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Evaluation of Refusing the Medication Errors Report by Nurses of Golestan Educational Hospital After the Healthcare Reform From 2014 to 2015

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Abstract

Background: Patients' safety is one of the most important factors in health care system, which medication errors can threat it. It is of great importance to identify factors that cause medication errors.
Objectives: The current study aimed at evaluating refusal to report the medication errors by nurses in Golestan educational Hospital after the healthcare reform from 2014 to 2015.
Methods: The current cross sectional study was conducted in Golestan educational hospital of Ahvaz, Iran, after the healthcare reform from 2014 to 2015, prospectively. The data collection tool was a questionnaire including 2 parts, demographic characteristics and reasons "not to report medication errors". The results were analyzed by Excel and SPSS 16.0.
Results: The results showed that 64% of medication errors were reported by the subjects. Among all causes, fear of reporting consequences had the highest score. The results showed that the most important reasons not to report medication errors were related to the fear of the consequences of reporting (3.64 ± 1.226). Factors related to the process of reporting were 3.41 ± 0.867 and managerial factors were 3.08 ± 1.126, respectively.
Conclusions: According to the results of the current study, some hospitals could reduce not reporting medication errors by paying attention to local standards, encouraging nurses to report medical errors, encouraging hospital managers to give a positive response to them, and promoting an effective communication with nursing staff for reporting errors, without any stress.

Keywords: Medication Errors Report, Healthcare Reform, Nurses, Golestan Educational Hospital, Ahvaz, Iran

1. Background

Medication errors are one of the most important threats for patients' safety. It is an old problem of hospitals and medical centers (1, 2). Administration of intravenous drugs, failure to use appropriate equipment, drawing blood, and monitoring patients during surgery are the most important reasons for medication errors (3-9). Medication errors can be solved in any environment with patient's admission (1, 10). Medication error is any damage, risk, and avoidable incidences occurred during the medication practices in order to monitor the patients (11-14). Increased hospital stay, adverse economic consequences, hospital costs, the incidence of health problems, failure in treatment, and mortality are the most important outcomes of medication errors (13, 15). Therefore, the prevention of medication errors through identification and control of causing factors can be very effective (16). In recent years, patients' safety is one of the most important concerns in the hospitals and medical centers (5, 17). Based on

the obtained results, several recent studies by the Institute of Medicine reported a high incidence of medication errors (15, 18). These injuries can lead to a significant stress and anxiety for health care staff (HCWs) (17, 19, 20). According to the results of USA hospitals, approximately 400,000 injuries are reported each year attributed to the medication errors. Based on the published reports, medication errors were responsible for at least US$ 3.5 billion loss annually (18, 21). A recent review of mediation errors indicated that it affected 1% to 2% of all hospitalized patients and prescribing error was the most common type of medication error in such settings (12, 22). Reporting medication errors lead to save patients' lives and safety; it is also counted as a valuable information source to prevent further mistakes in the future (6, 7, 21). The important factors that affect medication errors and refusal to report such errors include incorrect diagnosis, incorrect dosage, prescription errors in time and type of drug, shortage of nursing staff, , errors in administration route, failure to administer the drug, improper placement of infusion pumps, absence of recording the drug administration, the health status of the patient, the type of hospital and ward, fear of the consequences of reporting errors, threats made by the management, fear of evaluation score, and the lack of knowledge about related policies (23-29). Among all medical errors, drug errors are the most common ones that cause injuries. Drug administration is considered as an important aspect of patients' care process and reporting errors is needed to maintain safety. Several studies are conducted on the rates and causes of medication errors based on nursing staff reports (30, 31). Concerns about the medications administered during hospital stay and monitoring patients can affect the treatment (31-33). Nurses, because of their position, can play a great role to reduce the risk of medication errors (31, 34-36). Encouraging nurses, proper drug administration, appropriate training, using suitable instruments, and decreasing direct patient-nurse contact can increase the reporting of errors. Increase in the report of medication errors can help to manage the outcomes and reduce injuries (31-33, 37). Mohammadnejad et al. in Tehran, Iran, studied the refusal of the nurses to report medication errors in the emergency department (38). An investigation in Arak, Iran, evaluated the association between fear of reporting medication errors and the outcomes (39). In another study conducted in 4 hospitals of Mashhad, Iran, the viewpoints of nurses toward the causes of medication errors and barriers to report in hospitals were evaluated in Mashhad University of Medical Sciences. They indicated that the most important reasons for the failure to report the errors were the lack of adequate knowledge about related policies and negligence to report (40). Hosseinzadeh in Tabriz and Maragheh, Iran, studied the viewpoints of nurses toward the barriers of error reporting. According to the results of the current study, managerial factors were the most cited barriers (41). According to the literature, preparation of educational bulletins and increased knowledge of authorities about refusal to report medication errors can be considered as a major step in the management and control of medication errors.

2. Objectives

The current study aimed at evaluating the reasons for refusal to report medication errors report among nurses in Golestan educational hospital after the healthcare reform from 2014 to 2015.

3. Methods

3.1. Methods

The current cross sectional study was conducted from 2014 to 2015 after the healthcare reform at Golestan educational Hospital of Ahvaz, with 450 equipped beds, in the Southwest of Iran. All nurses in different wards of the hospital were invited to participate in the study. The target population comprised 110 nurses working day/night shifts in different wards. The number of medication errors occurred in different wards of the hospital were studied. The instrument was a researcher-made questionnaire including demographic data (characteristics such as age, gender, and working experience) and questions related to the causes and factors of refusal to report medication errors constituted of 19 questions in 3 domains: fear of the consequences of reporting (11 items), managerial factors (5 items), and reporting process factors (3 items). Data collection was designed according to the questionnaire of the operating system and administration errors (42). The questionnaire was developed based on the similar studies on ascertain medication errors committed by nurses (35, 43-47). The reliability of the questionnaire was determined using the Cronbach's alpha test (r = 0.89). In the current study, the available data on medication errors were recorded by the supervisors after observation and consultation with Metron. The random sampling method was performed by nurses who were working in hospital after the healthcare reform plan. The data regarding nurses' age, gender, ward of working, and reasons not to report medication errors were analyzed by SPSS 16.0.

3.2. Description of the Study Location

Ahvaz, the capital of Khuzestan province of Iran with a population of 1 million, and an area of approximately 140

km^2, is located between 48° - 49° and 29′ East of the Greenwich meridian and 31° and 45′ North of the equator (48-54). Golestan educational hospital is a tertiary-care hospital with 450 equipped beds, located in the Southwest of Ahvaz.

3.3. Statistical Analysis

The coded data were transferred into SPSS version 16. All risk factors were analyzed. The data were analyzed by applying descriptive and statistical tests including independent t test and chi-square.

4. Results

The current study was conducted on more than 110 nurses working in Golestan educational Hospital of Ahvaz, Iran, after the healthcare reform plan from 2014 to 2015. Totally, 88% of the respondents completed the questionnaire. Based on the results, the mean age of the participants was 28.3 ± 3.76 years, ranged 22 to 45 and most of them were female (n = 87, 89.69%); 84.54% of the nurses held a bachelor's degree (n = 82). The results showed that 65.98% had lower than 1 to 5 years and 34.02% had 5 years or higher working experience (Table 1).

Table 1. Characteristics of the Nurses

Characteristics		No. (%)
Age, y	Less than 25	14 (14.43)
	25 - 35	61 (62.88)
	35 and higher	22 (22.69)
Gender	Female	87 (89.69)
	Male	10 (10.31)
Working experience, y	1 - 5	64 (65.98)
	5 and above	33 (34.02)
Educational level	Diploma	5 (5.15)
	Bachelor's degree	82 (84.54)
	Master's degree	10 (10.31)

The most common reasons for the refusal to report medication errors by nurses were fear of the impact of reporting on personnel annual evaluation, salary and bonus, fear of being blamed by nursing heads, fear of causing side effects in patients, fear of legal conflicts following the medication errors report, and fear of being labeled as an incompetent nurse, respectively. The P value, frequency, mean, and standard deviation (SD) of nurses' responses to the questions in the current study and the most important factors in refusal to report the medication errors from the viewpoint of the nurses are shown in Table 2. Based on the obtained results, significant differences ($P < 0.05$) were observed in the mean scores of managerial factors ($P = 0.0001$), factors related to the process of reporting ($P = 0.035$), and fear of the consequences of reporting ($P = 0.001$). Table 2 shows the fear of the consequences of reporting was the most important reason not to report the medication errors.

5. Discussion

Nowadays, due to the increase of mortality and morbidity rates and the cost of hospital, it is very important to pay attention to medication errors. According to the results of the current study, the most important reasons to refuse reporting medication errors in nurses were attributed to the fear of the consequences of reporting, factors related to the process of reporting, and the managerial factors, respectively. The results showed that the highest mean score in the fear of the consequences of reporting factors domain was related to the fear of the impact of reporting errors on the personnel's annual evaluation (3.97 ± 1.321). The highest mean scores in the domain of managerial factors was related to the lack of receiving positive feedback from nursing heads following the medication errors report (3.74 ± 1.265). The current study findings were similar to those of the study by Hosseinzadeh that showed the consequences of reporting factors as the most important reason not to report the medication errors (41). Tol et al. reported that the factors were related to the process of reporting as the most important reason not to report medication errors. They did not confirm the results of the current study in the mentioned domain (55). The study by Mohammadnejad et al. in Tehran on 96 emergency nurses reported that the most common reasons for the refusal of reporting the medication errors were the fear of negative impacts on financial advantages, inappropriate or negative attitude of managers toward reporting errors, and the lack of the importance of reporting from the nurses' perspective (38). The reason for this conflict can be attributed to changes in the process of answering the questions and different methods of medication errors report between nurses. According to the current research findings, nursing ward estimated 64% of all reported medication errors. In a similar study in Arak University of Medical Sciences, Iran, 75% of medication errors were reported by nurses. Results of the current study were considerably lower than those of Arak (64%). Based on the results of Arak study, among all studied factors, fear from reporting consequences had the highest score that was in agreement with the findings of the current study. From 10 existing items in the domain, fear from reporting consequences,

Table 2. Ranking the Factors Contributing Refusal to Report the Medication Errors[a]

Factor	Variable	Scale (Agree) F (%)					Mean ± SD	Mean ± SD total	P Value
		Strongly	Agree	Neutral	Disagree	Strongly Disagree			
Managerial factors	Lack of receiving positive feedback from the nursing heads following the report of medication errors	5 (5.15)	21 (5.15)	12 (21.64)	33 (34.02)	26 (26.8)	3.74 ± 1.265	3.08 ± 1.126	0.0001
	Improper beliefs of nursing heads and managers	7 (7.21)	22 (22.68)	14 (14.43)	34 (35.05)	20 (2.06)	3.80 ± 1.401		
	The heads focus only on finding the culprits and blaming them, regardless of other factors involved in the occurrence of errors	5 (5.15)	16 (16.49)	16 (16.49)	27 (27.83)	33 (34.02)	3.34 ± 1.234		
	Disproportionate reaction of the heads to the error seriousness	4 (4.12)	26 (26.8)	10 (10.3)	31 (31.96)	26 (26.8)	3.58 ± 1.104		
	Disproportionate reaction of the heads to the error importance	6 (6.18)	32 (32.98)	8 (8.24)	27 (27.83)	24 (24.74)	3.63 ± 1.362		
Factors related to the process of reporting	Not paying attention to the reporting some medication errors	26 (26.8)	16 (16.49)	13 (13.4)	35 (36.08)	7 (7.21)	3.06 ± 1.452	3.41 ± 0.867	0.035
	Lack of a clear definition for medication errors	11 (11.34)	31 (31.95)	16 (16.49)	27 (27.83)	12 (12.37)	2.92 ± 1.712		
	Forgetting to report medication errors	17 (17.52)	21 (21.64)	13 (13.4)	33 (34.02)	13 (13.4)	3.26 ± 1.206		
Fear of the consequences of reporting	Fear of the impact of reporting errors on the personnel's annual evaluation	16 (16.49)	22 (22.68)	10 (10.3)	37 (38.14)	12 (12.37)	3.97 ± 1.321	3.64 ± 1.226	
	Fear of the impact of reporting errors on salary and bonus	13 (13.4)	30 (30.92)	13 (13.4)	34 (35.05)	7 (7.21)	3.28 ± 1.365		0.001
	Fear of being blamed by nursing heads	7 (7.21)	19 (19.58)	7 (7.21)	42 (43.29)	22 (22.68)	3.91 ± 1.232		
	Fear of being blamed by doctors	13 (13.4)	21 (21.65)	7 (7.21)	40 (41.23)	16 (16.49)	3.67 ± 1.023		
	Fear of being blamed by colleagues	21 (21.65)	37 (38.14)	15 (15.46)	18 (18.55)	6 (6.18)	2.96 ± 1.587		
	Fear of causing side effects in patients	13 (13.4)	16 (16.49)	6 (6.18)	33 (34.02)	29 (29.89)	3.87 ± 1.314		
	Fear of being labeled as incompetent nurses	18 (18.55)	19 (19.58)	7 (7.21)	42 (43.29)	11 (11.34)	3.42 ± 1.278		
	Fear of colleagues' behavior	15 (15.46)	36 (37.11)	14 (14.43)	23 (23.71)	9 (9.27)	3.02 ± 1.142		
	Fear of expressing a negative attitude towards the nurse(s) who made errors by the patient and his/her family	10 (10.3)	18 (18.55)	8 (8.24)	47 (48.45)	14 (14.43)	3.81 ± 1.089		
	Fear of legal conflicts following the report of medication errors	12 (12.37)	15 (15.46)	9 (9.27)	45 (46.39)	16 (16.49)	3.42 ± 1.156		
	Fear of informing colleagues working in other wards about the occurred medication error	8 (8.24)	23 (23.71)	10 (10.3)	39 (40.2)	17 (17.52)	3.82 ± 1.226		

[a] Values are expressed as No. (%).

fear from evaluation score, and academic consequences were the main causes for the refusal to report the medication errors (39). In another study conducted in 4 hospitals in Mashhad, Iran, it was estimated that nurses were responsible for reporting only 45% of all medicinal errors; also, they cited the lack of knowledge about unit policies, routines (59.8%), and negligence to report (59.8%) as the most important reasons for the failure to report the errors (40). This can be explained by the fact that nurses usually follow different methods to report medication errors. In a study conducted by Hosseinzadeh in Tabriz and Maragheh, Iran, evidence showed that the most cited barriers were the managerial factors, fear of legal conflicts, inappropriate definition of medication errors, and inappropriate reactions of authorities (41). Also, the current study results were similar to those of other researches in this field that the factor of fear of the consequences of reporting was approximately the most important reason for the refusal of reporting medication errors (56-58). In a study by Hesari et al. the main reasons for not reporting medication errors were authorities' focus on the person who made the error regardless of other factors involved (3.86 ± 1.06), fear of legal conflicts (3.79 ± 1.07), and the lack of clarity about the definition of medication errors (3.34 ± 1.13) (59).

Finally, it should be mentioned that the current study had some limitations such as small sample size and conducting the study only in 1 hospital. It should be noted that similar studies should be carried out on other public and private hospitals, using larger samples. Also, the medication errors can be prevented or reduced by providing medication protocols and education.

6. Conclusions

Based on the findings of the current study, fear of the consequences of reporting had the greatest role in the re-

fusal of reporting medication errors. Therefore, positive reaction of nursing manager to the reports, effective communication with nurses, practical responsibility, and professional ethics , formation of a committee in order to assess the main causes of medication errors in hospitals, training nurses, retaining courses on pharmacological information, encouraging nurses to report medical errors, and design of drug information questions related to the personnel can effectively influence the reduction of the occurrence of medication errors and improve the patients' safety.

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Footnotes

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