

## Disclosure of Medical Errors: Attitudes of Iranian Internists and Surgeons

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### ABSTRACT

**Background:** Despite the widespread prevalence of medical errors and increased concerns of healthcare managers and the public about the disclosure of medical errors in recent decades, existing evidence shows that physicians still ignore the importance of disclosure of those errors. The present study aims to investigate the attitudes of Iranian internists and surgeons towards the disclosure of medical errors.

**Method:** In this cross-sectional study, after a research purpose briefing, a checklist eliciting basic information and a questionnaire measuring attitudes towards the disclosure of medical errors was distributed to participant physicians at Imam Khomeini Hospital, Tehran, Iran. The questionnaires were returned filled out by 107 participants (54 internists and 53 surgeons).

**Results:** Although 77%, 53% and 44% of the participants agreed to the disclosure of serious, minor and near miss medical errors, respectively, 83% believed that it's very difficult for them to disclose medical errors and 48% asserted that disclosure of medical errors would threaten patients' trust in physicians. In addition, 78% of the participants believed in notifying hospital or ward authorities of the occurrence of medical errors while only 53% agreed to notify colleagues in case of medical errors. Patients' litigations (51%), unfamiliarity with patients' temperament (46%) and patients' asperity (40%) were the most prevalence reasons for nondisclosure of medical errors. No significant difference was found among participants' attitudes in terms of sex and age groups ( $p>0.05$ ). In terms of specialty, surgeons expressed significantly more agreement than internists about declaration of medical errors to hospital and ward authorities (87% Vs 70%,  $p=0.039$ ) and to other colleagues (66% Vs 41%,  $p=0.009$ ). In addition, the surgeons believed that the disclosure of medical errors would minimize the likelihood of patients' litigations (60% Vs 42%,  $p=0.049$ ). Internists and surgeons' attitudes did not differ over other issues ( $p>0.05$ ).

**Conclusion:** Although the majority of specialists agreed to the disclosure of serious medical errors, more than 80% of them regarded it as an awkward act. In addition, half of the participants considered disclosure as a threat to patient trust and felt deterred by patients' litigations. Therefore, it seems

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that disclosure of medical errors is a serious issue in Iran which needs to be addressed by healthcare system policy makers.

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## 1. Introduction:

When the Institute of Medicine published an article entitled "*To Err is Human*" in 2000 (1), it significantly raised the consciousness of researchers and healthcare policy makers to minimize medical errors and promote patient safety (2-4). However, despite earnest efforts undertaken, the complex nature of healthcare services has made the occurrence of medical errors an inevitability (5).

Existing figures are indicative of alarming and widespread prevalence of medical errors even in developed countries (6). In these countries, medical errors occur to 10%-18% of hospitalized patients (7). In a report based on medical records review in the 1990s, the U.S. Institute of Medicine (IOM) estimated a mortality rate of between 44,000 and 98,000 caused by medical errors (1).

Professional ethics and principles recognize physicians as responsible for the disclosure of medical errors and clearly delineate that physicians must exercise honesty and declare and explain the occurrence of medical errors to the patients [8, 9]. However, evidence shows that the disclosure of medical errors to the patients is still an awkward challenge for the physicians and healthcare service providers and often goes neglected (10-

12).

Taking into account the foregoing points, understanding the attitudes of medical practitioners towards the disclosure of medical errors and studying the related factors can help in finding appropriate solutions and assist authorities in developing appropriate plans to prevent or minimize such errors (13-15). Although there are numerous studies on the disclosure of medical errors, few studies have been conducted on the attitudes of medical practitioners towards the disclosure of medical errors worldwide and no such a study has been conducted in Iran, according to our search. The present study attempts to investigate the attitudes of Iranian internists and surgeon towards the disclosure of medical errors.

## 2. Materials and Methods:

**Participants:** The sample in the present cross-sectional study included 120 internists and surgeons working as medical staff at Imam Khomeini Hospital in Tehran, Iran, in 2009.

**Method:** The research assistants introduced themselves and explained the purpose of the research to the participants. Written consents were obtained from all participants. The participants were given a checklist on basic information, including their sex, age and specialty and questions about the rate of medical errors (of types serious, minor and near miss) and an attitude questionnaire on the disclosure of medical errors. The questionnaire would be completed as self-report and any

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required instructions or directions were given to the participants. The questionnaires were returned filled out by 107 participants (54 internists and 53 surgeons).

**Questionnaire:** An abridged version of "Communicating about Medical Errors: Physicians' Attitudes and Experiences"[16] was used as the research questionnaire. The questionnaire included 20 items on the occurrence of different types of medical errors by physicians and their attitudes towards the disclosure of different types of medical errors to patients, their attitude towards declaration of medical errors occurrence to authorities and colleagues, physicians' attitudes towards legal prosecution once disclosures to patients are made and the physicians reasons for the nondisclosure of medical errors. In this questionnaire, medical error was defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Medical errors include serious errors (errors that cause permanent injury or transient but potentially life-threatening harm), minor errors (errors that cause harm which is neither permanent nor life-threatening) and near misses (errors that could have caused harm but did not either by chance or timely intervention) (16).

**Data analysis:** The collected data were analyzed using SPSS 13. Mean (SD) and frequency (%) tables were used for the description of quantitative and qualitative variables, respectively. In addition, the Mann-Whitney test was applied to compare the two groups (internists and surgeons) on the frequency of medical errors. To compare the attitudes of physicians towards the disclosure of medical errors, the chi-square test was used.

### 3. Results:

**Basic data:** Of all participants, 71 (66%) were male and 56 (52%) were aged below 40. Internists (N = 54, 51%) and surgeons (N = 53, 49%) comprised the sample.

**Occurrence of error:** The range and mean (SD) of the occurrence of medical errors were, respectively, 0-6 and  $0.84 \pm 1.38$  for serious medical errors, 0-10 and  $2.55 \pm 3.16$  for minor errors and 0-20 and  $5.07 \pm 3.07$  for near miss errors per 100 patients.

**Physicians' attitudes towards disclosure of medical errors:** Of all participants, 99 (92%) considered that medical errors are one of the most important problems in health care systems. Support for the disclosure of serious, minor and near miss medical errors was expressed by 82 (77%), 57 (53%) and 47 (44%) of the participants, respectively. Disclosure of medical errors was supported by 89 (83%) of participants as an awkward act and as a threat to patient trust by 51 (48%). Development of a comprehensive system to facilitate the disclosure of medical errors to patients was endorsed by 94 (88%) participants (Table 1).

**Physicians' attitudes towards declaration of medical errors to authorities and colleagues:** Declaration of occurrence of medical errors to authorities and colleagues was favored by 84 (78%) participants. In addition, 57 (53%) of the participants expressed their agreement over declaration of occurrence of medical errors to colleagues (Table 1).

**Physicians' attitudes towards patient suing in case of disclosure of medical errors:** Although 55 (51%) of the participants believed that the disclosure of medical error of any type by the physician would mitigate the probability of patient suing, 23 (22%) of the participants believed that the patient is entitled to follow up the case, 79 (74%) believed that the patient might follow up the case and 5 (5%) believed that the patient would definitely waive to follow up. In case of disclosure by an individual other than the physician, 29 (27%) of the participants believed that the patient needs to follow up their case, 76 (71%) believed that the patient might follow up their case and 2 (2%) believed that the patient would surrender their claim.

**Physicians' reasons for nondisclosure of****Table 1:** Physicians' attitudes towards disclosure of medical errors.

	Physicians' Attitudes			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Medical errors are one of the most important problems in health care	25 (23%)	74 (69%)	5 (5%)	3 (3%)
Disclosing medical errors would damage patients' trust to their physicians	9 (8%)	42 (39%)	43 (40%)	13 (12%)
Disclosing medical errors to patients are very difficult	24 (22%)	65 (61%)	18 (17%)	0
Declaration of occurrence of medical errors to authorities is necessary	26 (24%)	58 (54%)	20 (19%)	3 (3%)
Declaration of occurrence of medical errors to colleagues is necessary	18 (17%)	39 (36%)	41 (38%)	9 (8%)
Disclosing medical errors would make it less likely that the patients would sue their physicians	4 (4%)	51 (48%)	42 (39%)	10 (9%)
Development of a comprehensive system to facilitate the disclosure of medical errors to patients is necessary	45 (42%)	49 (46%)	12 (11%)	1 (1%)

**medical errors:** As for the perceived reasons for the nondisclosure of medical errors by the physician, 54 (51%), 49 (46%), 43 (40%), 28 (26%), 12 (11%) and 5 (5%) of participants expressed the following reasons in order of descending importance: patient suing after disclosure, unfamiliarity with patient temperament, patient anger for the medical error, patient unawareness of the occurrence of the error, patient's failure to understand the error and patient's unwillingness to know about the occurrence of the error.

**Comparing occurrence of and attitude to medical errors disclosure by sex, age group and specialty of participants:** Female physicians had a significantly higher rate for the report of the occurrence of serious medical errors per 100 patients ( $0.94 \pm 1.01$  vs.  $0.79 \pm 1.05$ ,  $p=0.043$ ). No significant difference was found between the two sexes, age and specialty groups over the occurrence of serious, minor and near miss medical errors ( $p>0.05$ ) (Table 2).

There was no significant difference between the two sexes and age groups in terms of attitudes towards the disclosure of medical errors ( $p>0.05$ ) (Tables 2 and 3). By specialty, surgeons expressed significantly higher support than internists for the declaration of occurrence of medical errors to hospital and ward authorities ( $p=0.039$ ) and to other colleagues ( $p=0.009$ ). In addition, surgeons were of a stronger belief that the disclosure of medical errors by the physician reduces the likelihood of patient suing ( $p=0.049$ ). No significant difference was found between internists and surgeons over other issues ( $p>0.05$ ) (Table 3).

**4. Discussion:**

The findings of the present study show that medical errors are considered by more than 90% of physicians to be one of the most salient problems of healthcare systems.

Nevertheless, disclosure of medical errors seems to be an awkward act for physicians.

**Table 2:** Comparing occurrence of medical errors by sex, age group and specialty.

		Serious errors per 100 patients	P value	Minor errors per 100 patients	P value	Near miss per 100 patients	P value
<b>Gender</b>	<b>Male</b>	0.79 ± 1.05	0.043	2.81 ± 3.56	0.867	3.71 ± 6.03	0.878
	<b>Female</b>	0.94 ± 1.01		2.06 ± 2.21		1.88 ± 1.98	
<b>Age (Year)</b>	<b>&lt; 40</b>	0.87 ± 1.32	0.251	2/19 ± 2.60	0.654	2.29 ± 3.99	0.331
	<b>≥ 40</b>	0.80 ± 1.46		2.98 ± 3.71		4.02 ± 6.04	
<b>Specialty</b>	<b>Internalist</b>	0.92 ± 1.55	0.685	2.36 ± 3.08	0.718	3.36 ± 5.76	0.869
	<b>Surgeon</b>	0.77 ± 1.20		2.73 ± 3.26		2.82 ± 4.44	

Mann-Whitney Test

The findings also indicate that more than half of physicians believe that the disclosure of medical errors could be a threat to patient trust in the physician. In contrast, previous studies show that negligence of the medical staff in the disclosure of medical errors ensues patient distrust (17-19) and the full disclosure of the errors may not only leave patient trust intact but it may also boost it (12). This

may emanate from patients' belief in the integrity of the physician in exerting every effort to save or treat them. In other words, the nondisclosure of the occurrence of the medical errors is not only an instance of infringement of medical ethics (12) but also is viewed by patients as an act of dishonesty and the irresponsibility of the physicians in their practice.

It is also shown that more than a quarter of

**Table 3:** Comparing attitude to medical errors disclosure by sex, age group and specialty.

	Physicians' Attitudes (Agree)								
	Male	Female	P value	< 40 Years	≥ 40 Years	P value	Internalist	Surgeon	P value
Medical errors are one of the most important problems in health care	65 (92%)	34 (94%)	0.591	52 (93%)	47 (92%)	1.000	50 (93%)	49 (93%)	0.978
Disclosing medical errors would damage patients' trust to their physicians	35 (49%)	16 (44%)	0.635	30 (54%)	21 (41%)	0.246	27 (50%)	24 (45%)	0.625
Disclosing medical errors to patients are very difficult	59 (83%)	30 (83%)	0.976	50 (89%)	39 (76%)	0.119	45 (83%)	44 (83%)	0.965
Declaration of occurrence of medical errors to authorities is necessary	57 (80%)	27 (75%)	0.530	40 (71%)	44 (86%)	0.098	38 (70%)	46 (87%)	0.039
Declaration of occurrence of medical errors to colleagues is necessary	38 (54%)	19 (53%)	0.942	25 (45%)	32 (63%)	0.081	22 (41%)	35 (66%)	0.009
Disclosing medical errors would make it less likely that the patients would sue their physicians	34 (48%)	20 (57%)	0.370	24 (43%)	30 (60%)	0.084	22 (42%)	32 (60%)	0.049
Development of a comprehensive system to facilitate the disclosure of medical errors to patients is necessary	64 (90%)	30 (83%)	0.308	50 (89%)	44 (86%)	0.769	50 (93%)	44 (83%)	0.130

Chi-Square Tests

physicians expressed support for the disclosure of serious medical errors while only half of the participants supported the disclosure of minor and near miss medical errors. Previous studies have produced mixed results in this regard. Other studies, in line with the present one, have shown most physicians in support of the disclosure of serious medical errors (20) and few in favor of full disclosure of the different types of medical errors to the patients (21). On the contrary, other studies have shown that physicians believe that patients are entitled to receive full details of the occurrence of undesirable medical incidents (22). In addition, other studies have shown that 96% of physicians have asserted that they would report even the occurrence of minor medical errors to their patients (23). Although many physicians consider the disclosure of near miss medical errors to the patients impractical (24), in reality the existing standards make no exemptions about the disclosure of any type of medical errors (25). It seems that the appropriate method in the treatment of non-serious errors, as in near miss medical errors, is the notification of the patients who are willing to know about the occurrence and follow-up of those errors (24).

Although three out of four physicians in the study supported the declaration of occurrence of medical errors to the ward or hospital authorities, only half of them supported notification of their colleagues. In-depth follow-up studies show that committing medical errors places the medical staff in a vicious cycle of personal criticism and legal prosecution, creating a state of estrangement and doubt in addition to the consequences of those errors which are obstacles to the optimal measures expected to be adopted after the occurrence of such medical errors. Evidence shows that consultation and mutual relationship with authorities and colleagues are the best and most efficient solution for the selection of the best options in such situations. Today it still appears that the required advice and

support are offered in a subjective manner (26) while an accurate planning and need for the development of well-thought out behaviors and acts by the physicians is strongly felt.

The present study shows that fear of patient's suing, unfamiliarity with patient's temperament and reaction and fear of patient's anger over realizing the occurrence of the medical error are the major deterrents to the nondisclosure of medical errors by the physicians. In line with the findings of the present study, other studies have shown that patient suing is the major deterrent in the nondisclosure of the medical errors. This common finding across several studies seems to be the most controversial obstacle to the disclosure of medical errors by physicians (13, 27-29).

Although the findings in the present study indicate no significant difference between the attitudes of the physicians in terms of sex and age group, differences were found between the attitudes of internists and surgeons in relation with the disclosure of medical errors. Significantly more than the internists did the surgeons believed that the disclosure of medical errors would reduce the likelihood of patient suing and that the occurrence of the medical errors need to be declared to the authorities and colleagues as well. Although previous studies have not produced any evidence, the different characteristics of participants, including their sex, age and even specialty, would warrant disparity of attitudes towards the disclosure of medical errors. Therefore, it seems that conducting similar studies but at a larger scale and on different specialties would contribute to the acquisition of basic data for use in the development of more efficient intervention programs.

Although the present study is the first of its kind in Iran to investigate the attitudes of medical staff towards the disclosure of medical errors, limitations such as a small sample size, exclusion of disclosure level and the use of closed question items on the questionnaire may count as the limitations of this study.

## 5. Conclusion:

According to the findings in this study, although ninety percent of the physicians consider the occurrence of medical errors to be a challenge in healthcare systems and propose the development of a comprehensive system to facilitate and improve the disclosure of medical errors, more than four-fifths of the physicians report the disclosure of medical errors to be an awkward act. Therefore, it seems that healthcare authorities and policy makers need more stringently to address the issue of medical errors and to find solutions for them in the domestic context.

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