The Unreported Truth: Unveiling Barriers To Medication Error Reporting Among Nurses In Saudi Arabia

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Abstract:

Background/Objectives: Medication errors (MEs) are a global healthcare concern, causing preventable harm and financial burdens. In Saudi Arabia, ME reporting by nurses remains low despite their critical role in medication administration. This study aimed to measure ME prevalence, identify reporting barriers, and explore correlations with sociodemographic factors to improve patient safety.

Methods: A cross-sectional study was conducted at King Fahd General Hospital, Jeddah, involving 317 registered nurses. Data were collected via a structured questionnaire assessing ME experiences, reporting practices, barriers, and attitudes toward organizational culture. Statistical analysis included frequency distributions, chi-square tests, and one-way ANOVA.

Results: Nearly one-third (29.7%) of nurses experienced MEs, yet only 25.6% reported them. Key barriers included fear of disciplinary actions (59.9%) and blame (54.3%). Nurses with >10 years of experience and those in surgical departments were more likely to report MEs. Half of participants agreed that reporting MEs is constructive, though one-third believed it could harm their careers.

Conclusions: The study reveals a gap between ME occurrence and reporting, driven by fear of repercussions and inadequate reporting systems. Improving ME reporting requires transparent protocols, education, and a supportive culture. Systemic changes are needed to foster a blame-free environment, encouraging nurses to report errors and enhance patient safety.

Keywords: medication errors; Barriers; Nurses; Saudi Arabia; practice; reporting.

1. Introduction

A medication error (MR) is any preventable incident that may result in improper medication use or patient injury while the medicine is managed by a healthcare professional, patient, or consumer. These events may pertain to professional practice, healthcare products, procedures, and systems, encompassing prescribing, order communication, product labeling, packaging, nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and utilization. (National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP), 2024. These errors can be mitigated through proper prescribing methods [1].

Unsafe medication practices and medication errors constitute a primary source of serious and preventable harm within global healthcare systems. The global financial burden caused by medication errors is estimated to be \$42 billion USD each year. Errors may arise at several phases of the medication utilization process. Medication errors arise from inadequate medication systems and human factors, including tiredness, suboptimal environmental conditions, or personnel shortages, impacting prescribing, transcribing, dispensing, administration, and monitoring practices [2]. However, ensuring accurate drug prescriptions is essential for enhancing patient safety and reducing morbidity and mortality rates [3].

The nurse plays a crucial part in patient treatment, with several responsibilities, including the administration of medications. This is a challenge for which nurses are and ought to be adequately prepared for. Maximum care is essential in the administration of medications, as it necessitates higher education, personal cleanliness, prompt response, and other factors. The administration of medication is a daily task that entails significant responsibility and represents one of the most perilous aspects of nursing work. Nurses are accountable for the administration of medications through various means and for ensuring the safe delivery of these medications. All the same, any medication error can indirectly influence patients, families, and healthcare professionals through financial repercussions, extended hospitalizations, and psychological effects, as such errors can significantly undermine confidence in healthcare services [4].

Numerous studies have been undertaken throughout various areas of Saudi Arabia to evaluate MEs, with prevalence percentages between 41.6% and 70%. [5-7]. Nurses identify multiple obstacles that impede the reporting of medication errors, with personal barriers being the most substantial. These encompass worries of encountering adverse repercussions or disciplinary measures upon reporting MEs, fear of victimization, concern over the response from nursing personnel or colleagues, and dread of job loss [1]. Numerous modifiable barriers to medication error (ME) reporting have been identified for nurses in various studies, encompassing organizational factors such as the absence of a ME system, insufficient information regarding ME reporting, lack of positive reinforcement for accurate medication administration, fear of job loss, and inadequate managerial guidance and support [8, 9]. The reporting of medication errors by nurses in Saudi public hospitals is comparatively low [10]. Nurses' attitudes significantly influenced reporting MEs, particularly with their willingness to report near-miss errors and benign MEs [11].

Recognizing nurses' attitudes and perceived barriers to reporting medication errors is essential for fostering a blame-free culture in healthcare organizations and motivating nurses to report such incidents. Numerous research has evaluated the frequency of MEs throughout various areas of Saudi Arabia, revealing significant discrepancies in their results [5, 7]. Nonetheless, the barriers to reporting these errors, as well as their correlation with sociodemographic and occupational characteristics, have not been thoroughly examined. This study aims to measure the prevalence of nurses experiencing and reporting medication errors (MEs), their perceived barriers to reporting MEs, and their correlation with nurses' sociodemographic.

2. Materials and Methods

2.1 Study Design: The study employed a descriptive cross-sectional design to assess the intent of nurses to report medication errors and associated barriers at King Fahd General Hospital.

2.2 Study setting: The research was conducted in nursing departments at King Fahd General Hospital in Jeddah city, Saudi Arabia. Sample: The target population was 1056 registered nurses working in different departments Nurses with a minimum of six months of work experience and actively engaged in direct patient care. The sample size was 282 nurses calculated with confidence level 95 % using raosoft calculator (http://www.raosoft.com/samplesize.html) A convenient sampling method was used to select participants. A structured self-administered questionnaire served as the data collection instrument in this institutional-based cross-sectional study. Data was obtained using a self-administered questionnaire, which was derived from a previous study by Jember et al, [12] and consisted of four sections

relevant to MEs. The initial portion encompassed topics pertaining to ME incidence and nurses' encounters with MEs. The percentage of nurses who indicated having encountered medication administration errors was derived from the question, "Have you ever experienced any medication administration error?" The second section comprised items pertaining to the self-reporting of medication errors (MEs) to ascertain the proportion of nurses who report MEs. The third section about nurses' attitudes towards barriers to ME reporting. This portion consist of eight queries related to the probable causes that the nurse believed that they impede them from reporting medication errors. Each question was rated as "Yes = 1" or "No = 0", so the scoring of this part was rated from 0--8 with the high scores mean more barriers to ME reporting. The fourth section included items related to nurses' perceptions of organizational culture and their actual dealing with MEs. This part contains two questions of 5-point Likert scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). The choice of neutral was excluded before questionnaire distribution. After that we combined the responses of "strongly agree" and "agree" responses into a single "agree" category and "strongly disagree" and "disagree" into "disagree"., which reflects the nurses' perception of the organization's effectiveness in handling errors. In addition, the tool included questions about the sociodemographic and work-related characteristics of nurses such as sex, age, marital status, education level, nationality, experience, department, position at work, and the presence of an error incident-reporting system. The reliability of the questionnaire was established in a previous study with Cronbach's Alpha (Cronbach's Alpha = 0.8).

2.3 Data Collection Procedure: The collected data was obtained through an electronic link provided self-administered questionnaires for interested participants. The questionnaires needed approximately 10 -- 15 minutes to be filled up. Each collected questionnaire was reviewed to assure its completeness and if there is any missing data. The data was collected by researchers over two months, starting from the beginning of September 2024 to the start of November 2024 with a total of 317 responses.

2.4 Statistical design:

Data entry was done using SPSS v28 computer software package. Quality control was done at the stages of coding and data entry. Frequency distribution was conducted as descriptive statistics for all study variables. One-way ANOVA test was used to examine the relationship between Perceived organizational culture and reality of dealing with errors with personal data. Chi square test was used to examine the relationship between both experience of medication error and perception regarding reporting medication errors and causes hindering the reporting of medication errors with the study participants' personal data.

3. Results

Table (1) shows that the great majority (90.2%) of the study participants were females, more than half (52.1%) of them were in age group 25-35 years old, about half (49.8%) of them had > 10 years of experience, more than half (56.8%) of them were non-Saudi and more than two thirds (68.1%) of them had bachelor's degree in nursing science. In addition, it explores that about one third (32.2%) of the nurses studied were working in the critical care departments, and 28.7% of them were working in the ambulatory department while, 15.8 % of participants were working in medical specialty departments.

Table 1. Frequency distribution of the study participants' personal data (n=317).

Personal data		No.	%
Gender:	Male	31	9.8
Female		286	90.2
Age:	25-35 years	165	52.1
36-45 years		107	33.8
>45 years		45	14.2
Experience:	<1 year	15	4.7
1-3 years		53	16.7
4-6 years		34	10.7
7-10 years		57	18.0

>10 years	158	49.8
Nationality: Saudi	137	43.2
Non-Saudi	180	56.8
Qualification: Diploma	90	28.4
Bachelor's degree in nursing science	216	68.1
Master science in Nursing (MSN)	11	3.5
Department& Unit:	**No.**	**%**
Critical department	102	32.2
Medical department	50	15.8
Surgical department	64	20.2
Ambulatory department	91	28.7

Table (2) shows that more than one quarter (29.7%) of the study participants had experienced medication administration error, and about one quarter (25.6%) discovered medication error cases that others committed. 23.3% of nurses intercepted cases where patients were about to receive incorrect medication. (19.9%) of nurses were encountered in wrong dose errors.

Table 2 Frequency distribution of medication error incidence (n=317).

Medication error incidence	No.	%
1. Have you ever experienced any medication administration error either by you or by others? Yes	94	29.7
No	223	70.3
2. I had encountered cases of incorrect medication treatment that I gave to my patient. Yes	36	11.4
No	137	43.2
3. I discovered medication error cases that others committed. Yes	81	25.6
No	89	28.1
4. I intercepted cases where patients were about to receive incorrect medication. Yes	74	23.3
No	94	29.7
5. Which kind of medication error did you encounter? * Omission	13	4.1
Dispensing	26	8.2
Wrong dosage	63	19.9
Wrong frequency	6	1.9
Wrong prescription	31	9.8
Wrong route	34	10.7
Wrong patient	26	8.2
Wrong time	6	1.9

Table (3) shows that the great majority (90.9%) of the study participants think that medication errors should be reported. Nearly three quarters (72.6%) think that errors should be reported to team leaders. 48.9% of nurses prefer to report error that had done by themselves, followed by 46.1%of participants prefer to report all errors discover and almost all (99.1%) had a reporting protocol in their hospital.

Table 3 Frequency distribution of medication error self-reporting (n=317).

Medication error self-reporting	No.	%
6. Should medication errors be reported?		
Yes	288	90.9
No	29	9.1
7. Have you ever reported a medication error?	81	25.6
Yes	81	25.6
No	236	74.4
8. To whom do you prefer reporting medication errors?		
Physician	128	40.4
Nursing supervisor	135	42.6
Colleague	60	18.9
Team leader	230	72.6
Assistant CNO	19	6.0
Head nurse	95	30.0
9. Which error do you prefer to report?		
One should report all errors he/ she had done	155	48.9
One should report all errors discovered	146	46.1
One should report all errors done by others	16	5.0
10. Is there a reporting protocol in your hospital?		
Yes	314	99.1
No	3	.9

Figure (1) illustrates that "Fear of disciplinary actions" (59.9 %) and "Fear of being blamed" (54.3%) were the predominant barriers felt by nurses in reporting medication errors, followed by "Fear of losing respect of co-workers" (30.0%). Nonetheless, the absence of an accessible medication error reporting system was the least commonly identified obstacle by nurses in reporting medication errors (25.2%).

Figure 1 Nurses' attitude toward Barriers to Reporting Medication errors
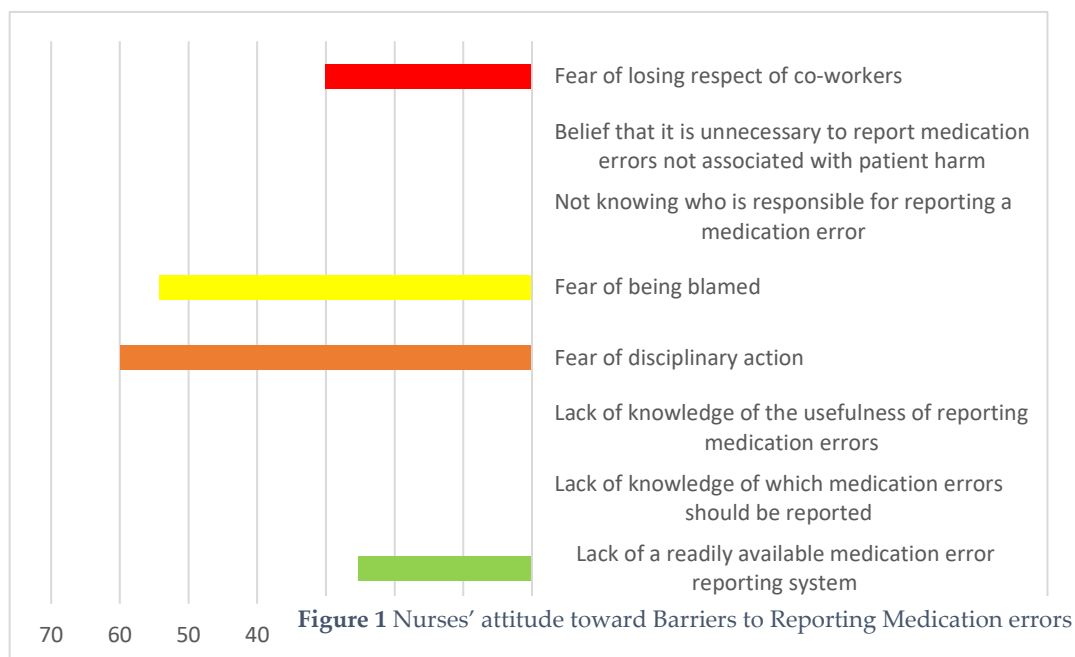
Table (4) reveals that about half (49.8%) of the study participants agreed that medication error discovering and reporting leads to a beneficial and constructive activity, and about one third (34.1%) agreed that discovering a medication error has a negative impact on the nurse's possible development and career in organizational hierarchy.

Table 4 Frequency distribution of study participants' Perceived organizational culture and reality of dealing with errors (n=317).

Perceived organizational culture and reality of dealing with errors	No.	%
12. Medication error discovering and reporting leads to a beneficial and constructive activity		
Strongly disagree	1	.3
Disagree	4	1.3
Neutral	23	7.3
Agree	158	49.8
Strongly agree	131	41.3
13. Discovering a medication error has a negative impact on the nurse's possible development and career in organizational hierarchy		
Strongly disagree	32	10.1
Disagree	80	25.2
Neutral	65	20.5
Agree	108	34.1
Strongly agree	32	10.1

Table (5) shows that near half (45.2%) of males had experienced MEs with statistical difference between males and females (p=0.04). and nearly one third (32.4%) of those who had 4-6 years of experience had experienced MEs with statistical difference in experiencing MEs according to experience (P=0.04). Association of the study participants' personal data such as nationality, qualification and age with Experiencing MEs were not significant present. According to association of the study participants' personal data with Reporting MEs, and Attitude toward barriers to MEs reporting were not significant. The data indicates that the rate of medication errors (MEs) was significantly elevated in the surgical department, with more than one-third (39.1%; p = 0.00) of nurses reporting these errors (P = 0.00). Furthermore, the medical department exhibited the highest mean rank (185.94) regarding attitudes toward barriers to reporting MEs, with a statistically significant difference in attitudes based on department (P = 0.01).

Table 5. Association of the study participants' personal data with Experiencing MEs, Reporting MEs, and Attitude toward barriers to MEs reporting (n=317).

Personal data	Over all (N)	Experiencing MEs			Reporting MEs			Attitude toward barriers	
		Yes		P	Yes		P	Mean rank	P
		No.	%		No.	%			
Gender: Male	31	14	45.2	.04	30	96.8	.23	180.84	.15
Female	286	80	28		258	90.2		156.63	

Age: 25-35 years	165	52	31.5	.73	151	91.5	.26	151.79	.31
36-45 years	107	29	27.1		99	92.5		167.55	
>45 years	45	13	28.9		38	84.4		165.11	
Experience: <1 year	15	1	6.7	.04	14	93.3	.43	177.70	.15
1-3 years	53	14	26.4		45	84.9		156.79	
4-6 years	34	11	32.4		32	94.1		147.59	
7-10 years	57	11	19.3		54	94.7		136.56	
>10 years	158	57	36.1		143	90.5		168.52	
Nationality: Saudi	137	48	35	.06	128	93.4	.23	166.16	.21
Non-Saudi	180	46	25.6		160	88.9		153.55	
Qualification: Diploma	90	24	26.7	.08	79	87.9	.17	176.14	.29
BSc	216	67	31.0		200	92.6		166.75	
MSN	11	3	27.3		9	81.8		152.59	
Critical department:	102	20	19.6	.00	91	89.2	.00	172.32	.01
42A (CCU)	6	1	16.7		3	50.0		180.21	
42B,42C (Cardiology)	3	1	33.3		3	100.0		146.90	
ICU1, ICU2, Burn unit (BU)	55	15	27.3		50	90.9		161.43	
PAMDC (dialysis center) JKC	16	0	0.0		14	87.5		171.34	
Emergency Room (ER,ED)	22	3	13.6		20	90.9		153.94	
Medical department	50	18	36.0		45	90.0		185.94	
4A,4B,4C,4D	10	4	40.0		10	100.0		151.29	
5A,5B,5C, 5D(urology)	32	12	37.5		31	96.9		162.24	
Special ward (SW)	1	0	0.0		1	100.0		170.00	
Extended medical center (EMC,9A,9B)	0	2	33.3		4	66.7		170.43	
9C(psychiatric)	6	0	0.0		0	0.0		171.98	
9D (Day Care)	1	25	39.1		63	98.4		152.02	
Surgical department	64	9	39.1		23	100.0		180.90	
3A,3b,3C,3D (orthopedic)	23	7	36.8		19	100.0		151.08	
43A,43B,43C,43D	19	8	40.0		19	95.0		176.87	
44A,44B,44C,44D	20	1	33.3		2	66.7		184.94	
42D (one day surgery)	3	25	27.5		80	87.9		159.08	
Ambulatory department	91	6	26.1		21	91.3		166.09	
Main Operation Room (Main OR)	23	2	14.3		12	85.7		174.29	

Tower Operation Room (Tower OR)	14	6	50.0		10	83.3		153.76	
Endoscopy	12	8	57.1		13	92.9		184.94	
Radiology (CT, Angio, CATH LAB, ESWEL)	14	3	20.0		12	80.0		157.77	
Main OPD, ENT OPD	15	3	23.1		13	100.0		161.23	
Home health care	13	6	85.7		6	85.7		176.90	
Rotation supervisor	7	0	0		2	100		150.70	
Nursing education	2	0	0		1	100		150.45	
Administration	1	48	35		91	89.2		153.28	

Table (6) indicates notable statistical correlations (P=0.00) between participants' perceptions of reporting medication errors, their experiences with medication errors, their reporting of medication errors, no statistical correlation observed in relation to their attitudes about barriers to medication error reporting.

Table 6 Association of the study participants' perception of reporting MEs with Experiencing MEs, Reporting MEs, and Attitude toward barriers to MEs reporting (n=317).

Medication error self-reporting	Overall (N)	Experiencing MEs			Reporting MEs			Attitude toward barriers	
		Yes		P	Yes		P	Mean rank	P
		No.	%		No.	%			
6. Should medication errors be reported? Yes	288	80	27.8	.00	76	26.4	.00	160.74	.27
No	29	2	6.9		3	10.3		141.71	
7. Have you ever reported a medication error? Yes	81	55	67.9	.00	78	96.3	.04	165.50	.44
No	236	39	16.5		210	89		156.77	
8. To whom do you prefer reporting medication errors? physician	128	58	45.3	.00	67	52.3	.00	161.09	.38
Nursing supervisor	135	39	28.9		58	43.0		153.94	
Colleague	60	28	46.7		21	35		184.94	
Team leader	230	120	52.2		88	38.3		151.29	
Assistant CNO	19	1	5.3		2	10.5		162.24	
Head nurse	95	58	61.1		43	45.3		171.34	

4. Discussion

The present study found that the majority of nurses were female. Approximately half of them were aged between 25 and 35 years, with over 10 years of experience. Nearly half of the participants were Saudi, and more than two-thirds held a bachelor's degree. These results pointed out to the nursing job is still a female job in Kingdom of Saudi Arabia Despite the government's efforts to increase the number of nurses of both genders and the growing interest in the nursing profession, it remains one of the promising and highly demanded careers in the Kingdom and worldwide. Furthermore, a relationship was observed between the age group and nationality of nurses, reflecting efforts over the past decade to nationalize the nursing profession. This has resulted in nearly half of the nurses in the current hospital being nationals, demonstrating a positive alignment with the goals of Vision 2030. It is agreed to some point with the results of Asefa et al., [13] who found that more than half of nurses were females and in the age group of 25--29 years old, while, it is disagreed with qualification of nurses whose found that about half of them only had Bachelor of Science in Nursing. By comparison, the results in one study conducted to assess the public image of nursing profession in Saudi Arabia indicated that only third of targeted participants preferred to receiving nursing care from Saudis, over than two third of them would be ashamed of having a nurse in their family [14].

Nearly one third of nurses in the present study were working in the critical care departments while over one quarter of them were working in ambulatory department. This may be concerning the nature of complicated work in these departments which increases the proportion of medication errors in these departments. In the same respect, Al-Otaibi, et al., [15] pointed out that nurse exhaustion was primary contributor to medication errors.

The findings of the current study revealed that nearly one-third of participants reported experiencing MAEs, either caused by themselves or others. About a quarter of them identified MEs made by others, and nearly one quarter intercepted cases where patients were at risk of receiving incorrect medication. These results may be attributed to the heavy workload in the hospital, as King Fahd Hospital is a governmental facility providing free treatment to the entire population, both Saudi and non-Saudi. Another possible explanation could be the limited experience of newly recruited nurses. In the same line, Al-Rasheeday et al., [10] found that about one fifth of nurses encountered errors involving incorrect dosages. Also, the result of the present study aligned with Alandajani et al., [16] who found that the prevalence of medication error was associated with age groups of less than 25, and 25--35 years old, and asserted that the important of improvement knowledge and training to decrease the high prevalence of MEs in their studied hospitals. Nurses with no history of attending a medication error reporting training course were more likely to experience medication errors.

Despite almost all the current study participants agreeing about reporting medication errors in King Fahd Hospital, only one quarter of them noted their reporting medication errors before. It explored the low level of reporting in the hospital. However, nearly three quarters of them preferred to report to the team leader. In addition, nearly half of respondents pointed out that they should report all medication errors made by themselves or by others. It is aligned with the results of many studies nationally and internationally [14, 13, 3, 15].

Al-Shammari et al. [8] found that most of participants in their study had not reported medication errors (MEs) at their workplaces. More than a third of respondents attributed this to concerns about potential legal consequences, while over half pointed out the absence of a clear electronic system for reporting MEs in most hospitals. Similarly, in the present study, over half of the participants identified fear of disciplinary actions and being blamed as the primary barriers to reporting MEs. Additionally, nearly a third of participants expressed concerns about losing respect of their colleagues, and around a quarter highlighted the lack of an accessible ME reporting system as an obstacle. Furthermore, Al-Rasheeday et al. [10] emphasized that the most frequently reported barrier was confusion about who is responsible for reporting MEs, followed by fears of blame and disciplinary measures. These findings

underscore a common theme in previous studies: the culture of punishment and the perceived impact on nurses' professional reputation are significant factors hindering ME reporting.

Concerning nurses' perception of organizational culture and reality of dealing with errors, about half of the study participants agreed that medication error discovering and reporting leads to a beneficial and constructive activity, and about one third agreed that discovering a medication error has a negative impact on the nurse's possible development and career in organizational hierarchy. The culture of reporting MEs is closely associated with the hospital's dedication to maintaining patient safety standards. This requires nurses who are well-trained, knowledgeable about the applicable policies and procedures, and capable of effectively utilizing the reporting system as a core aspect of their culture. These findings align with the recommendations of Alenezi and Baker [17], who emphasized that enhancing the work environment and culture for nurses is crucial for patient safety. They suggested that reducing medication errors requires addressing the factors that impact nurses' knowledge, attitudes, and behaviors.

According to the results of the present study, there was a statistically significant difference between male and female related to experienced MEs, it is explored in the higher percentage of participants who experienced medication errors was males. Also, there was a statistically significant difference between participants experienced MEs and years of experience, the participants who had over 10 years of experience been more experienced MEs. This indicates that the male and the older participants nurses have more awareness of hospital patient safety standards and the reporting system in the hospital. This result is aligned with Al-Rasheeday et al., [10] who concluded that nurses who are over 40 years old and have more than 10 years of experience tended to report MEs more frequently. This could be due to their greater expertise, which help them recognize and admit mistakes, as well as their understanding of the importance of reporting errors for patient safety.

As regards the correlation between demographic characteristics of nurses and experiencing MEs, self-reporting MEs and attitudes toward MEs barriers, The present study results revealed that there was statistically significant difference between work department and unit with experiencing MEs, Reporting MEs, and attitude toward barriers to MEs reporting. Generally, the rate of MEs was the highest in the surgical department with reporting 100 percent. Furthermore, the medical department exhibited the highest mean rank regarding attitudes toward barriers to reporting MEs, with a statistically significant difference in attitudes based on department. In contrast, Alandajani et al., [16] found that the prevalence of medication error was associated with age groups of less than 25, and 25--35 years old, while the current study explored no significant differences between age groups and study variables. While it is agreed with Alenezi and Baker [17] and, Al-Rasheeday et al., [10] findings.

Self-reporting medication errors (MEs) play a vital role in preventing future errors. The findings of the current study revealed significant statistical correlations between participants' perceptions of self-reporting MEs, their experiences with medication errors, attitudes toward MEs reporting and their actual reporting practices. However, no significant statistical relationship was found between participants' attitudes toward barriers to ME reporting and their self-reporting behavior. The participants proportion of the present study who had experienced and reported MEs asserted the importance of following the system of incident reports. This result may be attributed to a lack of awareness among nurses of the importance of transparency and accountability in ensuring patient safety. Additionally, over half of the nurses who experienced MEs preferred to report them to the team leader nurse, likely because the team leader is viewed as a direct supervisor who provides immediate guidance and support. Conversely, more than half of those who reported MEs chose to notify the physician, possibly due to the belief that physicians are ultimately responsible for patient treatment and outcomes, making them key stakeholders in addressing and rectifying medication errors. Elsherbiny et al. [18] agreed with the current result and interpreted that the head nurses are the first contact and communicate with the staff nurses and have an active response in emergency situations. This study encountered limitations related to the data collection process, the generalizability of the study's findings is limited by its narrow scope and specific research context. In addition, data for this study were collected using a self-administered questionnaire survey of nurses. Such surveys are prone to biases, including social desirability, self-exaggeration, and

underreporting due to embarrassment. To mitigate these biases, considerable efforts were made to anonymize responses and ensure participants' privacy. However, it remains challenging to eliminate all potential sources of bias, particularly given the sensitivity of the study variables.

5. Conclusions

This study explored the rate of ME reporting among nurses in Saudi Arabia and the challenges they encounter. Although most nurses supported the idea of reporting MEs, only a quarter had done so in practice. Key barriers included fear of disciplinary actions, being blamed, losing respect, and the absence of an accessible reporting system. Male nurses and those with more than 10 years of experience reported higher instances of MEs. Additionally, significant differences were noted in reporting practices based on work departments and experience levels. Despite these obstacles, half of the participants recognized error reporting as a constructive process, underscoring the need to address organizational and cultural barriers to enhance reporting practices.

6. Recommendations

Based on the findings of the current study, the following measures are suggested to improve the reporting of MEs; Implement a transparent, publicly disclosed medicine delivery protocol that is revised annually to align with worldwide standards. Initiate the incident reporting system by emphasizing training and educational initiatives for its proper utilization. Enhance nurses' knowledge of the significance of medication error reporting for patient safety through educational initiatives in colleges, training programs, and workshops. Conduct more observational studies focused on cause-and-effect linkages to precisely determine the causes and facilitate the implementation of an efficient reporting system in the hospital.

Abbreviations

The following abbreviations are used in this manuscript:

ME	Medication Error
NCCMERP	National Coordinating Council for Medication Error Reporting and Prevention

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