

Barriers and Strategies of Reporting Medical Errors at Benghazi Medical Center: A Cross- Sectional Study in Benghazi City , Libya

ABSTRACT

Background: Reporting medical errors (MEs) prevents potential harm to the patient. This is while patient safety is a major priority in the health system and focuses on the goal of preventing medical errors before these errors cause death, injury or harm to the patient so medical errors are one of the major factors affecting the quality of hospital services and reducing patient safety in health care systems.

Aims: To study the Barriers and Strategies For Reporting Medical Errors (MEs) atBenghazi Medical Center (BMC).

Methods: A cross sectional study was conducted using a validated questionnaire with some change, fromAugust to October 2021 in Benghazi Medical Center.The number of sample was 500, where 280 doctors and nurses 220, 142 of them were male and 359 were female.

Results: 219 of nurses and 281 of Physicians from the sample stated that reporting medical errors was inadequate. The highest mean for measuring the barriers that prevent the reporting of medical errors was 3.4749 for nurses, and 3.6263 for physicians , which represents medical errors reporting are inadequate. Whilemeasuring Strategies for Improving Reporting of medical errors was 4.5662 for nurses , and 4.7794 for Physicians, which representsThere should be clearguidelines and procedures to reporting errors.

Conclusion:The highest measuring the barriers that prevent the reporting of medical errors was the complexity of the work, while the highest measure in the strategy to improve the reporting system was the necessity of having clear controls and procedures for reporting medical errors.

Keywords: Reportingmedical errors,Reporting Medical ErrorsBarriers , strategy improving reporting medical errors.

1-INTRODUCTION

Hospitals are among the most crucial settings for the delivery of healthcare services and the practice of medicine, and they typically expand In order to run and manage these various expectations of the hospital, which come from the large number of patients they receive, they must use methods or functions that help them achieve their objectives [1] . The objective Whether it is obvious or damaging to the patient, a medical error (ME) is a preventable unfavorable result of medical treatment is a significant public health issue that could endanger patient safety [2]. At the moment,eliminating medical errors is a global problem [3]. It is a breach of the care protocol that might or might not have consequences [4].

Any healthcare process will inevitably contain some errors [5]. It could happen at any stage of the medical procedure and lead to severe problems. These mistakes endanger the health and wellbeing ofpatients, and their recurrence lowers the standard oftreatment delivered [6].To reduce error rates to the absolute minimum is the problem [5] . An important topic frequently addressed in ethical and professional guidelines is the disclosure ofmedical errors (MEs). It permits prompt and proper treatment of numerous unforeseen events andupholds patient and healthcare provider trust [7]. Methods that might be employed to lessen and stop prospective ME instancesEncouragement of incident reporting, consultation with more knowledgeable andexperienced colleagues during uncertain procedures, teaching patients about the use and effects ofvarious medications, and teamwork with colleagues to enhance service delivery are some of the initiatives that can be modified to reduce MEs.Theparticipants named a number of strategies that healthcare organizations might employ to stop potential MEs in service delivery in the future [8].

Medical errors (MEs) definition as errors made by medical experts that damage people rather than benefit them there will always be medical mistakes of all types, and they can happen at any point during the course of treatment [9]. Management of medical errors can be approached from two different angles: the individual and the system approaches. The individual approach emphasizes individual mistakes and attributes them to forgetfulness, carelessness, or moral apathy. The system approach focuses on the circumstances in which people operate and attempts to create barriers to prevent errors or lessen their effects [9]. Indicated in the preceding sentence, nurses noted that one of the probable reasons of medical errors is having obligations unrelated to their employment [10].

The Barriers definitions as Fear of being blamed for the error is by far the most reported fear, providers reported fear of losing one's job, fear of patient's or family's response to the ME, fear of being recognized as incompetent, fear of legal consequences, fear of punishment, and fear of losing respect by coworkers were also commonly reported [11].

The majority of errors happened during the morning shift, which maybe related to the fact that employees are under more pressure and must complete their work more quickly during this period.

Time-consuming has been noted that a busy work schedule and a heavy workload are key reasons for underreporting. Additionally, reporting itself takes time and is difficult. paper-based and computerized reporting techniques both require a lot of time, time restrictions were cited as a deterrent to reporting ME by physicians more often than by nurses [12].

Strategy definition as a step managers take to fulfill one or more of the objectives of the company. A overall direction established for the business and its numerous parts to achieve a desirable condition in the future is another definition of strategy. The process of meticulous strategic planning yields strategy.

It outlines an organization's overall goal, vision, and course. The goal of a strategy is to maximize an organization's strengths and reduce competition strengths. [13].

2. METHODS

2.1 Study Setting

The study was conducted at Benghazi Medical Center (BMC) in Benghazi City, Libya

2.2 Study Design

This study was designed as a cross-sectional study.

2.3 Study Population

The study population comprised from all physicians and nursing in department's at Benghazi Medical Center during the period between (August to October /2021), where the number of sample was 500, 280 of them were physicians, and 220 were nurses.

2.4 Sample Collection

The data collection tool was the questionnaire, this questionnaire was developed through literature review [10], the questionnaire was included three section:

Section one: It was consisted of questions about social demographic data of doctors and nursing (age, gender, education level, occupation, nationality, years of experience, system for reporting medical errors).

Section two: Included "13" items to barriers preventing reporting medical errors.

Section three: Included "8" items to strategies improving reporting medical errors.

2.5 Statistical Analysis

After data collected it was revised, coded and fed to statistical software "SPSS" version 23, the quantitative variable were presented as means, standard deviations, and percentages.

Reliability for all statement was examined by Cronbach's Alpha in this study are 790 implies that the instrument is highly reliable 79%.

3. RESULTS

Table 1 shows the demographic characteristics of the participants. The results indicate that the majority of sample were Libyan (95.4%). The gender distribution was also significantly different between the two groups, with a higher percentage of females (71.8%). 43.8% refers to the highest aged group from age category (31-40) years. Most of the participants have got bachelor degree (49.4%). 56.2% were physicians. 69.2% of study population have work experience up to 10 years.

Table (1): The demographic characteristics of the participants (N=500)

Demographic Characteristics	Frequency	Percent%
Gender		
Male	141	28.2%
Female	359	71.8%
Nationality		
Libyan	477	95.4%
Non-Libyan	23	4.6%
Age Category (Years)		
20-30	204	40.8%
31-40	219	43.8%
41-50	58	11.6%
>50	19	3.8%
Occupation		
Nurses	219	43.8%
Physicians	281	65.2%
Education Level		
Highschool	36	7.2%
Diploma	139	27.8%
Bachelors	247	49.4%
Master	26	5.2%
PhD	31	6.2%
Other	21	4.2%
Experience (Years)		
0-10	346	69.2%
11-20	101	20.2%
21-30	47	9.4%
>30	6	1.2%

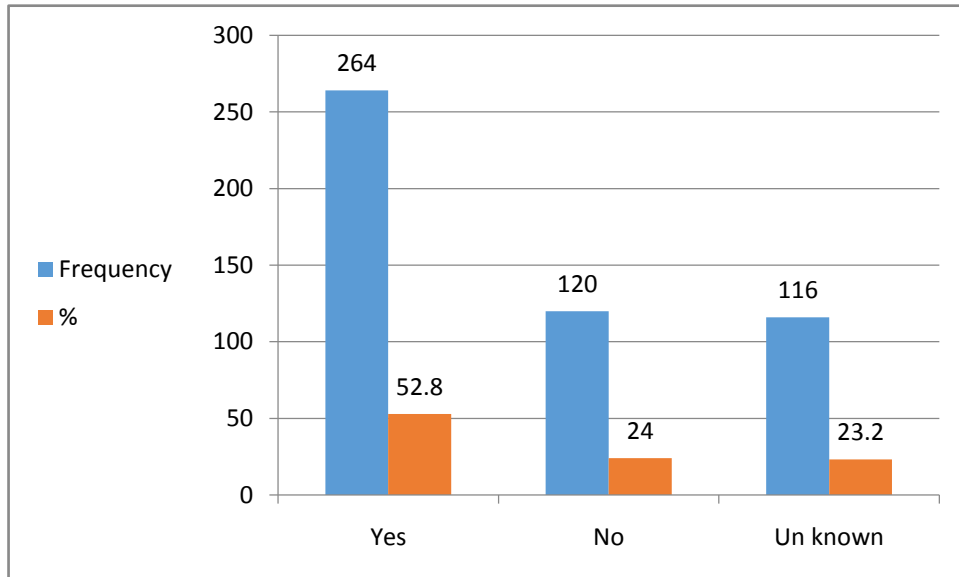


Figure 1: System of Reporting Medical Errors

Figure (1) shows the participants opinions regarding the current system for reporting medical errors at Benghazi Medical Centre (BMC).

The figure indicated that most of the participants stated that they have a reporting system for medical errors, representing 52.8% as compared to only 24% claiming that they don't have an error-reporting system, while the rest don't know.

Table (2) presents the measuring the barriers that prevent nurses from reporting the medical errors. It can be seen that the participants vary in responding to the barriers which prevent reporting the medical errors with the mean range from $\mu=3.47$, stated " Medical reports are insufficient "to $\mu=2.29$, stated "the reporting of medical errors was unimportant" which was the lowest mean. This statistical ranking could provide us an initial list for barriers treatment.

Table2:Measuringthebarriersthatpreventthereportingofmedicalerrors (Nurses)

DescriptiveStatistics^a			
	N	Mean	Std.Deviation
Fearofbeingblamed	21 9	2.890 4	1.4579 3
Fearofbeingpunished.	21 9	2.744 3	1.4330 3
Difficultyinfillingtheform.	21 9	2.995 4	1.4351 3
Lackofknowledgeofwhatweshouldreport.	21 9	3.137 0	1.3745 6
Medicalerrorsreportingareinadequate.	21 9	3.474 9	1.3923 3
Lackproceduresonreportingmedicalerrors	21 9	3.264 8	1.4473 0
Complexityofwork.	21 9	3.305 9	1.4150 3
Medicalerrorsinsuranceloadtodecr easemedicalerrorsreporting.	21 9	3.305 9	1.4279 4
Lackoftime.	21 9	2.315 1	1.2289 7
Somemedicalerrorsaretrivialtoreport.	21 9	2.292 2	1.3155 7
Reportingerrorsisn'tmyresponsibility.	21 9	2.516 0	1.3557 5
Reportingerrorswillnotmakeany improvement.	21 9	2.958 9	1.4786 4
Reportingerrorsisnotapriority.	21 9	2.369 9	1.3011 0
ValidN(list wise)	21 9		

Table (3) also presents the measuring the barriers that prevent physicians from reporting the medical errors. It can be seen that the participants vary in responding to the barriers which prevent reporting the medical errors with the mean range from $\mu=3.62$, stated " Medical reports are insufficient " to $\mu=2.028$, stated "the reporting of medical errors was unimportant" which was the lowest mean. This statistical ranking could provide us an initial list for barriers treatment.

Table3:Measuringthebarriersthatpreventthereportingofmedicalerrors (Physicians)

	N	Mean	Std.Deviation
Fearofbeingblamed	28 1	3.096 1	1.5052 4
Fearofbeingpunished.	28 1	3.010 7	1.4820 0
Difficultyinfillingtheform.	28 1	2.918 1	1.3243 8
Lackofknowledgeofwhatweshould report.	28 1	3.145 9	1.3535 9
Medicalerrorsreportingareinadequate.	28 1	3.626 3	1.2331 2
Lackproceduresonreportingmedicalerrors.	28 1	3.516 0	1.3524 8
Complexityofwork.	28 1	3.523 1	1.3012 4
Medicalerrorsinsuranceloadtodecrease medicalerrorsreporting.	28 1	3.192 2	1.3622 8
Lackoftime.	28 1	2.174 4	1.1283 0
Somemedicalerrorsaretrivialtoreport.	28 1	2.028 5	1.1048 1
Reportingerrorsisn'tmyresponsibility.	28 1	2.345 2	1.2976 8
Reportingerrorswillnotmakeany improvement.	28 1	2.907 5	1.4657 9
Reportingerrorsisnotapriority.	28 1	2.042 7	1.1204 1
ValidN(list wise)	28 1		

To move to the second issue which is the possible strategies that might help improving reporting MEs, it can see from Table(4) that the participants agreed to the idea of the proposed strategies take the mean range from $\mu= 4.566$ for "thereshouldbeclear evidenceandproceduresformedicalerrors",to $\mu= 2.365$ for "Errorreportingshouldnotbeusedagainststhenurseor doctor",indicating the possibility of using such proposed strategies on the way to improving the reporting of the medical errors.

Table4:MeasuringStrategiesforImprovingReportingofMedicalErrors (Nurses)

DescriptiveStatistics ^a			
	N	Mean	Std.Deviation
Thereshouldbeclear guidelinesandproceduresreportingerrors.	21 9	4.566 2	.7892 3
Formsandother documentationshouldbe clear.	21 9	4.420 1	.7937 6
Staffshouldbetrainedonreportingmedicallerrors.	21 9	4.461 2	.7244 7
Staffshouldalwaysbe encouragedtoreportmedicallerrors.	21 9	4.465 8	.7970 5
Reportingerrorsshouldbemandatory.	21 9	4.296 8	.9993 3
Staffshouldalwaysbe providedbyfeedbackon what hasbeenreported.	21 9	4.447 5	.7172 4
Usecomputerizedsystem; and/or.	21 9	3.945 2	1.1197 6
Reportingerrorsshouldn'tbeusedagainstreporters.	21 9	2.365 3	1.3760 3
ValidN(list wise)	21 9		

Table 5 also displays measuring strategies for improving reporting of medical errors among physicians. The participants agreed to the idea of the proposed strategies take the mean range from $\mu = 4.779$ for "There should be clear evidence and procedures for reporting errors", to $\mu = 2.359$ for "Error reporting should not be used against the nurse or doctor", also demonstrating the possibility of using such proposed strategies on the way to improving the reporting of the medical errors.

Table 5: Measuring Strategies for Improving Reporting of Medical Errors (Physicians)

Descriptive Statistics ^a			
	N	Mean	Std. Deviation
There should be clear guidelines and procedures for reporting errors.	281	4.7794	.49396
Forms and other documentations should be clear.	281	4.7402	.53464
Staff should be trained on reporting medical errors.	281	4.6904	.60964
Staff should always be encouraged to report medical errors.	281	4.6726	.65432
Reporting errors should be mandatory.	281	4.5018	.75652
Staff should always be provided by feedback on what has been reported.	281	4.5730	.68336
Use computerized system; and/or.	281	4.1957	.98965
Reporting errors shouldn't be used against reports	281	2.3594	1.47200
Valid N (list wise)	281		

4. Discussion

The present study aimed attempting to assess the barriers and strategies for reporting MEs in BMC, Benghazi, Libya during the month of August to October 2021. The study found that the women made up the majority of the study population, which was in line with the findings from previous study was conducted in Kuwait 2019 [8] that found the females represented 58.6%. It clears that they may be capable of paying close attention when filling out reporting forms and more conscious of raising and elevating the level of reporting. In addition, the majority of the study population had a bachelor's degree which was similar to the findings of the previous studies [6][8][10], indicates the bachelor degrees were the most demand in the healthcare setting. The study participants had experience up to 10 years with highest aged group ranged from 31-40 years. These findings were agreed with an evidence in Negar (2015), where 69.2% of the participants had experience up to 10 years [3]. In Riyadh city (2014), the presents 57.6% for work experience up to 9 years.

The current results indicated that most of the participants stated that they have a reporting system for medical errors, which was similar to an evidence in Saudi Arabia, representing 55% as compared to only 28.5% claiming that they don't have an error-reporting system [10]. It reflect of there were awareness regarding the importance of reporting medical errors at work.

In this study, it found that Libyans are more patriotic, fearful, and caring, which will help to enhance the reporting system and lower medical errors. It also found that there were significant differences between the percent distribution of physicians and nurses, they were 65.2% and 43.8% respectively. It additionally found that the physicians were the individual committing the errors at the BMC, which can increase the likelihood of them to reporting medical errors higher than others.

The most common barriers preventing the staff from reporting the MEs were: medical errors reporting are inadequate, Medical errors insurance lead to decrease medical errors reporting, lack procedures on reporting medical errors, complexity of work. These outcome disagreed with the outcome of the survey conducted in Riyadh in 2014, where the target group have reported: fear of being blamed, fear of being punished, difficulty in filling the form, lack of knowledge of what should be reported, and then medical errors reporting are inadequate, lack procedures on reporting medical errors [10]. These difference may relate to the lack of an organizational structure and procedures based on clear management system.

Actually, there are several evidence which defined the barriers and strategies of reporting MEs. Such a study in Gaza where it shown that the factors affecting ME reporting by physicians and nurses were organizational barriers (59.2%), barriers due to fear (72.4%), cultural barriers (73.1%), respectively. The first causes preventing medical error reporting by physicians and nurses were staff worry (76.9%) followed by fear of lawsuits (legal and financial penalties) (75.3%), the fear of questioning competence (74.2%), work pressures (68.6%) and finally insufficient staff number (67.9%) [6].

Another a study in Iran where it stated that the most common barriers preventing reporting the MEs contain: fear of legal action and job threats, fear of economic losses, fear of honor and dignity, weakness of knowledge and weakness of nursing skills in error management [12].

Likewise, a study in Taiwan where it displayed that the most common factors preventing reporting of the MEs were: no positive feedback for giving medication correctly and fear was considered as a major barrier [15].

Moreover, the outcome of the current study were highly reported "sound and clear procedures", which were similar to the outcomes of the Riyadh study (2014) that presents the higher mean (4.68) [16]. This suggests that There should be clear guidelines and procedures to reporting errors but these strategies needs to be modified in order to provide high quality, effective program and benefit to the group who reports medical errors.

Studies have also revealed that the causes of MEs involved lack of job training and experience [12][14]. It similar to the current study where the participants highly reported "Staff should be trained on reporting medical errors".

5. Conclusion

To be concluded that the highest measuring the barriers that prevent the reporting of medical errors was the complexity of the work, while the highest measure in the strategy to improve the reporting system was the necessity of having clear controls and procedures for reporting medical errors. Thus, there is an essential need to develop an effective system or protocol for reporting medical errors in hospitals. Further researches should be conducted in purpose of improving the strategies of reporting medical errors. Overall, change the knowledge regard medical errors reporting can support physicians and nurses to reporting the medical errors and avoid repeated again.

ETHICAL APPROVAL:

Ethical approval was obtained from the Ethics Committee of the Faculty of Public Health.

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