Original Article

Journal of Iranian Medical Council, Volume 7, Issue no. 3
http://dx.doi.org/10.18502/jimc.v7i3.15720

The Perception and Preference of Patients Towards Disclosure of Medical Errors: A Report from Guilan Academic Hospitals

Elahe Abdollahi[1], Soheil Soltanipour[2], Abbas Sedighinejad[3], Mohammad Haghighi[3], Morteza Rahbar Taramsari[4], Gelareh Biazar[3]* and Yasin Farahbakhsh[5]

1. Kavosh Cognitive Behavior Sciences and Addiction Research Center, Department of Psychiatry, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran
2. Department of Community Medicine, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran
3. Anesthesiology Research Center, Department of Anesthesiology, Alzahra Hospital, Guilan University of Medical Sciences, Rasht, Iran
4. Department of Forensic Medicine, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran
5. Student of Medicine, Student Research Committee, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran

*** Corresponding author**
Gelareh Biazar, MD
Anesthesiology Research Center, Alzahra Hospital, Guilan University of Medical Sciences, Rasht, Iran
Tel: +98 9111350987
Email: gelarehbiazar1386@gmail.com

Received: 15 Jul 2023
Accepted: 14 Oct 2023

Citation to this article
Abdollahi E, Soltanipour S, Sedighinejad A, Haghighi M, Rahbar Taramsari M, Biazar G, *et al*. The Perception and Preference of Patients towards Disclosure of Medical Errors: A Report from Guilan Academic Hospitals. *J Iran Med Counc.* 2024;7(3):430-38.

Abstract

Background: It is well known that disclosure of Medical Errors (MEs) is the duty of physicians and it is the right of patients to be aware of any error occurring in their medical care process. This study was planned to asses to what extent the patients expect to be informed of the occurrence of MEs, they prefer who reports the medical error to them, and what are the influential factors in taking legal action against physicians in disclosed MEs from their point of view.

Methods: In this cross-sectional study, eligible patients admitted to academic hospitals of Guilan (Poorsina; Razi; Alzahra; Amir Al-Momenin; Dr. Heshmat), were interviewed directly and a questionnaire which was divided into four sections was filled out. The first part was about socio-demographic data of the responders and the next three sections included their preferences towards the type of MEs to be disclosed, who is responsible for this task, and in which conditions they sue against the medical team.

Results: About 96.6% of the patients believed that MEs had to be disclosed to the patients. Moreover, 29.3% preferred to be informed about all MEs that occurred during their medical care even if it caused no harm. 51.1% expected that physician who committed the error informs the error. On the whole age, gender, employment status, residency and education were among the influential factors of the patients' willingness and point of view and filing a lawsuit against physicians.

Conclusion: Based on the findings of this study, it is recommended that all minor and major MEs should be disclosed sympathetically by the physician who committed the error.

Keywords: Medical errors, Physicians, Research report

Introduction

Medical Errors (MEs) are defined as a preventable adverse effect of care, whether or not it is evident or harmful to the patient. MEs include medication, diagnostic advise, surgical procedures and falls. Under this situation, which is unpredictable, informed consent cannot be obtained. MEs could be harmful to the patient in different degrees or restricted to near miss, since the error was detected in time or the patient was just lucky (1,2).

Regardless of the outcome of a ME when it occurs, it should be reported and also disclosed to the patient. The correct process of ME disclosure comprises clear statement that the error or even a reversible complication occurred, by whom, the reason and the way to prevent it, and ultimately an apology (3,4). In terms of near-miss ME disclosure to the patients, different approaches have been considered. Some scholars believe that when an ME has not resulted in any complication, disclosing it to the patient may lead to increased stress and anxiety (5,6). Another challenging aspect of the issue is who is responsible to disclose MEs. It is well known that with respect to preferences and attitudes of the patients towards ME reporting, several benefits are associated with it. However, despite valuable literature in this field, there are still several unanswered questions such as patients' attitude and preferences toward the issue. In general, the issue is very challenging and studies have pointed to the necessity of integrating the concept of the legislation training courses in the curriculum at undergraduate and postgraduate levels, including physicians and nursing (7-9). It should be noted that studies in Iran have also emphasized this issue (10).

Obviously, due to the differences in cultures and beliefs, the findings of other studies could not be translated to other areas. To the best our knowledge, most studies in this field have been conducted in the West and it is the first study in Guilan province that planned to obtain empirical evidence on patients' views on MEs disclosure.

Materials and Methods

After the approval of the study protocol by the Research Ethics Committee, this cross-sectional descriptive study was conducted in academic hospitals affiliated with Guilan University of Medical Sciences (GUMS) (Poorsina; Razi; Alzahra; Amir Al-Momenin; Dr. Heshmat). Firstly, the purpose of the study was explained to the patients and informed consent was obtained.

Inclusion criteria: Guilan resident patients, aged above 18, hospitalized in Guilan academic centers, and being able to communicate.

Exclusion criteria

Difficulties in communication such as different languages or speaking disorders, not agreed to participate and migrated from other areas. The data collection tool was a questionnaire taken from the study of Hammami *et al* (11) which was filled out via a face-to-face interview. The questionnaire was translated from the English version using the backward-forward method and its content validity was confirmed by 10 faculty members. In order to evaluate the stability and clarity of the mentioned questionnaires, the translated version was tested on 30 patients. The questionnaires were divided into four parts including socio-demographic data (gender, age, and level of education and patients' place of residency) and three sections assessing their preferences towards which type of MEs should be disclosed, who is responsible for this task, and in which conditions they sue against the medical team.

Statistical analysis

The achieved data were analyzed by Statistical Package for the Social Sciences software (SPSS) version 21 Armonk, NY: IBM Corp. Frequency, mean and standard deviation were used to describe the data. In order to analyze the data, considering the necessary preconditions, independent T test, chi square and Fisher's exact test were utilized. A p-value of less than 0.05 was considered significant.

Sample size

According to Hammami *et al*'s study reverence (11), in which 22.7% of the participants preferred that minor errors should be reported, and considering 95% confidence interval and a 5% margin of error, a sample size of 270 was calculated.

Results

Finally, the data from 270 patients (60% male), with

the mean age of 39.12±14.5 years were analyzed. Participants with diploma (34.1%), employed (51.9%), married (64.1%) and urban dwellers (81.9%) constituted the highest percentage of the study subjects, and merely 3.3% of patients had a history of complaining against medical team (Table 1). Regarding the provision of ME reports to the patients, 36.6% of the responders selected the item "I prefer to be informed about a ME that occurred during my medical care if it caused a major harm", followed by the option "I prefer to be informed about all MEs that occurred during my medical care even if it did not cause any harm" (29.3%). Considering the responsible person providing the error report, the option "I prefer that the physician who committed the ME, informs me about the ME that occurred to me" (51.5%) was the most chosen answer. The majority of patients (64.1%) stated that "I will complain in case of major harm" (Table 2). There was a statistically significant relationship between patients' preferences regarding the disclosure of MEs according to their individual characteristics such as gender, age, education, and place of residence. As most female patients (39.8), those under 40 years old (36.4), with a diploma (33.7) or university education (52.7), and urban residents (31.2) tended to be aware of medical errors even without any harm. But the majority of men (35.8), individuals over 40 years old (36.1), illiterate (48.7) or less than a diploma (38.5), and rural residents (45.9) tended to be aware of MEs only in case of serious harms. Also, patients who had a history of legal action against doctors, significantly expected more to be aware of MEs even without any harm (77.8) ($p<0.05$) (Table 3). Furthermore, a significant association was found between patients' preferences for the person presenting them the error in terms of gender ($p=0.003$), age ($p=0.001$), education ($p=0.006$), place of residence ($p=0.048$), employment status ($p=0.029$), and marital status ($p=0.001$).

It was also notable that patients with a history of complaining against doctors, significantly more preferred to be informed about the error by the direct manager of the therapeutic team (44.4%), while others believed that at-fault doctor was responsible for this task (52.5%) ($p=0.01$) (Table 4). A statistically significant relationship was observed between reactions of the patients towards disclosure of MEs and their gender ($p=0.001$), age ($p=0.003$), education ($p=0.0001$), place of residency ($p=0.0001$), employment status ($p=0.005$) and history of complaints against doctors ($p=0.036$). As the majority of illiterate individuals (56.4%) stated that they will not complain in any case, but those with higher education stated that they will complain in case of serious harms (Table 5).

Table 1. Demographic data of the responders

Variables	Status	Number (percent)
Gender	Male	162(60)
	Female	108(40)
Age (year)	<40	162(60)
	>40	108(40)
Age (year) Mean±SD (*min-max*)		39.12±14.5 (13-79)
Level of education	Illiterate	39(14.4)
	Elementary-secondary school	65(24.1)
	Diploma	92(34.1)
	University degree	74(27.4)
Employment status	Employed	140(51.9)
	Unemployed	120(44.4)
	Medical staff	10(3.7)
Marital status	Single	94(34.8)
	Married	173(64.1)
	Divorced	3(1.1)
Residency	Urban	221(81.9)
	Rural	49(18.1)
History of complaint against doctors	Yes	9(3.3)
	No	261(96.7)

Discussion

This survey was planned to investigate the views of patients on the pattern of MEs disclosure by medical team, in Guilan; Northern Iran. Studies have shown that physicians' empathic apology when a ME occurs, leads to better patient feeling, as he/she appreciates that the at-fault physician is also suffering. Thus, the suspension and anger of the patients would be smoothened. In fact, an apology that is properly worded and reflects empathy, leads to a better

Table 2. The frequency of patients' preferences regarding disclosure of medical errors

Questions	Patients' preferences	Number (percent)
Which type of error should be disclosed?	I prefer not to be informed about any medical error that occurred during my medical care	20(7.4)
	I prefer to be informed about any medical error that occurred during my medical care	250(96.6)
	I prefer to be informed about a medical error that occurred during my medical care if it caused a major harm	88(32.6)
	I prefer to be informed about a medical error that occurred during my medical care if it caused at least a moderate harm	37(13.7)
	I prefer to be informed about a medical error that occurred during my medical care if it caused any harm, even a minor one	46(17)
	I prefer to be informed about all medical error that occurred during my medical care even if it did not cause any harm	79(29.3)
Who should disclose the error?	Any employee in the hospital can inform me about the medical error that occurred to me	45(16.7)
	Any physician in the hospital can inform me about the medical error that occurred to me	21(7.8)
	I prefer that the physician who committed the medical error informs me about the medical error that occurred to me	139(51.5)
	I prefer that the direct manager of the physician who committed the medical error informs me about the medical error that occurred to me	36(13.3)
	I prefer that the medical director of the hospital informs me about the medical error that occurred to me	10(3.7)
	I prefer that the chief executive director of the hospital informs me about the medical error that occurred to me	19(7)
Under what conditions do you take legal action against the doctor?	I will not complain	44(16.3)
	I will complain in case of major harm	173(64.1)
	I will complain in case of any kind of harm	41(15.2)
	I will complain even if there is no harm	12(4.4)

doctor-patient relationship and forgiveness (12,13). Indeed, compassion is a vital concept that plays an important role in both medical care and ethical issues (14).

In a similar study conducted by Hammami MM *et al* in the Arab population, it was found that 60% of the responders would prefer to be informed about all types of MEs resulting in harm or not, and 4.5% of all believed that MEs disclosure is not necessary and cannot improve the conditions. In addition, 63% of the patients expected that the at-fault physician disclosed the ME and gave them an explanation. They found that older patients significantly preferred that they should be informed of near-miss MEs and the main care physician gave them the required information. In their study, a higher level of education was associated with a greater preference for being informed about MEs (11). Ock M *et al* from Korea reported that 99.9% of the responders believed that MEs should be clearly discussed with the patient and 93.3% wanted to know even about near misses. 96.6% of them stated that MEs disclosure results in patients' safety as physicians pay more attention to the treatment process and 94.1% agreed that they would trust the

Table 3. The frequency of patients responses regarding preferences for disclosure of medical errors according to demographic variables

Variables	Status	Unwillingness to be aware of the medical errors	Willing to be aware of medical errors with major harms	Willing to be aware of medical errors with moderate harms	willing to be aware of medical errors with minor harms	Willingness to be aware of medical error even without harms	p-value
		Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)	
Gender	Male	16(9.9)	58(35.8)	23(14.2)	29(17.9)	36(22.2)	0.02
	Female	4(3.7)	30(27.8)	14(13)	17(15.7)	43(39.8)	
Age (year)	<40	7(4.3)	49(30.2)	20(12.3)	27(16.7)	59(36.4)	0.009
	>40	13(12)	39(36.1)	17(15.7)	19(17.6)	20(18.5)	
Level of education	Illiterate	11(28.2)	19(48.7)	1(2.6)	6(15.4)	2(5.1)	0.001
	Elementary-Secondary school	5(7.7)	25(38.5)	11(16.9)	17(26.2)	7(10.8)	
	Diploma	4(4.3)	29(31.5)	15(16.3)	13(14.1)	31(33.7)	
	University degree	0(0)	15(20.3)	10(13.5)	10(13.5)	39(52.7)	
Employment status	Employed	7(5)	42(30)	28(20)	23(16.4)	40(28.6)	0.09
	Unemployed	13(10.8)	42(35)	9(7.5)	21(17.5)	35(29.2)	
	Medical staff	0(0)	4(40)	0(0)	2(20)	4(40)	
Marital status	Single	5(5.3)	31(33)	8(8.5)	17(18.1)	33(35.1)	0.379
	Married	15(8.7)	56(32.4)	29(16.8)	29(16.8)	44(25.4)	
	Divorced	0(0)	1(33.3)	0(0)	0(0)	2(66.7)	
Residency	Urban	12(5.4)	65(29.4)	37(16.7)	38(17.2)	69(31.2)	0.0001
	Rural	8(16.3)	23(45.9)	0(0)	8(16.3)	10(20.4)	
History of complaints against doctors	Yes	0(0)	0(0)	2(22.2)	0(0)	7(77.8)	0.01
	No	20(7.7)	88(33.7)	35(13.4)	46(17.6)	72(27.6)	

doctors more in this way (15). Norrish *et al* from Oman demonstrated that only 5% of their cases did not want to be informed of MEs. 60% reported that the physician had to inform the patient a ME even without an injury. 27% believed that no type of ME, even serious errors would not be disclosed by the medical team (16). According to Gu *et al*'s study conducted in China, almost all the responders asked to be informed about all types of MEs reached them. They also believed that the guilty physician should give them a complete and detailed explanation, via a face-to-face conversation immediately after the error occurred (17).

Ushie *et al* from Nigeria reported that most of the responders were mistrustful of the MEs disclosure process. The biggest triggers to litigation were the severity of the error and the negligence of the physicians. They stated that disclosure of MEs by physicians reduced the patients' intention to act against them. They also mentioned that financial difficulties and economic problems originated from MEs, lead to legal actions (18). Heidari *et al* from Iran reported that 99.1% of their patients expected to be informed of MEs. Also, 93.1% of them believed that it was the duty of doctors to give them an explanation of the event. They also declared that physicians' honesty

Table 4. Frequency of patient responses regarding their preferences regarding who should disclose errors based on demographic variables

Variables	Status	Any employee in the hospital	Any physician in the hospital	The physician who committed the medical error	Direct manager of the physician who committed the medical error	The medical director of the hospital	chief executive director of the hospital	p-value
		Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)	
Gender	Male	29(17.9)	7(4.3)	83(51.2)	30(18.5)	4(2.5)	9(5.6)	0.003
	Female	16(14.8)	14(13)	56(51.9)	6(5.6)	6(5.6)	10(9.3)	
Age (year)	<40	27(16.7)	7(4.3)	83(51.2)	16(9.9)	10(6.2)	19(11.7)	0.001
	>40	18(16.7)	14(13)	56(51.9)	20(18.5)	0(0)	0(0)	
Level of education	Illiterate	12(30.8)	5(12.8)	19(48.7)	3(7.7)	0(0)	0(0)	0.006
	Elementary-Secondary school	12(18.5)	6(9.2)	41(63.1)	4(6.2)	0(0)	2(3.1)	
	Diploma	12(13)	7(7.6)	43(46.7)	17(18.5)	6(6.5)	7(7.6)	
	University degree	9(12.2)	3(4.1)	36(48.6)	12(16.2)	4(5.4)	10(13.5)	
Employment status	Employed	23(16.4)	5(3.6)	73(52.1)	26(18.6)	6(4.3)	7(5)	0.029
	Unemployed	22(18.3)	14(11.7)	60(50)	10(8.3)	4(3.3)	10(8.3)	
	Medical staff	0(0)	2(20)	6(60)	0(0)	0(0)	2(20)	
Marital status	Single	10(10.6)	3(3.2)	53(56.4)	9(9.6)	9(9.6)	10(10.6)	0.001
	Married	35(20.2)	18(10.4)	83(48)	27(15.6)	1(0.6)	9(5.2)	
	Divorced	0(0)	0(0)	3(100)	0(0)	0(0)	0(0)	
Residency	Urban	32(14.5)	18(8.1)	110(49.8)	34(15.4)	10(4.5)	17(7.7)	0.048
	Rural	13(26.5)	3(6.1)	29(59.2)	2(4.1)	0(0)	2(4.1)	
History of complaints against doctors	Yes	0(0)	0(0)	2(22.2)	4(44.4)	1(11.1)	2(22.2)	0.01
	No	45(17.2)	21(8)	137(52.5)	32(12.3)	9(3.4)	17(6.5)	

and planning to treat the complication were the two main factors preventing them from dealing legally with doctors (19). As mentioned above, the results of studies are not the same. It should be noted that area-specific situations were important and the studied population was different in terms of beliefs and culture. Furthermore, the study questionnaires and the way of filling them were among the influential factors. Obviously, a direct interview at the right time by an expert, results in more accurate findings, compared to sending the questionnaire by e-mail. Moreover, the attitude of patients exposed to MEs differs from other individuals according to their previous experiences. Whether the physician at fault had empathetically communicated with the real victims and attempted to treat the complication or who ignored the error with

Table 5. The frequency of patients responses regarding their reactions in case of disclosure of medical errors based on demographic variables

Variables	Status	I will not complain	I will complain in case of major harm	I will complain in case of any kind of harm	I will complain even if there is no harm	p-value
		Number (percent)	Number (percent)	Number (percent)	Number (percent)	
Gender	Male	25(21.6)	105(64.8)	19(11.7)	3(1.9)	0.001
	Female	9(8.3)	68(63)	22(20.4)	9(8.3)	
Age (year)		16(9.9)	108(66.7)	30(18.5)	8(4.9)	0.003
		28(25.9)	65(60.2)	11(10.2)	4(3.7)	
Level of education	Illiterate	22(56.4)	13(33.3)	4(10.3)	0(0)	0.0001
	Elementary-Secondary school	10(15.4)	47(72.3)	7(10.8)	1(1.5)	
	Diploma	5(5.4)	64(69.6)	15(16.3)	8(8.7)	
	University degree	7(9.5)	49(66.2)	15(20.3)	3(4)	
Employment status	Employed	27(19.3)	95(67.9)	18(12.9)	0(0)	0.005
	Unemployed	15(12.5)	72(60)	21(17.5)	12(10)	
	Medical staff	2(20)	6(60)	2(20)	0(0)	
Marital status	Single	11(11.7)	60(63.8)	19(20.2)	4(4.3)	0.423
	Married	33(19.1)	110(63.6)	22(12.7)	8(4.6)	
	Divorced	0(0)	3(100)	0(0)	0(0)	
Residency	Urban	23(10.4)	147(66.5)	39(17.6)	12(5.4)	0.0001
	Rural	21(42.9)	26(53.1)	2(4.1)	0(0)	
History of complaints against doctors	Yes	0(0)	5(55.6)	2(22.2)	2(22.2)	0.036
	No	44(16.9)	168(64.4)	39(14.9)	10(3.8)	

no apology drew different responses. Finally, due to the extremely limited literature in our country, more studies are welcomed to answer many questions, such as how much empathy and attempt of physician to apology work, in other words, how much sympathy and regret of the doctor is reasonable.

Limitations

This study took place at academic centers and the private sector was excluded; hence our findings could not be generalized. Moreover, we did not compare individuals who were actually exposed to MEs with those who were randomly interviewed. Definitely, the attitude of a patient who himself or a close relative has been affected by MEs is very different from a person who imagines how would react in that situation. Due to the lack of similar studies in our country let alone in Guilan province, we could not compare these findings with other studies. Furthermore, we could not compare patients' preferences and wishes toward ME disclosure with the actual performance of physicians to discover the real gaps in this field.

Conclusion

The outcomes of this survey provide evidence of how patients react to MEs and their main expectations. This opens up a picture for caregivers to better communicate with patients. Further well-planned

studies are strongly recommended to limit the gap between patients' wishes and expectations toward MEs disclosure and clinicians' professionalism in the real world.

Acknowledgement

The authors would like to thank members of the Anesthesiology Research Center, Guilan University of Medical Sciences, Mohadese Ahmadi, and Mahin Tayefeh Ashrafie, for their collaboration in this study. This study protocol was approved by the Research Ethics Committee of the Guilan University of Medical Sciences: (Ref: IR.GUMS.REC.1401.547).

Conflict of Interest

The authors declared no conflict of interest.

References

1. Grober ED, Bohnen JM. Defining medical error. Can J Surg 2005;48(1):39.

2. Ebrahimi S, Tabei SZ, Kalantari F, Ebrahimi A. Medical interns' perceptions about disclosing medical errors. Educ Res Int 2021;2021:1-10.

3. Rodziewicz TL, Hipskind JE. Medical error prevention. StatPearls [Internet] Treasure Island (FL): StatPearls Publishing; 2020.

4. Wojcieszak D. How will state medical boards handle cases involving disclosure and apology for medical errors? J Patient Safety Risk Manag 2022;27(1):15-20.

5. Hamilton EC, Pham DH, Minzenmayer AN, Austin MT, Lally KP, Tsao K, et al. Are we missing the near misses in the OR?-underreporting of safety incidents in pediatric surgery. J Surg Res 2018;221:336-42.

6. Elkhider S, Savage BM. Missing chances to learn: a case study of barriers to near-miss reporting in a hospital. Business Proc Manag J 2020;26(3):721-35.

7. Fowler GE, Vivekananda-Schmidt P. Clinicians' perspectives on the duty of candour: Implications for medical ethics education. Clin Ethics 2017;12(4):167-73.

8. Ottewill M, Vaughan C. Being open with patients about medical error: challenges in practice. Clin Ethics 2010;5(3):159-63.

9. Aly NA, El-Shanawany SM, Ghazala AM. Ethico-legal aspects and ethical climate: managing safe patient care and medical errors in nursing work. Clin Ethics 2020;15(3):132-40.

10. Amini H, Rezapour R, Akbari ZD, Bakhshi F, Khodayari R, Amini B, et al. Iranian medical residents' professionalism: a peer assessment study. Clin Ethics 2020;15(1):17-22.

11. Hammami MM, Attalah S, Al Qadire M. Which medical error to disclose to patients and by whom? Public preference and perceptions of norm and current practice. BMC Med Ethics 2010;11:1-11.

12. Carmack HJ. A cycle of redemption in a medical error disclosure and apology program. Qual Health Res 2014;24(6):860-9.

13. Dahan S, Ducard D, Caeymaex L. Apology in cases of medical error disclosure: thoughts based on a preliminary study. PLoS One. 2017;12(7):e0181854.

14. Fairchild A. The role of compassion in ethical frameworks and medical practice. Clinical Ethics 2021;16(4):302-6.

15. Ock M, Jo MW, Choi EY, Lee SI. Patient safety incidents reported by the general public in Korea: a cross-sectional study. J Patient Saf 2020;16(2):e90-e6.

16. Norrish MI. Disclosure of medical errors in Oman: public preferences and perceptions of current practice. Sultan Qaboos Univ Med J 2015;15(2):e283.

17. Gu X, Deng M. How to make a medical error disclosure to patients? 2019 IEEE Int Conf Industr Engineer Engineer Manag (IEEM); 2019: IEEE.

18. Ushie B, Salami K, Jegede A, Oyetunde M. Patients' knowledge and perceived reactions to medical errors in a tertiary health facility in Nigeria. Afr Health Sci 2013;13(3):820-8.

19. Heidari A, Razaghi M, Asghari F. Public preferences and attitudes towards the disclosure of medical errors: a survey in Iran. J Med Ethics Hist Med 2018:11:8.