



Research Article

Medical Errors from Healthcare Professional's Perspective at a Tertiary Hospital, Riyadh, Saudi Arabia

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Abstract

Objective: This study aimed to investigate the perspective and attitude of healthcare professionals toward medical errors.

Method: Cross-sectional study used to assess the knowledge on medical errors and attitude of staff towards adverse events by using a self-administered questionnaire.

Setting and Participants: a random sample of health care providers in a tertiary hospital, Riyadh in Saudi Arabia.

Results: 75% and 72%, respectively of the respondents agreed that their fear of losing their jobs and punishment might prevent them from reporting an error, and (68%) of respondents agreed on the fear of legal issues after reporting.

Conclusions: medical errors reporting should be as easy as possible, anonymous and confidential, staff development about the various issues related to medical errors, particularly defining and reporting these errors, provide intensive training of health providers on medical errors, and provide ongoing feedback on what is being done with medical errors.

Keywords: Medical errors; Healthcare

Introduction

Improving the quality of health care is a global concern and a priority today for all health care institutions. Quality problems are reflected in the wide variation in use of health care services, the underuse and overuse of some services, and misuse of others [1,2]. Safety is an issue for all countries that deliver health services and seek healthcare quality; it is the fundamental cornerstones of the health care system. If care is not provided in a safe manner in a safe environment, the chances of a positive outcome are lessened significantly [3]. As noted in the Institute of Medicine's publication, crossing the Quality Chasm "Patient should not be harmed by the care that is intended to help them, nor should harm come to those who work in healthcare" [4].

While the goal is to provide safe healthcare at all times, it is clearly recognized that humans provide care and that errors can and do occur. Thus, the goal must be to prevent harm from reaching patients and those involved in providing care to those patients. To do that requires everyone to be involved in identifying opportunities where patient care can be made safer. It also requires that everyone be continuously involved in learning from medical errors [5].

The World Health Organization (WHO) defines the medical error as any preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or another ailment. A medical error occurs when a healthcare provider chooses an inappropriate method of care or improperly executes an appropriate method of care. Medical errors are often described as human errors in healthcare. Nevertheless, medical error definitions are subject to debate, as there are many types of medical error from minor to major, and causality is often poorly determined. There is much taxonomy for classifying medical errors

However, Medical errors are among the most prevalent health errors threatening patients' safety and are regarded as an index for determining patients' well-being in hospitals. Patient safety and medical errors are two important topics in health care, and recognition of the factors contributing to the latter may decrease their frequency and consequently improve patient safety and the quality of care [6]. Since the prevention or reduction of serious medical errors have been a concern of health professionals, in this research we will concentrate on eight dimensions affecting the perception of medical errors from the perspective of healthcare professionals. These eight dimensions include causes of medical errors, factors influencing the reporting process of medical errors, characteristics of the ideal reporting system, sophisticated measures to reduce medical errors, the disclosure of medical errors, apologizing attitude for medical errors, healthcare professionals' personal experience with medical errors, and patient safety perception.

The main objective of this study is to examine the perspective of healthcare professionals toward medical errors. Another purpose is to survey the attitude of healthcare professionals and their thoughts about medical errors.

Methods

The method of this research is descriptive cross-sectional study using self-administrator questionnaire. A self-administered questionnaire assessing knowledge on medical errors and attitude of staff towards adverse events was distributed on a random sample of 100 health care professional working in different departments at a tertiary hospital Riyadh, Saudi Arabia.

The perspective of health care professionals has been measured through their answers on questions that cover eight dimensions. Likert scale of three been used as follow (agree, neutral and disagree), The criterion for the scale used in the research is by specifying the agreeing degree to an item through computing the arithmetic mean as follow; If the mean value range between 3.41 and 5 represent was agree, If the mean value range between 2.60-3.40 represent was Not Sure and If the mean value range between 2.61-1 represent was Disagree.

To assure the validity of the research questionnaire the following procedures been conducted; review of Literature: A review of relevant

literature, and previous instruments were examined to develop the first draft of the questionnaire, reviewed by three healthcare professionals holding PhD degree, the head of Research Centre, the head of quality department in the study hospital and a pharmacist, and The researcher distributes the questionnaire to a group of arbitrators in the same specialization and faculty staff to adjust the statements and the appropriateness of each statement for its factors to be valid.

Regarding The reliability of the study's instrument, the researchers measured the stability of the Questionnaire Using a pilot sample of 30 persons, using the correlation coefficient, where the correlation coefficient of Pearson was (0.853) which is highly significant at the level of (0.01>0.05) and indicate that the Questionnaire has a high degree of stability, and were between (0.365 and 0.664) for the factors. The internal consistency of the Questionnaire (homogeneity of statements for its factor) calculated by using Cronbach's alpha coefficient and it is equal to (0.837), for the whole questionnaire and of the factors were between (0.802 and 0.841).

To achieve the objectives of the study and analyze the collected data, the researchers used many appropriate statistical methods by using the Statistical Package for Social Sciences (SPSS). The following Statistical methods were calculated; Person Correlation coefficient to reveal the validity of the internal consistency of the study's instrument, as well as to find out the relation between each statement and the total mark of the axis which it belongs to, Cronbach's alpha to reveal the reliability of the study's instrument, The frequencies and percentages to identify the personal and professional characteristics of the respondents, as well as determine their responds about the main statements of the axes contained in the study's instrument, The mean: to recognize high and low responds of the respondents about the main axes (average of statements' means), knowing that, and the mean is vital in calculating the highest mean, Standard Deviation was used to identify the degree of responds' deviation for each statement of the study's variables, and for each axis of the main axis, and Simple regression coefficient.

Results

The demographic distribution of the sample (Table 1) showed that the total number of the study sample was (100) the majority were (68%) females and (32%) male, most of the respondents (30%) are nurses, while there are (26%) physicians and the other profession (31%) were administrators, nutritious, dentist, sonographer, radiographer, physical therapist, optometrist, coordinator, medical documenter, and infection control professionals. More than half of the sample (55%) has bachelor degree, while there is (25%) holding master's degree, and there are (7%) have diploma, while there are (8%) with Ph.D. and the vast majority of the respondents (56%) have a work experience for more than 6 years.

Figure 1 shows the distribution of the respondents according to where do they think most of medical errors occur at, where (39%) of respondents think that medical errors happen in the emergency, while there are (23%) said they occur in clinics, and (19%) said in the operating room, but (19%) of respondents mentioned other different places such as; wards, inpatient units, ICU, and critical care units.

The perspective of the respondents about the main causes of medical errors, the majority (83%) agreed on miscommunication between health care providers and patients as the main cause, followed by (81%) agreed that the high patients' rate and heavy workload cause

medical errors, and (77%) of the respondents agreed that long working hour is the third cause of medical errors.

	Health care professionals	
	N= 100	%
Gander	32	32
Male	68	68
Female	26	26
Profession	1	1
Physician	12	12
surgeon	30	30
Pharmacist	31	31
Nurse	10	10
Other	38	38
Age	19	19
22-27	33	33
28-33	7	7
34-39	55	55
40 and above	25	25
Educational degree	8	8
Diploma	5	5
Bachelor	21	21
Master	23	23
Doctorate	56	56
Other		
Experience		
1-3		
4-6		
More than 6		

Table 1: Demographic distribution of the study sample.

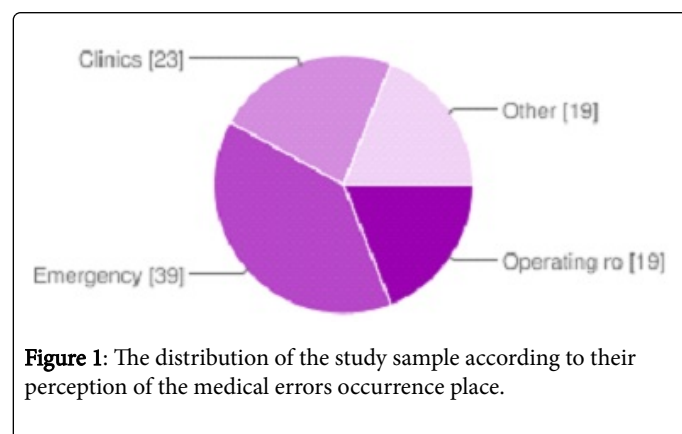


Figure 1: The distribution of the study sample according to their perception of the medical errors occurrence place.

When we asked the respondents about the most beneficial measures to reduce medical errors from their point of view, (94%) agreed on presenting safety awareness education and conferences, (92%) agreed on developing an alert system, and (90%) agreed on providing a list of high-alert medications, applying a route cause analysis system, and having a critical incident monitoring (Table 2).

Statement	Agree %	Neutral %	Disagree %	Mean	S.D.
Main causes of medical errors:					
Long work hours.	77	18	5	4.14	0.853
High patient/workload.	81	13	6	4.11	0.886
Inadequate records.	62	20	18	3.73	1.072
Insufficient information about patient.	68	19	13	3.91	1.036
Read the prescripts/orders inaccurately.	65	20	15	3.8	1.064
Sending wrong medication and dosages from the pharmacy.	52	26	22	3.51	1.087
Inappropriate environment.	54	27	19	3.55	1.104
Miscommunication between healthcare providers & patients.	83	13	4	4.21	0.820
Non-compliance with policies & procedures.	70	18	12	3.92	1.032
Few resources allocated to the hospital.	52	25	23	3.48	1.210
Average				3.836	0.718
Measures to reduce medical errors:					
Critical incident monitoring.	90	7	3	4.31	0.734
Safety awareness education/conferences.	94	5	1	4.42	0.638
Route causes analysis system.	90	9	1	4.34	0.685
Updated knowledge in patient safety measures.	89	11	0	4.32	0.665
Medical errors to be noted in the personal profile.	48	21	31	3.31	1.22
Ideal incidents reporting program.	84	10	6	4.11	0.886
A list of high-alert medications.	90	7	3	4.32	0.777
Developing an alert system.	92	7	1	4.42	0.669
Average				4.193	0.562
Perspective on disclosure of errors:					
Patient should be informed of any error that caused harm.	81	13	6	4.41	0.865
Patent's family should be informed about any error that caused harm.	77	18	5	4.08	0.895
Communication between patient and healthcare professional is important during delivering the case.	89	9	2	4.35	0.730
Miscommunication can occur between patient and healthcare provider.	88	9	3	4.29	0.756
Average				4.215	0.661
Approaches in apology after medical errors:					
Recognition of medical error	94	4	2	4.36	0.659
Feeling regret	79	17	4	4.13	0.837
Expressing responsibility for the medical error	80	13	7	4.17	0.943
Providing remedy	83	14	3	4.24	0.878
Remaining engaged with the patient	78	18	4	4.12	0.844
Average				4.204	0.676

Table 2: Distribution of the study sample according to their perception of medical errors.

Table 3 indicates the distribution of the study sample according to their perception and experience of reporting. (75% and 72%, respectively) of the respondents agreed that their fear of losing their jobs and punishment might prevent them from reporting an error, and (68%) of respondents agreed on the fear of legal issues after reporting.

On the other hand, (69%) agreed that anonymity of the report can positively influence the reporting of errors. Regarding the perspective of health care professionals towards the characteristics of the ideal reporting system, the responses were convergent on this dimension.

The majority of the respondents (95%) agreed on developing a policy to promote medication safety, (90%) agreed on having a

confidential reporting system in the hospital and demanded to allow feedback to individuals and the organization.

When we asked the respondents about their actual experience of reporting medical errors, (77%) agreed that they know how to report them and they know what kind of medical error should be reported, (42%) agreed and admitting that they have made a mistake which caused discomfort and reported it to their institutions, (46%) have get training in reporting and maintaining medical errors, and (36%) failed to report a medical error because they didn't know the correct reporting mechanism.

Regarding the perspective of the respondents on disclosure of errors (89%) agreed on the importance of communication between patients and health care professionals during delivering a case, (79%) of

respondents feeling regret and remaining engaged with the patient as an approach in apology after medical errors (Table 3).

Statement	Agree %	Neutral %	Disagree %	Mean	S.D.
Factors influencing medical errors reporting:					
Lack of clear definition of the term medical error.	59	21	20	3.53	1.114
Fear/Concerns of punishment.	72	13	15	3.98	1.101
Fear of legal issues after reporting.	68	17	15	3.91	1.102
Reporting mechanisms.	61	29	10	3.76	1.006
Reporting medical error will make others underestimate one's capability.	72	17	11	3.88	1.028
Medical error is preventable.	70	22	8	3.91	0.911
Time involved in documenting an error.	71	16	13	3.79	0.924
Losing credibility.	67	21	12	3.81	0.961
Fault management /lack of support.	70	18	12	3.92	1.002
Fear of losing a job.	75	10	15	3.98	1.128
The anonymity of the report.	69	24	7	3.84	0.918
Forgotten to report.	50	26	24	3.41	1.074
Average				3.81	0.637
Characteristics of the ideal reporting system:					
Confidential reporting system	90	5	5	4.47	0.81
Non-punitive reporting system	76	15	9	4.08	1.05
Blame free reporting	71	19	10	4.05	1.04
To follow every step in the chain of handling of errors	93	7	0	4.35	0.60
Perform risk analysis	89	10	1	4.41	0.71
Be supported by the entire healthcare community	83	12	5	4.24	0.88
Policy to promote medication safety	95	4	1	4.46	0.67
Allows feedback to individuals and the organization	90	9	1	4.46	0.70
Average				4.315	0.59
Actual experience of reporting medical errors:					
I Know how to report medical errors.	77	13	10	4.36	0.659
I know what kind of medical error should be reported.	77	14	9	4.13	0.837
When disclosing the medical error, I am concerned about professional discipline.	67	24	9	4.17	0.943
Reporting medical error isn't worth my time because my action can't change.	21	15	64	4.24	0.878
I have failed to report an error because I didn't think the error was serious to warrant reporting.	25	22	53	4.12	0.844
I have failed to report an error because I didn't know the correct reporting mechanism.	36	13	51	4.204	0.676
I have failed to report an error because I didn't know the correct reporting mechanism.	46	23	31	3.99	0.959
I have to get training in reporting & managing medical error.	42	16	42	3.98	0.932
I have made a mistake that caused discomfort, and I reported it to my institution.				3.215	0.651
Average					

Table 3: Distribution of the study sample according to their perception and experience of reporting.

When it came to patient safety perception, (90%) of the respondents agreed that each individual in a clinical area take responsibility for patient safety, (89%) agreed that patient safety is constantly reinforced

as the priority in the clinical area, and (72%) agreed that leadership is driving them to be a safety-centered institution (Table 4).

Statement	Agree %	Neutral %	Disagree %	Mean	S.D.
Leadership is driving us to be a safety-centered institution.	79	19	2	4.11	0.777
Most adverse events occur as a result of multiple system failures and are not attributable to one individual's action.	67	21	12	3.8	0.985
Each individual in a clinical area takes responsibility for patient safety.	90	6	4	4.3	0.870
Patient safety is constantly reinforced as the priority in the clinical area.	89	5	6	4.22	0.799
Medical errors are handled appropriately in the clinical area.	62	27	11	3.75	1.03
Average				4.036	0.613

Table 4: Distribution of the study sample according to their perception of patient safety.

Discussion

The findings of this study provide insights into the main causes of medical errors from the perspective of health care professionals at a tertiary hospital, Riyadh. It shows that 81% of the respondents said that high patient rate and the workload is the main reason for medical errors. This finding is supported by the previous studies [7-9] that were conducted to determine the most contributing factors to medical errors. The top cause was heavy workload as well. Furthermore, 77% of respondents in our study agreed on that long working hours is one of the main causes of medical errors as the previous study [10,11], the result of 939 responses in their study indicated that long working hours and heavy workload again are the higher reasons for medical errors.

Safety awareness education is the main contributing measure to reduce medical errors as showed in our study by 94% participants. 75% of the participants in the previous studies [12] strongly agree to the fact that continuous education and up to date information are necessary to avoid medical errors. Also, other studies argued that the education programs should be implemented to encourage physicians to report errors and therefore reduce them. Well education and continuous training to reduce the rate of medical errors are recommended [13-15].

The preferable approach in apology after medical errors is the recognition of the error by 94% of the participants in our study. The study recommended that recognition of medical errors may decrease their frequently and consequently improve patient safety and the quality of care [16].

One of the main factors influencing reporting of medical errors in our study is fear of punishment with 72% as per the previous study conducted to explore medication errors reporting rate and its barriers. Studies revealed that fear of being punished are one of the main barriers to reporting medical errors [17,18].

The limitation of the presented study was time Limitations; the study has taken place in the second semester of the school year 1436-1437H, 2015G.

Conclusion

The dimensions outlined in this study can assist any organization in improving the perspective of medical errors causes, reporting, disclosure, apology and ultimately patient safety enhancement. Although the specific factors affecting the adverse events may vary among healthcare organizations, the process used in identifying the factors that developed in this study are easily adaptable to any organizational setting. From the findings of the study the researchers recommending the following: medical errors reporting should be as

easy as possible, anonymous and confidential, staff development about the various issues related to medical errors, particularly defining and reporting these errors, provide intensive training of health providers on medical errors, and provide ongoing feedback on what is being done with medical errors.

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