *et al*. showed that many errors are initially detected by residents, nurses, and laboratory technicians, Adverse events (errors leading to complications), while most errors are discovered by oncologists, pharmacists and consultants are close to error,[8] Moreover, in the study carried out by Kaldjian *et al.*, most respondents confirmed that error reporting would contribute to the quality of future patient care and tended to disclose minor or major errors. However, only 18% of interviewees' responses reported minor errors (leading to prolonged treatment or discomfort) and 3.8% of them reported major errors (leading to disability or death).[40]

Therefore, while in almost all studies conducted in Iran, it has been pointed out that nurses, as the largest therapy community in the hospital have committed most of the errors due to various reasons such as their being reluctant to become physicians, they are at a greater risk of occupational injury. Given the danger of high workload, being in the final loop of the therapeutic chain and in constant contact with the patient, lack of night sleep and high stress in this occupational group, should also be taken into account.[22,23] The reason is that most medical errors are reported by nurses, and most research is done solely with the participation of nurses, and physicians are not actively involved in research or error reporting, as was often the case in interviews, referred to as a separate island of physicians. It was taken

away that almost no errors are reported and continue to be unknown in the system.

According to the results of the researcher's observations and conversations, medical errors related to bed and bed Decubitus ulcer in most hospitals are committed due to two main reasons ; the first reason is that these two errors, due to their obvious nature, cannot be concealed, and in many cases are reported by the patient or his or her companion. Another reason for this is due to the mandatory reporting of this bill under the Ministry of Health's seasonal (quarterly) program called the National Quality Index. These results, or the results of studies conducted in other countries' reporting systems, are in line with other studies,[41] for example, a 2006 Australian obvious, and usually have immediate consequences, and the complications are quickly characterized by falls such as falling off the bed and medication errors that require corrective treatment.[42]

Evans also noted in this study that cases close to error and accidents that occur over time during care and are often not confined to a simple event are also events that are considered as long-term complications of hospitalization (e.g., Nosocomial infection Decubitus ulcer and deep vein thrombosis occur due to inadequate prevention, were less likely to be reported, which is inconsistent with the results of our interviews, and in-hospital reports of pressure ulcers/bed Decubitus ulcer as one. It is known from the cases reported above.[42]

Interestingly, based on the results of a study on data obtained from the National Institute of Patient Safety from 2004 to 2005, it was indicated that hospitals with a positive safety culture had better able to manage risk and overall reporting rates, The "drug error and fall" groups are relatively poor in their reports, indicating that these hospitals report a higher number of other types of accidents On the contrary, in hospitals having overall lower reporting rates, most reports are restricted to medication errors and falls.[33] This should also be added that falls have traditionally been reported and reported by nursing staff, but our results suggest an improvement in the willingness or ability of NHS staff to report other types of accidents in addition.[33]

According to the results of the present study, the experts stated that except for cases of falling from the bed and Decubitus ulcers, other unwanted accidents and errors are rarely reported It can be concluded that the low number of reporting errors in the hospital system and the Iranian Ministry of Health represents two major cases, firstly reporting and/processes created for reporting in Iran are still in their embryonic stage in spite of the fact that these systems were developed in the United States in 2001 and in the United Kingdom in 2003,

Secondly, with the development and improvement of the reporting system over time, the reporting of other medical errors (adverse events and near-misses) generally increased , and is not limited to medication errors, bed Decubitus ulcer and falls from the bed. And, these groups will comprise a smaller proportion of all reported incidents in the years that follow.[43]

Considering the results of the study and comparing it with advanced reporting systems such as the United States and the United Kingdom, it can be concluded that reporting errors in Iranian hospitals is not yet systematic and is limited to a specific group and limited cases of errors. The American Medical Institute, meanwhile, has emphasized the importance of reporting errors, using systems to account for providers' performance and providing information that can improve safety. Also, conceptually, simultaneous improvements to report serious, minor, and near-error errors are not inconsistent with a reporting system, but they are difficult to meet simultaneously. However, reporting errors that are potentially dangerous that can be prevented before injury, errors that do not cause harm, and cases close to the error are as important as the errors that cause the damage.

The term "iceberg" for the phenomenon of error and reporting error was coined because the magnitude of the error in Iran is much higher than that which was previously reported, and according to the latest studies, the prevalence of medical errors is as high as 50%, However, formal reporting of errors within (hospitals) and outside the organization is far less than the results obtained in the studies.[6] In a research conducted in Iran, it was found that in addition to the high rate of medical error compared to other developed countries, the error-reporting rate was estimated to be much lower.[37]

Several studies in the field of drug errors also confirm that, first, the error rate in Iran is much higher than previously thought, and second, that the reporting rate of drug errors is very low,[26,28,29] indicating systemic and organizational barriers to Reporting and disclosure of medical errors are divided into three categories: conditional, contextual, and interventional, which will be explained in more detail below.

Also, in a regular review study conducted in 2017, the prevalence of medication errors by nurses in Iranian hospitals was 53%, ranging from 17% to 88%. This high prevalence and low reporting of medication errors in Iranian nurses has raised serious concerns about patient safety in Iranian hospitals.[23]

Error disclosure also included physicians who did not fully believe in disclosing errors to patients or their companions and nurses and experts were divided into two categories: One who believed that minor errors should be disclosed and another group did not believe in error disclosure. Although the present study rejected the view that errors were disclosed to patients, their friends, or families, and was referred to as a new category, disclosing medical errors is a well-established legal obligation that is based on the common law doctrine of informed consent, and assuming the responsibility related to error disclosure is essential in the Canadian and American Medical Association Code of Ethics. The findings of a 2014 systematic review study showed that nurses currently support both physicians and patients through incident disclosure, but may not be prepared to disclose events independently.[44]

The results also indicate that there is a large gap between the actual reporting situation and the existing reporting system in Iranian hospitals and health-care system with the results of research conducted in the country, which may be due to:

Firstly, in the domain of physicians one of the reasons for the low rate of errors and reporting of errors in the physician group is the very small number of studies conducted by physicians and by physicians. This separation and inaction of the medical team in reporting medical errors is also evident in the articles that have been published in the field of medical errors and medication errors in recent years. According to a review by Vaziri *et al*. (2019, a systematic review in 2017 showed that 52% of studies alone were performed on nurses and nursing students and those physicians had little involvement in patient safety research.[22]

The extent to which research has been conducted is due to the need for research to be confidential and that the information provided is solely for the purpose of the research. Reduces fear and concern about the repercussions of reporting, punishing and prosecuting medical personnel for participating, expressing views and errors they have made in various researches as one of the main obstacles to failure to report errors in the hospital and reporting system.[28,45,46] This is a case study in the teaching hospitals of Shahid Beheshti University of Medical Sciences in Tehran in 2016 as the main obstacle to failure to report errors.[25] Various barriers to reporting errors in research conducted in Iranian hospitals are as follows: fear of reporting consequences, judicial follow-up, punitive behaviors of managers, and low patient safety culture.[36,47,48]

One of the main limitations of this study was that due to the high sensitivity of the patient safety issue, little information was provided to the research team about errors and reports, and hospital safety managers and

managers as well as various university and departmental management departments (responsible). Safety and Health Monitoring and Accreditation Centerwas not willing to provide researchers with useful information on medical errors and patient safety, therefore, conducting the quantitative analysis of errors in various reports was not possible.

Conclusion

Due to the lack of a comprehensive and national error-reporting system and the existence of barrier reporting errors in hospitals and medical systems, the phenomenon of not reporting errors is very common and only cases of falling from the bed and obvious unwanted complications such as pressure sores are reported. Therefore, due to the weakness of reporting systems, medical errors continue to occur and patients' safety is compromised.

Acknowledgment

Finally, the following are recommended

1. Establishing a national reporting system (shifting from individual approach to system/patient safety process, creation of legal support, creation of centralized data center)
2. Establish quick and systematic feedback mechanism (faster feedback of error analysis results increases hospital error-reporting rate)
3. Accurate definition of errors and regular and periodic training of all care providers on reportable errors and how to report it.

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