Original Article

Nurse Managers' Approach to Working Errors: Results of a Qualitative Study

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(Received: 23 Aug 2014 Accepted: 18 Mar 2015)

Abstract

Introduction: Maintaining the patient safety is a fundamental concept in healthcare systems. Working errors are the factors that threaten the patient safety, and are highly important to be controlled. The managers' approach to error reporters is effective in preventing these errors and increasing error reporting in the case of occurrence. The current study aimed to analyze the managers' approach to errors made at Imam Khomeini hospital, Urmia in 2011.

Methods: This qualitative research was carried out to investigate the perspective of nurse managers about dealing with working errors. 30 semi-structured interviews were conducted individually with working managers at Urmia Teaching Hospitals. The obtained data were studied through content analysis.

Results: Based on the findings, three main categories were obtained, including the managers' approach to reporting working errors, managers' reaction to working errors, and strategies to reduce the incidence of errors.

Conclusion: The regulations or guidelines of error reporting are useful for organizations, reduce personal measures and preferences, and encourage nurses to embark on error reporting. Thus, these regulations are required to be formulated and implemented by the managers of the healthcare system in Iran.

Keywords: Working errors, Managers nurses, Qualitative research

Citation: Zarezadeh Y, Salimi S, Bayazidi S, Rahimi J. Nurse managers' approach to working errors: results of a qualitative study. Educ Res Med Sci. 2015; 4(1): 1-7.

Introduction

There is a close relationship between the perfo-rmance of a system and the management style, so that the success or failure of the system is attributed to its management style. Hence, management is considered highly important in a system (1). As part of their duties, managers are responsible for making all decisions and taking measures in the hospital. They make decisions about the staff's responsibilities, division of duties, how to get things done and how to provide care in the hospital (2). The ultimate goal of the healthcare

system is providing quality care in line with improving the outcome of services for the patient and community (3). Advanced healthcare services are complicated and risky and are very much prone to committing errors (4), so that getting rid of injury and establishing patient safety are the main cornerstones of quality care (5). Working error is one of the factors threatening the patient safety that, as a universal problem, can lead to serious harms and even death of the patient (6). Nursing errors, the same as errors made during medication treatment or patient care, are considered a well-known problem in the healthcare system and are highly significant as they may result in irreversible consequences (7).

Handling the working errors is of paramount significance, since, in addition to increasing the healthcare costs, they impose a negative effect on the patient safety, which is the highest priority in the healthcare system of the country (8). Approximately half of these errors can be prevented (8-9). However, unlike the endless advantages of ethical foundations of error reporting, nurses may be hesitant to error reporting in order to protect themselves from the penalties and managerial regulations (10). Efficient and proper management is a separate component of the nurses' clinical role and part of their direct responsibilities. Most of the errors are made due to deficiencies in the healthcare system, training, personnel's understanding and working conditions (11). Studies have shown that the managers' higher access to managerial support causes an increase in the nurses' self-confidence to report and reduce errors (12). On the contrary, inadequate training of personnel and nurses' lack of trust in the system are the factors inhibiting nurses from error reporting (13). If errors and the factors associated with them are clearly discussed with nurses by the nursing continuing training centers and if error prevention and reporting are taught to nurses, the nurses will certainly have a better understating of this issue and take into account other advantages of error reporting such as training, support for the error reporter, regular feedback and promotion of the quality of healthcare services (14).

Given the undeniable role of nursing managers' approach to the nurses' working errors during the reporting process as well as the required planning to reduce the incidence and to prevent these errors, and due to scarcity of comprehensive qualitative research in Iran, it is necessary to analyze the nurse managers' approach to working errors. Therefore, the present study was conducted to investigate the nurse managers' approach to nurses' working errors at Urmia University of Medical Sciences. The findings of this study are hoped to contribute to interventional plans in this domain.

Methods

This study was a qualitative content analysis that was carried out to examine the nurse managers' approach to working errors made by the nursing staff. Semi-structured individual questionnaires were conducted owing to their flexibility and depth in qualitative research (15).

The participants of the study comprised of nursing administrators (nurse manager, supervisor, head nurse) working at two teaching hospitals (Taleghani and Imam Khomeini) in Urmia. Since the qualitative research is dependent upon the samples that are selected to understand the studied phenomenon (16), the sampling technique in the current study was targeted sampling. In qualitative research, the focus is more on the data obtained from the situation or phenomenon, not the number of samples.

Data saturation is usually a guide to making decision about the adequate number of interviews (17). The researchers achieved data saturation through 30 interviews. The data were collected via semi-structured individual interviews. The interviews were conducted in a three-week period. The interviews were done at the participants' workplace, and the time of each interview was 25 minutes on average. During the research, from data collection to the end of data analysis and report of findings, such issues as informed consent, participants' anonymity, confidentiality of data, and withdrawal from the study at any time were fully explained to the participants, and permission was obtained from them to record their voices. Only two participants were not inclined to record their voices but allowed the researcher to write all their ideas word by word. In each interview, the participants were asked about the experience of their staff's working errors, their reaction, higher ranking authorities' reactions, barriers to reporting, strategies to promote error reporting, and general opinion of administrators about working errors.

The recorded interviews were transcribed after each interview. Since in qualitative research the researcher is required to be fully involved in the data collection procedure, the researchers in this study listened to the interviews several times and reviewed the transcripts again. Data were studied through content analysis. Content analysis aims to provide insight into understanding the phenomenon under study (14). The method used in content analysis was inductive approach. In this approach, unlike deductive approach and quantitative content analysis that are based on coding and naming the classes and counting the events, two researchers separately encoded the data according to Hutchinson's suggested model in an open manner, and

then formed the second- and third-level codes by compressing the themes. After each stage of codification, the classification of themes was agreed upon. Finally, axial codification was performed, and the results were described. Data analysis was carried out by the constant comparative model proposed by Corbin and Strauss. Data collection and analysis are performed simultaneously in this method.

To increase the reliability of the study, the following activities were performed: In the initial stages of data analysis, the transcribed interviews were given to three university colleagues to detect any bias in the interview technique. Moreover, the researchers returned the texts of the eight encoded interviews to the participants and received positive feedback from them. To confirm the transferability, the findings were discussed with the authorities that had not participated in the study, and appropriateness of the data was approved by them.

Results

A total number of 40 nurse managers, including head nurses and supervisors, were interviewed until the repeated data were obtained. Most of the samples (87%) were female, and 90% of them were experts and officially employed. Following data analysis, the themes or main categories associated with errors were classified as: A) managers' general approach to reporting the working errors, B) managers' reactions to working errors, and C) strategies to reduce the incidence of errors.

A) Managers' approach to reporting the working errors:

This main category included three subcategories of necessity of reporting, factors facilitating reporting, and barriers to reporting. The categories and units of meaning extracted from interviews in this theme are presented in Table 1.

Table 1. Managers' approach to reporting the working errors

Themes	Categories	Units of meaning	
Managers' approach to reporting the working errors	Necessity of error reporting	Necessity of error reporting	Report to the nursing office
			Report to the ward manager
	Factors facilitating error reporting	A systematic approach to working errors	
		Active committee of medical errors	
		Winning the trust of the personnel by emphasizing the confidentiality of reports	
		Eliminating punishment and replacing it by reward	
	Barriers to error reporting	Related to nurses	Nurses' distrust of the system
			Lack of a clear definition for error
		Related to the system	Punitive approach to errors
			Discriminative approach to

Necessity of reporting: all participants highlighted the necessity of reporting, but they disagreed over the type of report delivered to wards' managers or nursing office. This group believed that some errors have to be reported to the nursing office for decision-making, including: 1) errors that are solvable within the ward, 2) errors leading to patient's harm, and 3) errors repeated by a single person. Few participants believed that all errors (both solvable and unsolvable) need to be reported to high-ranking managers. They believed that more accurate statistics are obtained by reporting the errors. As one of the interviewees stated that "*we consider the error that is not reported as lack of error, that is we think no error has been made, while it may be useful if it is reported*".

The factors facilitating reporting: the classified subthemes in this group consisted of systematic approach to working errors, activity of the committee of medical errors, winning the personnel's trust by emphasizing the confidentiality of reports, and eliminating punishment and replacing it by reward. Most of the participants declared that the factors associated with workplace facilitate reporting. They also considered the managers' support for personnel and anonymity of reporting as facilitators of reporting. One of the participants reported "*in meetings, working errors and error reporting are never discussed systematically to find a solution, merely daily issues are analyzed*". Another participant stated "*the committee in the hospital entitled committee of medical errors is completely inactive and only issues statistics. The committee of medical or nursing errors must exist, errors have to be reported anonymously and only the shifts and days need to be determined*".

Barriers to error reporting: the barriers to error reporting were classified into two categories of barriers related to nurses and barriers related to system. The barriers related to managers included nurses' distrust in the system and lack of a clear definition of error. The managers frequently highlighted a precise definition of error. One of the participants stated "*an error may be very big for me but very small and negligible for the matron. This makes the person committing the error not consider it as an error because he/she does not regard it as an error*". The barriers related to system involved a punitive approach to error reporting, including deduction of reward, formally written punishment, blaming, and a discriminative approach to medical and nursing errors. Most of the managers considered punitive approach to error reporting as the biggest obstacle. Most of the participants agreed upon discriminative approach to medical and nursing errors during the interviews and regarded it as an effective factor in preventing error reporting and demoralizing nurses. Another participant suggested that "*the errors made by the nursing staff are very much highlighted. If a nurse feels his/her manager does not support him/her, he/she does not care anymore about what happens*".

B) Managers' reaction to working errors

Many managers believed that the approach to errors depends on the condition and type of error. However, they agreed with positive reaction in the case of lack of patient harm. With regard to the type of reaction, the majority of managers agreed with the approach to error in stages. In some cases, however, the managers preferred to solve the problem by themselves within the ward, which could lead to building confidence and facilitating the error reporting process. The categories and units of meaning extracted from the questionnaires in this theme are presented in Table 2.

Table 2. Managers' reaction to working errors

Themes	Categories	Units of meaning	
Managers' reaction to working errors	Reasons for approaching the error	Eliminating punishment, but not feasible	
		Positive reaction by managers	
		Strictness owing to responsibility and patient safety	
	Type of reaction	Serious approach to errors	Due to nurse's lack of attention
			To prevent the repetition of error
		approaching the errors in stages	Oral approach to error
		Training	Reporting to the high-ranking managers
	Compatibility of the approach to error with working error	approaching the errors in stages	Oral approach to error
		Training	Reporting to the high-ranking managers
		Finding the root of error	
		Compatibility with working condition	
		Compatibility with type of error	

C) Strategies to reduce the incidence of errors

Given the inevitability of working errors in healthcare centers, it is not possible to completely avoid them. However, it is possible to design a system to reduce the probability of errors and to minimize their negative effects during the incidence of errors. The participants of this study reported reduction of workload and shifts as strategies to reduce the incidence of errors. One of the participants stated that "*when the nurse takes care of 14 patients instead of 7 patients, he/she gets confused and definitely makes an error*". Training the nurses was another factor that was proposed to reduce errors. Moreover, employment of the staff in their area of expertise is another element that affects reduction of errors. The categories and units of meaning obtained from the questionnaires in this theme are presented in Table 3.

Table 3. Strategies to reduce the incidence of errors

Themes	Categories	Units of meaning
Strategies to reduce the incidence of errors	Systematic	**Reduction of workload (ratio of nurses to patients)**
		Reduction of working shifts
		Employment of personnel in their field of expertise
	Training	**Running training courses**
		Revising the training trend of the nursing students

Discussion

The current study aimed to determine the nurse managers' approach to working errors. Given the inevitability of working errors in every profession, it is impossible to uproot them completely (18). Working error reporting is necessary for increasing the patient safety, but various factors play a role in reducing this essential activity (19, 20). The barriers to error reporting in this study were analyzed in two dimensions of barriers related to the nurses and barriers related to the system. The highest number of codes was reported for barriers related to nurses, the most important of which was nurses' lack of trust in the system. The research findings have shown that lack of trust, feeling guilty about the patient's pain and suffering, fear of negative reactions, and lawsuit prevent error reporting (21, 22), which are in line with the results of the present study. Therefore, it seems that a strong relationship with a high confidence between nurses and nurse managers and the managers' good behavior with nurses create a positive emotional response, leading to an increase in error reporting (19, 23).

Ambiguity in defining error is another obstacle related to nurses. A study indicated that non-serious error causing no harm to the patient and lack of a clear definition of error, which is an indicator of inadequate training of personnel, prevent error reporting (10, 23, & 24). The most important obstacles related to the system were punitive approach to error reporting and discriminative approach to error reporting. Other studies in line with the present study have reported managerial obstacles and fear of negative reaction by managers, vulnerability, threat and punishment by disciplinary rules and legal measures as barriers to error reporting (21, 24). Thus, errors are either not reported or are reported fewer than the actual number because the nurses that take the risk of error reporting are negatively treated by colleagues, managers and the public (21, 22).

Blaming an individual is the most obvious response to the error and the person who commits the error (19). Also, discriminative approach to medical and nursing errors was another barrier related to the system. Most of the managers in this study were concerned about this issue and believed that hospitals have the greatest control over the nursing staff. However, if the purpose is to promote patient safety, it must be patient-oriented, and all errors need to be handled equally. According to the results of a study, blaming the nurse even for instances that he/she is not guilty causes mental harm in the person and instills fear in the nursing staff. Moreover, the harms left in the nurses' mind from the past errors can restrict them from error reporting (19). Other studies have shown that higher access of nurses to managerial support reinforces nurses' self-confidence in providing healthcare (25). To increase the error reporting of nurse managers and nursing staff, they need to be ensured that error reporting with no consequent punishment enhances patient safety. In addition, the deficiencies and weaknesses of the organization play a pivotal role in making errors (26).
Reinforcing the professional relationship between the nurse managers and the nursing staff plays an important role in building confidence in nurses and enhancing error reporting, as patient safety will be ensured by taking this issue more into consideration (19). Therefore, the nurse managers' support for nurses' strengths the feeling of empowerment and enhances error reporting in nurses. On the contrary, feeling of insecurity and lack of support on the part of nurse managers and healthcare system cause a reduction in the quality of healthcare (25). Also, an anonymous error reporting system reduces the responsibility of the staff and encourages error reporting (19, 20).

Other studies have demonstrated that the negative experiences of managers, doctors and colleagues are regarded as a concern among nurses and inhibit error reporting (11, 29). When the individuals and organizations are able to grow from individual blaming to a safety culture where harms and fears left in the mind of nurses are replaced by the encouraging attempts of error reporting in a safe environment, the organization will be able to officially establish an error reporting system and to increase reporting different types of errors (19, 25).

Most of the participants in the current study stated that they mostly performed error reporting in stages in the case of error incidence. They also reported that, given the undeniable effect of working conditions, a set of conditions make the incidence of errors possible; so, it is necessary to find the causes of unsafe activities in order to control the errors. The managers that take a very serious

approach to the people who commit an error create a lot of fears in them since they deal with nursing errors as crimes. Thus, these fears and harms left in the mind of nurses have to be replaced by encouragements for error reporting (24, 27).

The studies in agreement with the current study introduced weakness in compatibility of managers' response with severity of errors as the reasons for lack of error reporting (28, 29). Furthermore, another study indicated error reporting to be associated with the managers' reaction and approaches to the previous errors made by the staff. On the other hand, if the reaction was not compatible with the error the staff made or if the staff were not supported, they would not report the errors again and try to hide them (30). The negative experiences of former managers, doctors and colleagues are considered as a major concern and a prohibitory factor in error reporting (11, 28, & 29). Hence, the nurse managers should not disregard the environmental factors in approaching the working errors (27).

Conscience, commitment, individual responsibility, reducing the workload, appropriate proportion of the number of nurses to patients, and attempts for reinforcing, training and encouraging nurses to identify and prevent working errors reduce the number of errors (19, 30), which are in agreement with the findings of the current research.

Given the inevitable role of working conditions in the occurrence of errors, the nurse managers should provide a ground to reduce these errors by analyzing these conditions in healthcare centers. Additionally, error reporting will be enhanced by the managers' support for the error reporters and teaching the objectives of error reporting to the personnel. Managers should look at nursing errors as an inseparable component of professional activities and as a multi-factorial phenomenon. They should also look for the causes and solutions rather than finding and punishing the guilty person (26). Moreover, given the structural role of organization in providing quality care, organizational and managerial supports are the key to improving the patients' care (31). Since regulations or error reporting guidelines are beneficial for organizations as they reduce personal measures and encourage nurses to report errors (24, 26), these rules are essential to be formulated and implemented in Iran by the managers of healthcare system. Since the present study is one of the few studies that have investigated the nurse managers' approach to working errors and since the participants' approach to error reporting may have affected the results of the study, similar studies are recommended to be conducted in this regard.

Conclusion

The guidelines of error reporting are constructive for healthcare system, reduce personal measures and preferences, and encourage nurses to embark on error reporting. Therefore, these regulations are required to be formulated and implemented by the managers. Creating an appropriate atmosphere including feasible guidelines, training all nurses and managers in addition to encouraging error reporting are essentially required.

Acknowledgments

The authors would like to extend their appreciation to all nurse managers at Imam Khomeini and Taleghani Teaching Hospitals for their sincere participation in this study. There is no conflict of interest in this study.

References

1. Kirsten W. Health and productivity management in Europe. Int J Workplace Health Management. 2008; 1(2): 136-144.

2. Ho W. Organizational transformation for services excellence in a public hospital in Hong Kong. Managing Service Quality. 1999; 9(6): 383-388.

3. O'Rourke A. Seminar 3: An introduction to evidence-based practice. [Monograph on the Internet]. Available at: http://www.wisdomnet.co.uk/sem3.html. (Accessed August 21, 2004).

4. Gacki-Smith J. Juarez J. Altair M. Boyett L. Homeyer C. Robinson L. Violence against nurses working in US emergency departments. J Nurs Adm. 2009; 39(7-8): 340-349.

5. Galt KA. Paschal K. Foundation in patient safety for health professionals: Sudbury Massachusetts. Jones and Bartlett, 2011.

6. Mrayyan MT, Shishani K, AL-Fauri I. Rate, causes and reporting of medication errors in Jordan: Nurses perspectives. J Nurs Manag. 2007; 15(6): 659-670.

7. Johnstone MJ, Kanitsaki O. The ethics and practical importance of defining, distinguishing and disclosing nursing errors: A discussion paper. Int J Nurs Stud. 2006; 43(3): 367-376.

8. Pronovost PJ, Thompson DA, Holzmuller CG, Lubomski LH, Morlock LL. Defining and measuring patient safety. Crit Care Clin. 2005; 21(1): 1-19.

9. Thomas MR, Holquist C, Phillips J. Med error reports to FDA show a mixed bag. Available at: http://www.fdagov/downloads/Drugs/DrugSafety/MedicationErrors/ucm115775.pdf.

10. Schuer KM. Quality Care Committee of the AAPA. Disclosure of medical errors: The right thing to do. JAAPA. 2010; 23(8): 27-29.

11. Chiang HY, Pepper GA. Barriers to nurses' reporting of medication administration errors in Taiwan. J Nurs Scholarsh. 2006; 38(4): 392-399.

12. ACEP. Disclosure of medical errors. Ann Emerg Med. 2010; 56(1): 80.

13. Palses A, Sartor A, Costaperaria G, Bresadola V. Interruptions during nurses' drug rounds in surgical wards: Observational study. J Nurs Manag. 2009; 17(2): 185-192.

14. Wilson B, Bekker HL, Fylan F. Reporting of clinical adverse events scale: A measure of doctor and nurse attitudes to adverse event reporting. Qual Saf Health Care. 2008; 17(5): 364-367.

15. Burns N, Grove S. The practice of nursing research: conduct, critique and utilization. 5th Ed. Tehran: Rafi Publication. 2005: 379-383.

16. Polite DF, Hungler BP. Nursing research: Principles and methods. 6th Ed. Philadelphia: Lippincott Williams & Wilkins.1998: 723-724.

17. Nikbakht A. Sanei A. The methodology of qualitative research in medical sciences. 2nd Ed. Tehran: Baraye Farad Publication. 2009: 144-148. [Persian]

18. Anoosheh M, Ahmadi F, Faghihzadeh S, Vaismoradi M. Survey of predisposing causes of working errors in nursing cares from perspective of nurses and their managers perspectives. Iran J Nurs. 2007; 20(51): 25-36. [Persian]

19. Wolf ZR, Hughes RG. Error reporting and disclosure. In: Patient safety and quality: An evidence based handbook for nurses. Rockville. MD: AHRQ Publication. 2008; 1-47.

20. Elder NC, Graham D, Brandt E, Hickner J. Barriers and motivators for making error reports from family medicine offices: A report from the American academy of family physicians national research networks (AAFP NRN). J Am Board Fam Med. 2007; 20(2): 115-123.

21. Hobgood C, Tamayo–Saver JH, Elms A, Weiner B. Parental preferences for error disclosure, reporting, and legal action after medical error in the care of their children. Pediatrics. 2005; 116(6), 1276-1286.

22. Schwappach DL, Koeck CM. What makes an error unacceptable? A factorial survey on the disclosure of medical errors. Int J Qual Health Care. 2004; 16(4): 317-326.

23. Chiang HY, Pepper GA. Barriers to nurses' reporting of medication administration errors in Taiwan. J Nurs Scholarsh. 2006; 38(4): 392-399.

24. Tang FI, Sheu SJ, Yu S, Wei IL, Chen CH. Nurses relate the contributing factors involved in medication errors. J Clin Nurs. 2007; 16(3): 447-457.

25. Adib-Hajibagheri M, Aminoroayaei Yamini E. Nurses perception of professional support. J Kashan Univ Med Sci. 2010; 14(2): 140-153. [Persian]

26. Kuhn AM, Youngberg BJ. The need for risk management to evolve to assure a culture of safety. Qual Saf Health Care. 2002; 11(2): 158- 162.

27. Hsio GY, Chen IJ, YU S, Wei IL, Fang YY Tang FI. Nurses' knowledge of high alert medications: Instrument development and validation. J Adv Nurse. 2010; 66(1): 177-190.

28. Wakefield BJ, Uden-Holman T, Wakefield DS. Development and validation of the medication administration error reporting survey. Available at: http://www.ncbi.nlm.nih.gov/books/NBK20599/

29. Wakefield DS, Wakefield BJ, Borders T, Uden-Holman T, Blegen M, Vaughn T. Understanding and comparing differences in reported medication administration error rates. Am J Med Qual. 1999; 14(2): 81-88.

30. Fein S, Hilborne L, Kagawa-Singer M, Spiritus E, Keenan C, et al. A Conceptual model for disclosure of medical errors. In: Henriksen K, Battles JB, Marks ES, Lewin DI: Advances in patient safety: From Research to Implementation. Available at: http://www.ncbi.nlm.nih.gov/pubmed/21249826.

31. Zargadi M. Zaghari Tafreshi M. Abed Saeadi ZH. Quality of nursing care from nurses' perspective: Qualitative research. J Res Med Sci. 2008; 2(31): 147-157. [Persian]