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The Importance Of Medication Error Reporting In The Healthcare System

Abstract

Medications errors are the most preventable cause of Adverse Drug Events (ADEs), leading to morbidity and mortality, and a reasonable requirement exists for health care systems to learn from MEs reported. To explore barriers to reporting MEs and to suggest strategies to improve reporting them among Health Care Practitioners "HCPs" in Latifa hospital in the United Arab Emirates in 2016. A cross-sectional study examined attitudes towards reporting errors to the hospital by providing anonymous questionnaires to 200 nurses and 20 pharmacy staff. Data was collected using a questionnaire based on questions derived from a systematic review of literature for common barriers in reporting MEs. The questionnaire consisted of eleven items on barriers to reporting, and then the collected data were analyzed by using IBM SPSS Statistics. The most important barriers to reporting MEs were the creation of negative attitudes towards self, not keeping name anonymous, and blaming by co-workers. Awareness about the MER system and difficulty in its use were not major hindrance factors. Overall, attitudinal changes toward the reporting person were the major limiting factor along with the blame game within the facility. Therefore, it is suggested to improve the knowledge about the MER system by targeting non-punitive, non-blaming culture, and inter-personal professional relation improvement.

Keywords: *medication errors reporting, barriers, pharmacist, nurse .*

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Introduction

A medication error happens at every stage along the way, from prescribing a drug to actually receiving it, while an adverse drug event is defined as harm a patient has suffered from exposure to a medication.[1] ME should be reported if it occurs consistently, at an unacceptable frequency, or if it causes genuine harm to the patient. The purpose is to understand what caused it, what contributed, and what clinical consequences it had, as well as to find possible solutions or mitigations to avoid recurrence. It is essential that medication errors are reported in acute care settings in order to improve patient safety and quality of care. Early-career nurses report differently than mid-career nurses, according to little research. [2] Health care organizations recognize patient safety performance as a key factor in preventing patient harm by creating a patient safety culture. [3,4] To prevent recurrence of ME, a root cause analysis should be performed to determine how the error occurred and, if necessary, change policy or procedure. The active involvement of employees in an organization can therefore contribute to the improvement of patient safety. Ensure your employees are aware that their contributions are important by building a safety culture.[5] To maintain patient safety, MER needs to be encouraged with a view to improving quality and enhancing reconnaissance through the error.

1.1 Study Design

-Cross- Sectional Study

1.2 Methods of Data Collection

direct interview,Phone,email,social media

1.3Validity

review of the questionnaire for group of expert-professors,doctors)

1.4 Reliability

Collected few response and run Cronbach alpha test-

1.5 Sampling Method

convenient sampling (based on availability) non-probability sampling.

1.6Terms and definitions:

1.6.1 Medication Errors:

According to the National Coordinating Council for Medication Error Reporting and Prevention, a medication error occurs when an inappropriate medication use or patient harm occurs when the medication is under the care of the healthcare professional, patient, or consumer. [6]

Table 1: **The medication error classification system in Dubai Health Authority" DHA"**

Level 0: The potential for error is negligible- no harm can be done by circumstances or events.	**Level 4:** A patient was temporarily harmed or contributed to temporary harm as a result of an incident.
Level 1: Patient is not harmed- An incident occurred but the patient wasn't affected.	**Level 5:** The patient suffered a temporary arm injury due to an incident that may have resulted in the patient needing hospitalization at the outset or over the longer term.
Level 2: Patients were not harmed if an incident reached them but did not result in their harm (this includes errors of omission).	**Level 6:** A patient may have suffered permanent harm as a result of an incident that contributed to or exacerbated the problem.
Level 3: No Harm- An incident occurred that reached the patient and monitoring was required to confirm that it resulted in no harm to the patient and/ or required intervention to prevent harm.	**Level 7:** A patient died due to an incident that caused harm.

1. Near misses or potential ADEs:

There are medical errors called potential adverse drug events (ADEs) which do not cause harm to the patient either because they were caught before they reached the patient or because they were fortunate.[1]

1.6.2 Adverse Drug Event:

Adverse drug events (ADEs) are harms caused by exposure to drugs that are experienced by patients.[1] A two-category system is used:

- A **preventable ADE:** Errors during the medication process that can result in an injury.
- **A non-preventable ADE/ Adverse Drug Reaction:** The injury that caused by a medication without any errors in the process of administering the medication.

1.7 Changes to reduce MEs rate:

Automated prescription filling, bar-code systems, standard units of measure, reducing unit-of-measure confusion, weight-based dosing, pharmacist assistance in calculating the correct dose, electronic medication reconciliation and bar-code systems. In order to prevent avoidable medication errors, it is important to review medication and dosage before administering it [7] and an online list of "don't use" abbreviations toolkit and list of confused drug names provided by FDA and the ISMP.

1.8 Medication Errors Reporting System "MERS"

During treatment and care, preventing harm to patients is the most important knowledge in the field of patient safety. PS reporting systems are fundamentally designed to improve PS by learning from healthcare system failures. Health care errors frequently result from weak systems and can be traced back to generalized, and therefore easily rectified, root causes. Despite being unique, sources of risk are likely to be similar and predictable, and unless they are reported and analyzed they may go unnoticed. Reports are generated by MERS regarding potential risks, and real errors, which can be used to identify root causes, develop recommendations, or change procedures or policies as needed. With the addition of the United States Pharmacopeia "USP" to MER in 1991, the standard became more comprehensive. Collaboration between USP and ISMP was required for the implementation of the USP (MER) project. USP bought the MER program in 1994 from ISMP, and it remains the framework used by USP to this day.

1.9 MERS goals:

- Culture of open discussion.
- Increases awareness of MEs, reducing and ultimately preventing them by root cause analysis, and Development of recommendations or if needed changing procedure or policy.
- Lessen expenses to both patient and hospital by eliminating errors.

Literature review

2.1 The barriers that interfere with reporting are:

A lack of knowledge appears to be the most important hindrance to reporting medication errors. Among the three factors identified as contributing to underreporting of medication errors were fear of legal involvement, fear of job loss, and fear of consequences. A person's age, experience, department, shift schedule, and marital status affect their reporting of medication errors. There has been a link between underreporting and a lack of management feedback as well as negative feedback, which leaves no clarity about which MEs should and shouldn't be reported.[8]

A National Coordinating Council for Medication Error Reporting and Prevention was formed by the USP in 1995 to address this issue. To improve MERS, researchers at the USP believe that identifying the causes of medication errors and implementing system-based solutions are key. It was necessary to devise an effective, nonthreatening, nonpunitive data collection mechanism in order to establish the extent and nature of medication errors. It is for this reason that the USP

designed and developed a program to report medication errors anonymously, confidentially, de-identified, and remotely via the Internet in August 1998.

Methodology

In this study, participants rated how likely each factor was to prevent reporting medication errors using a five-point Likert scale (1=very likely, 5=very unlikely). Based on the results of these interviews, scaled and open-ended questions were developed and distributed to these participants, separated by 1 week. Their workplace's event reporting system stability. A pilot test of 16 participants was conducted to determine the instrument's face validity, clarity, and stability over time. The final questionnaire excluded items with a correlation coefficient of less than 0.50, calculated by combining responses at times 1 and 2. Surveys were directly distributed to 200 nurses and 20 pharmacists by hand, and all final questions had excellent to good reliability, with a Spearman coefficient of 0.6. These surveys were then followed up three days later. Following the first distribution, respondents were asked to fill out a new survey one week later. Across all departments within the hospital, pharmacists and nurses participated in the survey. On a 5-point Likert scale from "strongly agree" to "strongly disagree," participants rated the extent to which they agreed or disagreed with each statement. Anonymity was assured to both HCPs. For all questions in the survey, the results will be calculated as a percentage.

Results and discussion

Based on the results of the present study, which are shown in **Figures 1 and Table 2**, 58.9% of respondents strongly agreed (11.9%) and agreed (47%) on the likerta scale that the development of a negative attitude towards them was one of the most frustrating barriers in reporting MEs. The nearly same percentage (58%) of respondents also felt not keeping their names anonymous after reporting (fear of repercussion) will prevent them from reporting MEs. Just above half of the total respondents (54.8%) agreed or strongly agreed that they will be blamed, and punished (job dismissal) after reporting MEs. The other common barriers in reporting were: lack of leadership (38.8%); no appreciation (38.4%); lack of time for reporting medication errors (35.6%); absence of feedback (32.9%) and lack of training about reportable MEs (28.3%). No improvement after MER (24.2%) and difficulty to use the system (14.6%) were not major barriers in the present study. A minor percentage of participants were not aware of MERS (13.7%). Indeed culture of blame and a punitive approach to MER was perceived as an important feature of a MERS, which is also evident by the above findings. It was believed that attitudinal changes towards reporting person, stop being blamed, and a non-punitive approach were necessary to overcome these barriers to the implementation of MERS and to ensure a good and effective system in the current and future MERS.

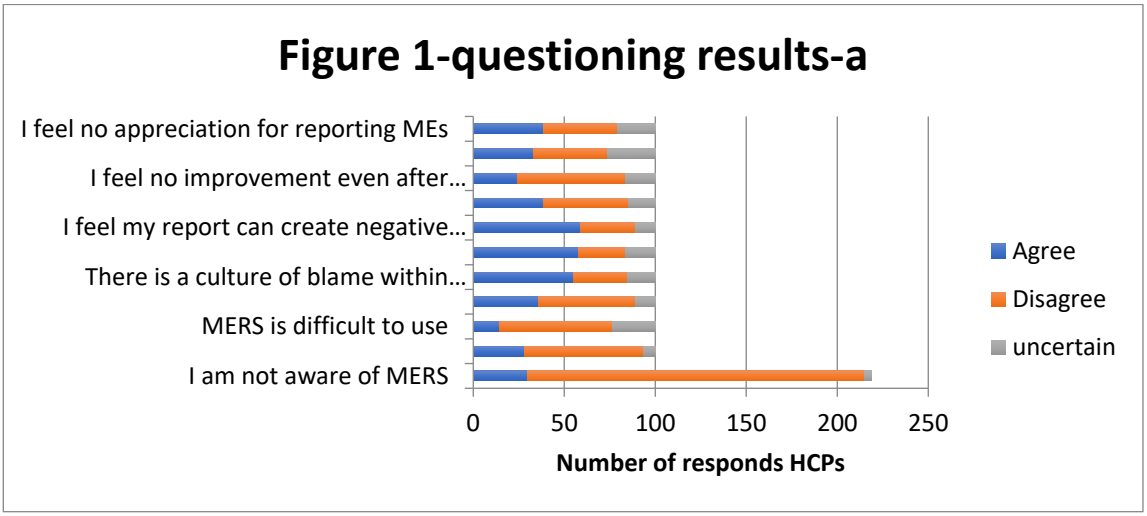

Table 2: questioning results-b

Questions		N=219		
		Agree N (%)	**Disagree N (%)**	**Uncertainty N (%)**
1	**I am not aware of MERS**	30 (13.7)	185 (84.5)	4 (1.8)
2	**I lack training in MER**	28.3	65.3	6.4
3	**MERS is difficult to use**	14.6	62.1	23.3
4	**I lack time for reporting MEs**	35.6	53.4	11.0
5	**There is a culture of blame within healthcare**	54.8	30.1	15.1
6	**I feel my name will not be kept anonymous after reporting**	58.0	25.6	16.4
7	**I feel my report can create negative attitude towards me by others**	58.9	30.1	11.0
8	**There is a lack of leadership support for MER**	38.8	46.6	14.6
9	**I feel no improvement even after reporting**	24.2	59.4	16.4
10	**The feedback to me after reporting is inadequate**	32.9	41.1	26.0
11	**I feel no appreciation for reporting MEs**	38.4	40.6	21.0

Table 3:

Sr	Questions	Prof	Agree N (%)	Disagree N (%)	Uncertain N (%)
1	I am not aware of MERS	N	28 (14%)	168 (84%)	4 (2%)
		Ph	2(10.5%)	17(89.5%)	0 (0.0%)
2	I lack training in reporting MEs	N	58 (29)	128 (64)	14 (7)
		Ph	4 (21.1)	15 (78.9)	0 (0)
3	MERS is difficult to use	N	32 (16)	121 (60.5)	47 (23.5)
		Ph	0 (0.0)	15 (78.9)	4 (21.1)
4	I lack time for reporting MEs	N	72 (36)	108 (54)	20 (10)
		Ph	6 (31.6)	9 (47.4)	4 (21.1)
5	There is a culture of blame within healthcare	N	110 (55)	65 (32.5)	25 (12.5)
		Ph	10 (52.6)	1 (5.3)	8 * (42.1)
6	I feel my name will not be kept anonymous after reporting	N	118 (59)	53 (26.5)	29 * (14.5)
		Ph	9 (47.4)	3 (15.8)	7 (36.8)
7	I feel my report can create negative attitude towards me by others	N	117 (58.5)	62 (31)	21 (10.5%)
		Ph	12 (63.2%)	4 (21.1%)	3 (15.8%)
8	There is a lack of leadership support for MER	N	79 (39.5%)	92 (46%)	29 (14.5%)
		Ph	6 (31.6%)	10 (52.6%)	3 (15.8%)
9	I feel no improvement even after reporting	N	44 * (22%)	121 (60.5%)	35 (17.5%)
		Ph	9 (47.4%)	9 (47.4%)	1 (5.3%)
10	The feedback to me after reporting is inadequate	N	61 (30.5%)	87 (43.5%)	52 (26%)
		Ph	11 * (57.9%)	3 (15.8%)	5 (26.3%)
11	I feel no appreciation for reporting MEs	N	76 (38%)	81(40.5%)	43 (21.5%)
		Ph	8 (42.1%)	8 (42.1%)	3 (15.8%)

Comparing the responses provided by Nurses and Pharmacists regarding the reporting boundaries for Medical Errors

Recommendations

After analyzing the results, I have identified some of the important factors which may affect MERS need to be improved.

5.1 Cultural shift "Down with Blame, Up with Safety"

Culture contributes to underreporting of medical errors. To change the culture of a company, one must establish a work environment that is immaculately governed by committed leadership, continuous learning throughout the organization, and an acceptance of safety warnings. This shift represents a

change in mental state that results in new behaviors and norms.[9,10] an organization seeking to discover the roots of errors, where leaders can distinguish between blameless and blameworthy employees and where employees can trust their leaders to make the right decisions. In order to ensure that HCPs are psychologically safe and can acknowledge their errors, the organization needs to create a forgiving environment.

5.2 Legislation of non-punitive, and anonymous reporting system

As a result of the reformatory measure, patients are demoralized and their care is negatively impacted. We will create a nonpunitive culture by addressing the stress HCPs feel when they are condemned or restrained in whatever way. This will protect them from malpractice lawsuits and disciplinary actions, as well as ensure that their personnel files will not contain information about these events for the remainder of their careers. ME reporting will be promoted, error reporting will be increased, and confidentiality will be ensured in the program. In addition, it can help you figure out why the medication process may be failing. [11,12] However, over time, error reduction measures should lead to a gradual decline in errors. A policy should specify that no repercussions will be imposed once the individual discovers the error. It is important for managers to promote open communication in order to decrease medication errors. A key to effective communication is open, nonjudgmental communication between health care providers. Rather than focusing on who participated, it is more important to investigate what went wrong, how it occurred, and why it occurred.[15] An environment that fosters such a culture will enable nurses to learn from every error incident. It is possible to foster, cultivate, and cultivate a culture of safe reporting of medication errors by fostering, rewarding, and encouraging the reporting of errors and events across the harm spectrum. It is imperative for leaders to internalize the department's culture. In addition to establishing a culture of bug review and tracking aligned with best practices, these cultural norms ensure employees feel psychologically safe about reporting bugs. [13]

5.3 Interprofessional differences

There may be differences in attitudes between nurses, doctors, and pharmacists regarding reporting MEs, possibly because of how they perceive their roles within the hospital teams, and their priorities as professionals. Prescription errors and things like that aren't reported to clinical incident forms by clinicians. They believe they are not for drugs, according to the nursing staff.

5.4 Clarity (Errors not considered as error to report)

Clearly identify which MEs must be reported and which should not. A clear strategy is needed to help physicians understand what they ought to report, and what they should not report. As you provide reports about a lot of different things going on, it can become a bit snow-blinding to your efforts to improve things. HCPs are unclear what constitutes a reportable ME due to differences in the definitions. There are several reasons why employees believe that another person will report a reportable event, such as employees assuming that someone else will do so, or they see common errors, near misses, and omissions of medication as not reportable incidents and as valuable sources of learning. Hospitals and their employees should be provided with a list of "reportable events" in order to reduce confusion. MER should also be discussed, trained, discussed, interactive, and used in case studies at the hospital, as well as ongoing education, as well as access to a reference manual and the ability to demonstrate non-punitive coaching and feedback skills. Patient and family members can also report errors, in addition to staff.

5.5 Feedback after reporting

Employee motivation should be taken into account when reporting in order to improve it. This highlights the importance of intervention design to ensure that feedback encourages and supports behavioral changes to improve performance.[14] It depends on how feedback is delivered whether it is positive (such as passive resistance) or negative (such as aggression). In order to improve performance, feedback must be designed to promote and support behavior change. According to this theory, increasing the number of reports would be improved by enhancing the positive and not the negative, including using thanks letters, gift cards, and lunch passes. The Kaiser Permanente initiative also influences reporting by demonstrating visible improvements. Medical staff and physicians see that problems can be solved when they report incidents.

5.6 Active Leadership

By creating a supportive environment for all staff and allowing them to express their concerns, leaders ensure the success of the organization.Assign leadership in hospitals for Fostering an environment of openness and trust and identifying the important role of front-line staff and encouraging staff to be more proactive and vigilant in reporting errors through communication and timely updated training.

5.6.1 World Series of error reporting

The MER is also encouraged through friendly competition among staff. As an example, the organization creates teams within each ward, and at the end of each "season," the team that reports the most Close Call Errors wins. Safety awards are given to teams throughout the year for submitting their reports. Teams that submit the most reports will eventually receive trophies.

5.7 A positive twist on reporting errors

A program to promote "Good Catch" should be developed. It sounds negative when phrases like 'near miss' or 'close call' are

used. Staff will be more likely to report potential errors if the terminology is changed to "good catch." Encourage them to report these errors at the end of their shifts via the safety report at the end of the shift. Employees returning from a shift are encouraged to share with their colleagues coming on shift any good catches they may have made.

5.8 Error Reporting (Mandatory vs. voluntary Reporting system)

MRS stands for mandatory reporting system, which focuses on identifying and reporting errors leading to serious injuries or deaths. "VRS" focus on near miss reporting, which is a useful tool for safety improvement. VRS and MRS should be operated separately, as they are both needed.

5.9 Provide adequate resources to introduce MER systems

Preparing courses for HCPs, emphasize the significance of distinguishing and reporting ADRs and MEs,as well as the importance of reporting ADRs and MEs. Experts in countries without MER systems claim that a lack of adequate resources has prevented the development and implementation of this system. As part of the requirement to develop workable systems, we need a mechanism to collect and manage data, a system to investigate reported bugs, as well as technical infrastructure, bug classification systems, expertise in data analysis, and the ability to disseminate information and recommendations derived from data analysis admit.[16]

5.10Time constraints

HCPs commented on the excessive time spent filling out forms, which could be better spent caring for patients, when asked about their experiences and involvement in MERS. This can be improved by:

5.11Form simplicity

It is important to complete the simplest datasets at the ward level, which can then be completed by others later. In your own ward folder, you could carry around a piece of paper, one side of A4, that contains all the basic bare information you require, so that when you're on the ward, you can quickly scribble in the necessary information when you're on the ward, and you can then transfer it into the system at the end. An answering machine is another option. Once you report the event, you can go back and report more. It's just a matter of picking up the phone and telling them.

5.12Workload pressure

MEs are more likely to occur in busy hospitals due to pressures of work, and reporting them all would significantly impact their daily duties. Therefore, those who worked the most hours reported fewer errors. By implementing clinical pharmacists as equal partners in multidisciplinary clinical groups and not considering them as police officers, this can be solved. Technology could reduce the burden of administering medication to patients.The use of technology in the delivery of medications has been recommended in several studies.[17] MEs must be identified and reported as part of their job duties. By reporting their interventions, we can identify and measure medication risks, as well as track changes over time. Because of this, the strategy detects MEs during the prescription process and prevents them from affecting patients. Consequently, it is capable of detecting ADEs as well as MEs. By analyzing how often pharmacists make errors or how frequently they intervene, a computerized order-entry system can be evaluated for its effectiveness. The effectiveness of automation can also be measured using intervention reporting.

5.13The use of targeted reporting

HCPs prefer targeted reporting over reporting all MEs every day due to the sheer number of MEs in hospitals. Probably every two or three months, one week should be dedicated to it.

2. Collaboration

T as illustrated in **Figure 2** ,The second level of partnership occurs between patients and health care providers. Reporters are patients and health care professionals since patients experience the harm first, and HCPs are at the frontlines of care. It would not be possible for this partnership to function efficiently without the involvement of levels 1 and 2 in notifying ADRs and MEs to level 1 and informing, training, sensitizing, and educating partners to prevent MEs at level 2. MEs can be prevented through active and efficient collaboration between levels 1 and 2.

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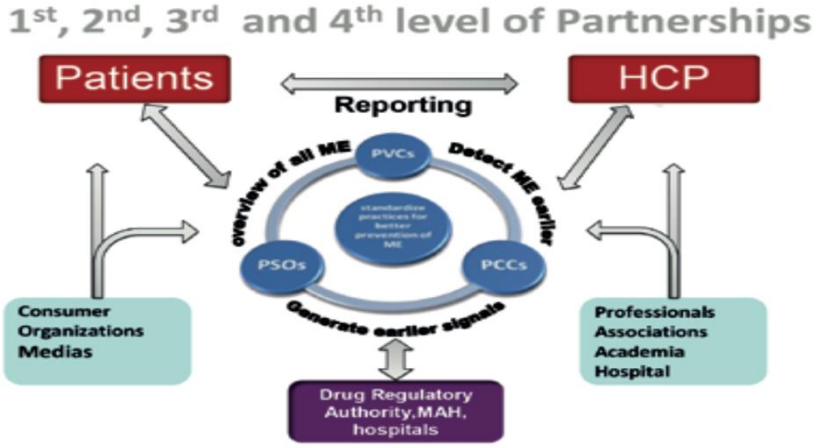

Figure 2: level of partnerships

Conclusion

There is no doubt that MEs are seriously underreported. Reporting MEs is the responsibility of all HCPs to prevent further occurrences. The healthcare industry needs to create a culture of safety for reporting MEs, train health care professionals in the quality of reporting, and establish a mechanism to improve quality, rather than focusing only on finding the culprits and blaming them, and ultimately improving patient safety, in order to improve reporting rates.

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The Survey questionnaire that used as a part of this article:

Conflict of interest

None.

Financial Support

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Ethics Statement

All Permissions to conducting this research has been approved.

		Strongly agree	Agree	Uncertain/ not	Disagree	Strongly disagree
1.	I am not aware of MERS	☐	☐	☐	☐	☐
2.	I lack training in MER	☐	☐	☐	☐	☐
3.	Medication error reporting system is difficult to use	☐	☐	☐	☐	☐
4.	I lack time for reporting medication errors	☐	☐	☐	☐	☐
5.	There is a culture of blame within healthcare	☐	☐	☐	☐	☐
6.	I feel my name will not be kept anonymous after reporting	☐	☐	☐	☐	☐
7.	I feel my report can create negative attitude towards me by others	☐	☐	☐	☐	☐
8.	There is a lack of leadership support for medication error reporting	☐	☐	☐	☐	☐
9.	I feel no improvement even after reporting	☐	☐	☐	☐	☐
10.	The feedback to me after reporting is inadequate	☐	☐	☐	☐	☐
11.	I feel no appreciation for reporting	☐	☐	☐	☐	☐

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