

Refusing to Report the Medication Errors and It's Effects on Patient's Safety in Razi Teaching Hospital during 2014-2015

Sahar Geravandi^{a,b}, Farhad Adhami Moghaddam^c, Mohammad Sahebalzamani^{d*},
Mohammad Javad Mohammadi^{e,f}

^aDepartment of Nursing, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.

^bRazi Teaching Hospital, Clinical Research Development Center, Razi Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

^cDepartment of Ophtalmology, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.

^dDepartment of Educational Management, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.

^eAbadan school of Medical Sciences, Abadan, Iran.

^fStudent Research Committee, Department of Environmental Health Engineering, School of Public Health and Environmental Technologies Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

*Correspondence should be addressed to Dr. Mohammad Sahebalzamani; Email: m_szamani@yahoo.com

A-R-T-I-C-L-E-I-N-F-O

Article Notes:

Received: Mar 25, 2016

Received in revised form:
May 27, 2016

Accepted: July 12, 2016

Available Online: July 26,
2016

Keywords:

Medication errors

Patent safety

Healthcare reform

Nurses, Teaching hospitals,
Ahvaz, Iran.

A-B-S-T-R-A-C-T

Background & Aims of the Study: One of the most important health aspects of health care systems is patient's safety and medication errors can threaten this safety. The purpose of this research was the evaluation of refusing to report the medication errors and it's effects on patient's safety in Razi teaching hospital after healthcare reform during 2014-2015.

Materials and Methods: This study is a cross-sectional study that has been accomplished by descriptive-analytical method. The environment of research is Razi teaching hospital of Ahwaz, Iran. The studied population consisted of nurses who were working in different wards of selected hospital. The data collection tool was a questionnaire. The results were analyzed by Excel and SPSS 16.0.

Results: The results showed 60% of medication errors report by nurses. Also, it showed that the most important reasons for not reporting medication errors were related to the managerial factors (3.85 ± 1.512). This factor can be very important on patient's safety. Factors which were related to the fear of the consequences of reporting were 3.80 ± 1.301 and the process of reporting were 3.21 ± 1.231 , respectively.

Conclusion: The results of this study showed that the management factors were an important reason for not reporting medication errors. Encourage nursing, good drug administration, training an appropriate method, using suitable instruments and decrease direct contact with patient can increase the causes of errors report. Increase the report of medication errors can help to management these errors and reduction of injures to patients.

Please cite this article as: Geravandi S, Adhami Moghaddam F, Sahebalzamani M, Mohammadi MJ. Refusing to Report the Medication Errors and It's Effects on Patient's Safety in Razi Teaching Hospital during 2014-2015. Arch Hyg Sci 2016;5(3):214-220.

Background

Medication errors commonly occur during three steps of the medication use process including:

during administering an intravenous drug, drawing blood, performing other procedures, care procedures on patients during surgery and failure to use appropriate patients' protective equipment (1-9). Medication error is defined

according to forming damage, risk and any avoidable incidence to occur during the process of medication request to patient's monitoring (9-14). Medication errors increase mortality, disability, hospitalization time, adverse economic consequences, hospital costs, the incidence of health problems, failure in administration and necessary action for medication (12,15,16). Patient's safety and health are one of the most concerns that mention in the hospitals and medical places (3,17). Stress and anxiety are two important factors dependent on medication errors among health care workers (HCWs) (17). Preventing further mistakes in future and patients' safety are the famous benefits about reporting the medication errors (4,5,18). Shortage of nursing staff, errors of timing drugs, the condition of the patient, the type of hospital and ward, fear from reporting consequence, threat of management, fear from evaluation score and the lack of knowledge about unit policies are the important factors which are affected the medication errors and refusing to report (19-25). Concerning about medications administered during care and monitoring patients can be affect the treatment (26-28). Nurses because of their position to notice medication errors at first can thereby take steps to reduce the risk of incorrect medication errors (26,29-31). In the study conducted by Mohammad Nejad et al in 2013 in Tehran, they studied medication errors report refusing from the perspective of nurses in emergency ward (32). In another study performed in Arak University of medical sciences in 2009, fear from reporting consequence and the evaluation score were the main causes for refusing to report the medication errors (33). In the study conducted by Hosseinzadeh in 2012 in Tabriz and Maragheh, the reasons of nurses' medication errors and perspectives of nurses on barriers of error reporting were studied. Evidence showing that the most cited barriers were management factors (34).

Aims of the study:

The aim of this study was to evaluate the refusing to report the medication errors and its effects on patient's safety in Razi teaching hospital during 2014-2015.

Materials & Methods

Methods

This descriptive study was conducted during years 2014-2015 after the healthcare reform on all nurses who were working in different wards at Razi teaching hospital of Ahvaz with 220 beds approximately. The target population comprised 110 nurses who were working day/night in different wards. Data collection was designed based on a questionnaire according to the operating system and administration errors (35). The questionnaire was assembled based on previous studies to ascertain the medication errors encountered by nurses (30,36-40). Sampling was performed based on random selection from nurses who were working in hospital after the healthcare reform plan. The nurses' age, gender, ward of working and reasons for not reporting the medication errors were analyzed by SPSS-16. Data were analyzed by applying descriptive statistical.

3.2. Description of study area

Razi teaching hospitals is one of the important health center in Ahvaz (in the southwest of Iran). This hospital with 220 beds has a big role to providing the health care for a population of over a 1 million, approximately (41-47).

Results

This study was conducted on more than 110 nurses' working in Razi teaching hospital in Ahvaz during 2014-2015 after the healthcare reform plan. The results showed that 67.05% had lower than 1-5 years job experience and 32.95% had 5 years and more. The response rate in our study was 80%. Based on the result of this study, the mean age of participants was 29.5 ± 2.86 years, ranging 22-45 years and most

of them were women ($n=78$, 88.64%) (Table 1).

Most common reasons for refusing to report the medication errors are fear of the impact of reporting of errors on the personnel's annual evaluation, fear of the impact of reporting of errors on their salary and benefits, fear of being blamed by nursing heads, fear of producing side effects in patients, fear of judicial issues

following reporting on medication errors and fear of being labeled as incompetent nurses and inadequacy, respectively. Figure 2 shows the percent of the degree of agree in refusing to report the medication errors about managerial factors, factors related to the process of reporting and the consequences of reporting between nurses.

Table 1) Characteristics of the Nurses

Characteristics		Number (Percent)
Age	Less than 25	12 (13.64)
	25-35	64 (72.72)
	35 years and more	12 (13.64)
Gender	Female	78 (88.64)
	Male	10 (11.36)
Years of work experience	1-5 years	59 (67.05)
	5 years and more	29 (32.95)
Education level	Diploma	7 (7.95)
	Bachelor's degree	67 (76.14)
	Master of sciences	14 (15.91)

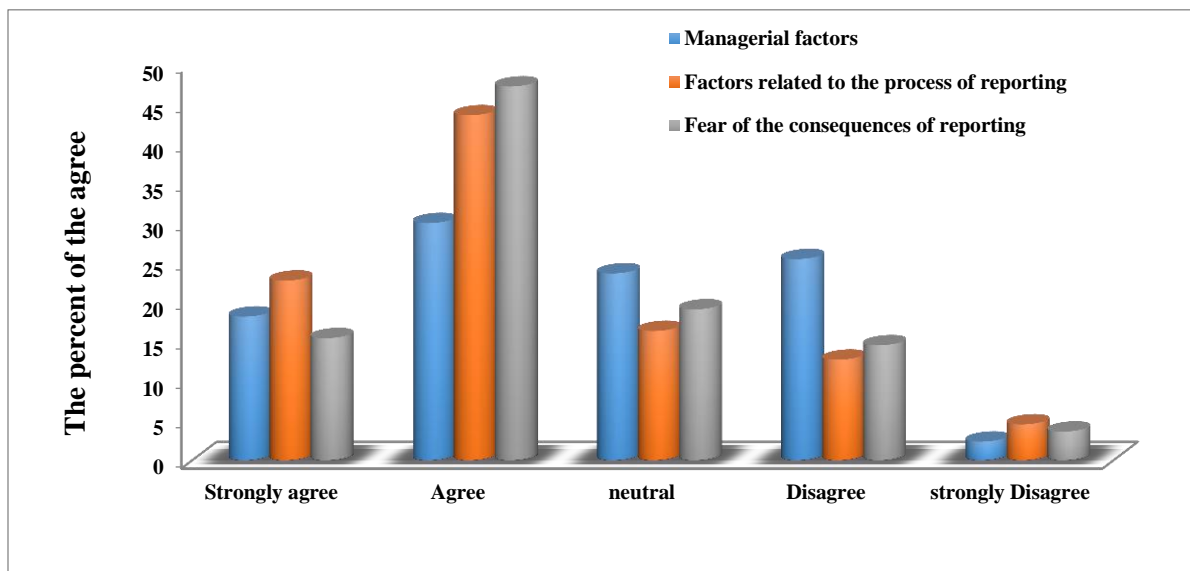


Figure 2) The percent of the degree of agree the refusing to report the medication errors

Discussion

According to the results of this study, the most important reasons for refusing to report the medication errors in nurses were related to the fear of the consequences of reporting, factors related to the process of reporting and managerial factors, respectively. The results showed that the highest mean scores in the domain of the managerial factors was related to the lack of receiving positive feedback from the nursing heads following to report on medication errors (3.85 ± 1.512). Fear of the decrease of annual evaluation was the highest mean score in the fear of the consequences of reporting (3.80 ± 1.301) and in the domain of factors related to the process of reporting was associated with forgetting to report the medication errors (3.21 ± 1.231). In another study conducted in 4 hospitals of Mashhad, nurses estimated that only 45% of all the medicinal errors were reported, and they cited a lack of knowledge about unit policies and routines (59.8%) and negligence to report (59.8%) as the most important reasons for the failure to report the errors (48). This can be explained by the fact that nurses with different methods of report the medication errors. Tol et al reported the factors related to the process of reporting as the most important reason for not reporting the medication errors, do not confirm the present study results in the mentioned domain (49). The reason for this conflict can be due to the changes in process of answer the question and different methods of report the medication errors between nurses. Hosseinzadeh et al showed that the consequences of reporting factors as the most important reason for not reporting the medication errors (34). Observation of our study is in agreement with the findings of their result. (33). In Hesari et al study in 2015, the main reasons for not reporting the medication errors were authorities' focusing on the person who has made the error regardless of other

factors involved (3.86 ± 1.06), fear of legal issues (3.79 ± 1.07), and the lack of clarity of the definition of medication error (3.34 ± 1.13) (50). Finally, it should be mentioned that the present study had some limitations such as small sample and studying only on one hospital. It should be noted that, similar studies should be carried out on other public and private hospitals, using large samples. Also, it can prevent and reduce the medication errors with having a medication protocol and education. We recommended to authorities in the field of patient's safety to perform several feasible strategies toward producing low medical errors to decrease the threats for patients which were admitted in hospital.

Conclusion

According to the results of the study, the highest role in the refusal of reporting the medication errors is the fear of the consequences of reporting in Razi hospital. Therefore, effective communication with nurses, responsibility and professional ethics to be practical, positive nursing managers reaction to nurses' reporting, training nurses, retaining courses on pharmacological information, design of drug information questions related to personnel and encouraging nurses to report the medical errors should be taken into account seriously in reducing medication errors occurrence and improving patient health and safety. Publishing the results of these researches in the scientific journals, preparation of educational bulletins and increasing the knowledge of authorities about these refusing to report the medication errors can be considered as a major step in the management and control of medication errors.

Footnotes

Acknowledgments:

The authors would like to thank Razi teaching hospital, clinical research development center for the technical support and providing the facilities.

Conflict of Interest:

The authors declared no conflict of interest.

Funding/Support:

This study was supported by Islamic Azad University, Tehran Medical Sciences Branch.

References

1. Ker K, Edwards PJ, Felix LM, Blackhall K, Roberts I. Caffeine for the prevention of injuries and errors in shift workers *Cochrane Database Syst Rev*. 2010 May 12;(5):CD008508.
2. Ayas NT, Barger LK, Cade BE, Hashimoto DM, Rosner B, Cronin JW, et al. Extended work duration and the risk of self-reported percutaneous injuries in interns. *JAMA* 2006;296(9):1055-62.
3. Stucky E. Prevention of medication errors in the pediatric inpatient setting. *Pediatrics* 2003;112(2):431-6.
4. Lewis PJ, Dornan T, Taylor D, Tully MP, Wass V, Ashcroft DM. Prevalence, incidence and nature of prescribing errors in hospital inpatients. *Drug Saf* 2009;32(5):379-89.
5. Berdot S, Sabatier B, Gillaizeau F, Caruba T, Prognon P, Durieux P. Evaluation of drug administration errors in a teaching hospital. *BMC Health Serv Res* 2012;12:60.
6. Wright W, Khatri N. Bullying among nursing staff: Relationship with psychological/behavioral responses of nurses and medical errors. *Health Care Manage Rev* 2015;40(2):139-47.
7. Li JW, Morway L, Velasquez A, Weingart SN, Stuver SO. Perceptions of medical errors in cancer care: an analysis of how the news media describe sentinel events. *J Patient Saf* 2015;11(1):42-51.
8. Prot S, Fontan JE, Alberti C, Bourdon O, Farnoux C, Macher MA, et al. Drug administration errors and their determinants in pediatric in-patients. *Int J Qual Health Care* 2005;17(5):381-9.
9. Abedi G, Mojarad FA. Medical Errors Management Before and After Implementation of Accreditation in Hospital. *Iranian J Health Sci* 2014;2(4):59-66.
10. Krähenbühl-Melcher A, Schlienger R, Lampert M, Haschke M, Drewe J, Krähenbühl S. Drug-related problems in hospitals. *Drug Saf* 2007;30(5):379-407.
11. Maidment ID, Lelliott P, Paton C. Medication errors in mental healthcare: a systematic review. *Qual Saf Health Care* 2006;15:409-13.
12. Evans J. Prevalence, risk factors, consequences and strategies for reducing medication errors in Australian hospitals: a literature review. *Contemp Nurse* 2009;31(2):176-89.
13. McLennan SR, Engel-Glatzer S, Meyer AH, Schwappach DL, Scheidegger DH, Elger BS. Disclosing and reporting medical errors: cross-sectional survey of swiss anaesthesiologists. *Eur J Anaesthesiol* 2015;32(7):471-6.
14. Wong DA, Herndon JH, Canale ST, Brooks RL, Hunt TR, Epps HR, et al. Medical errors in orthopaedics. *J Bone Joint Surg Am* 2009;91(3):547-57.
15. Kohn L, Corrigan JM, Donaldson MS. To err is human: building a safer health system. National Academy of Science, Institute of Medicine; 2002.
16. Dasgupta S, Das S, Chawan NS, Hazra A. Nosocomial infections in the intensive care unit: Incidence, risk factors, outcome and associated pathogens in a public tertiary teaching hospital of Eastern India. *Indian J Crit Care Med* 2015;19(1):14-20.
17. Alavi SM, Sharifi M. Percutaneous Injuries and Transmission of HIV Among Cases Referred for Post Exposure Prophylaxis to Razi Hospital in Ahvaz, a City in the Southwest Iran. *Jundishapur Jo Microb* 2013;6(10).
18. Aspden P, Wolcott J, Bootman J, Cronenwett L. Preventing Medication Errors: Quality Chasm Series. Committee on Identifying and Preventing Medication Errors. Board on Health Care Services. Institute of Medicine of the National Academies. Washington, DC: The National Academies Press; 2006.
19. Anselmi ML, Peduzzi M, Dos Santos CB. Errors in the administration of intravenous medication in Brazilian hospitals. *J Clin Nurs* 2007;16(10):1839-47.

20. Westbrook JI, Rob MI, Woods A, Parry D. Errors in the administration of intravenous medications in hospital and the role of correct procedures and nurse experience. *BMJ Qual Saf* 2011;20(12):1027-34.
21. Chua SS, Chua HM, Omar A. Drug administration errors in paediatric wards: a direct observation approach. *Eur J Pediatr* 2010;169(5):603-11.
22. Fahimi F, Ariapanah P, Faizi M, Shafaghi B, Namdar R, Ardakani MT. Errors in preparation and administration of intravenous medications in the intensive care unit of a teaching hospital: an observational study. *Aust Crit Care* 2008;21(2):110-6.
23. Lisby M, Nielsen LP, Mainz J. Errors in the medication process: frequency, type, and potential clinical consequences. *Int J Qual Health Care* 2005;17(1):15-22.
24. Fijn R, Van den Bemt P, Chow M, De Blaey C, Jong-Van den Berg D, Brouwers J. Hospital prescribing errors: epidemiological assessment of predictors. *Br J Clin Pharmacol* 2002;53(3):326-31.
25. Hronek C, Bleich MR. The Less-Than-Perfect Medication System: A Systems Approach to Improvement. *J Nurs Care Qual* 2002;16(4):17-22.
26. Toruner EK, Uysal G. Causes, reporting, and prevention of medication errors from a pediatric nurse perspective. *Aust J Adv Nurs* 2012;29(4).
27. O'Shea E. Factors contributing to medication errors: a literature review. *J Clin Nurs* 1999;8(5):496-504.
28. Pinheiro JM, Munshi UK. Factors Contributing to Endobronchial Intubation in Neonates. *Pediatr Crit Care Med* 2015;16(1):54-8.
29. Stratton KM, Blegen MA, Pepper G, Vaughn T. Reporting of medication errors by pediatric nurses. *J Pediatr Nurs* 2004;19(6):385-92.
30. Cheung KC, van den Bemt PM, Bouvy ML, Wensing M, De Smet PA. Medication errors related to automated dose dispensing in community pharmacies and hospitals: A reporting system study. *PLoS One* 2014 Jul 24;9(7):e101686.
31. Durham B. The nurse's role in medication safety. *Nursing* 2015;45(4):1-4.
32. Mohammadnejad E, Ehsani SR, Salari A, Sajjadi A, Hajiesmaelpour A. Refusal in reporting medication errors from the perspective of nurses in emergency ward. *J Gorgan Bouyeh Facu Nurs Midwif* 2013;10(1):61-68. (Full Text in Persian)
33. Kouhestani H, Baghcheghi N. Refusal in reporting medication errors from the viewpoints of nursing students in Arak University of Medical Sciences. *Iranian J Med Educa* 2009;8(2):285-92. (Full Text in Persian)
34. Hosseinzadeh M, Ezate Aghajari P, Mahdavi N. Reasons of nurses' medication errors and persepectives of nurses on barriers of error reporting. *Hayat* 2012;18(2):66-75. (Full Text in Persian)
35. Bahadori M, Ravangard R, Aghili A, Sadeghifar J, Gharsi Manshadi M, Smaeilnejad J. The factors affecting the refusal of reporting on medication errors from the nurses' viewpoints: a case study in a hospital in iran. *ISRN Nurs* 2013;2013.
36. Yousefi Ms, Abed Saeedi Z, Maleki M, Sarbakhsh P. Frequency and causes of medication errors of nurses in Tehran. *J Shahid Beheshti Sch Nurs Midwif* 2015;24(86):8454. (Full Text in Persian)
37. Kao CC, Lin YH, Lee I, Sun FK, Chang TC, Li HP. Development and Validation of the Inventory of Perceptions of Medication Administration Errors for Nurses in Taiwan. *J Nurs Res* 2015;23(1):41-6.
38. 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):447-57.
39. Hashemi F, Nasrabadi AN, Asghari F. Factors associated with reporting nursing errors in Iran: A qualitative study. *BMC Nurs* 2012;11:20.
40. Nuckols TK, Smith-Spangler C, Morton SC, Asch SM, Patel VM, Anderson LJ, et al. The effectiveness of computerized order entry at reducing preventable adverse drug events and medication errors in hospital settings: A systematic review and meta-analysis. *Syst Rev* 2014;3:56.
41. Geravandi S, Goudarzi G, Vosoughi M, Mohammadi MJ, Salmanzadeh S, Zallaghi E. Relationship between particulate matter less than 10 microns exposures and health effects on humans in Ahvaz, Iran. *Arch Hyg Sci* 2015;4(2):23-32.
42. Geravandi SGG, Yari AR, Idani E, Yousefi F, Soltani F, et al. An estimation of COPD cases and respiratory mortality related to ground-level ozone in the

metropolitan Ahvaz during 2011. Arch Hyg Sci 2016;5(1):15–21.

43. Goudarzi G, Geravandi S, Salmanzadeh S, Mohammadi MJ, Zallaghi E. The number of myocardial infarction and cardiovascular death cases associated with sulfur dioxide exposure in Ahvaz, Iran. Arch Hyg Sci 2014;3(3):112–119.

44. Goudarzi G, Geravandi S, Foruozaandeh H, Babaei AA, Alavi N, Niri MV, et al. Cardiovascular and respiratory mortality attributed to ground-level ozone in Ahvaz, Iran. Environ Monit Assess 2015;187(8):1-9.

45. Geravandi S, Takdastan A, Zallaghi E, Niri MV, Mohammadi MJ, Saki H, et al. Noise Pollution and Health Effects. Jundishapur J Health Sci 2015;7(1):e25357.

46. Zallaghi E, Goudarzi G, Haddad MN, Moosavian SM, Mohammadi MJ. Assessing the Effects of Nitrogen Dioxide in Urban Air on Health of West and Southwest Cities of Iran. Jundishapur J Health Sci 2014;6(4): e23469

47. Goudarzi G, Geravandi S, Mohammadi M, Saeidimehr S, Ghomaishi A, Salmanzadeh S. Health endpoints caused by PM10 exposure in Ahvaz, Iran. Iranian J Health Saf Environ 2014;1(4):159-65.

48. Seidi M, Zardosht R. Survey of Nurses' viewpoints on causes of medicinal errors and barriers to reporting in pediatric units in hospitals of Mashhad University of Medical Sciences. J Fasa Univ Med Sci 2012;2(3):142-7. (Full Text in Persian)

49. Tol A, Poureza A, Sharifirad G, Mohebbi B, Gazi Z. The causes of not reporting medication errors from the viewpoints of nursing in Baharlo hospital in 2010. J Hospital 2011;9(1-2). (Full Text in Persian)

50. Bagheri MM, Hosseini Nasab A, Torabi Nejad Kermani MH, Shamspour M. A Survey of Nurses' Perceptions of the Causes of Medication Errors and Barriers to Reporting in Hospitals Affiliated to Neyshabur University of Medical Sciences, Iran. J Kerman Univ Med Scie 2015;22(1):105-11.