RESEARCH ARTICLE

PERCEIVED BARRIERS ON REPORTING MEDICAL ERRORS

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ABSTRACT

Background: Medical errors are one of the most important issues in the field of public health in which patients' safety is threatened (Grober & Bohnen, 2005). Medication errors are among the most prevalent medical errors leading to morbidity and mortality worldwide. **Objective:** This study assessed Medical error reporting among nursing students. The objectives were; (1) To assess the perceived barriers related to reporting of medical errors. (2) To find out the causes of medication error reporting. (3) To find out the association between demographic variables and barriers related to medical error reporting. **Methods:** A descriptive cross sectionalstudy was conducted to assess the perceived barriers related to reporting medical errors among 135nursing students using purposive sampling at selected college of nursing, India. Data was collected using structured questionnaire using demographic profile and rating scale on perceived barriers of reporting medical errors. **Results:** Majority of nursing students reported as too much workload 83% and failure of complex system 55% as major barrier for not reporting medical errors. **Conclusion:** Hence clinical instructors must demonstrate positive responses to nursing students for reporting medication errors to improve patient safety.

INTRODUCTION

Patient safety is a central concern of current health-care delivery systems. It is an important indicator of health care quality. Medical errors are often used as indicators of patient safety in hospitals because of their common incident and potential injury to patients. One of these medical errors, medication errors is defined as improper use of medications in each phase of medication administration. These errors are preventable (Hansen et al, 2006 Hughes and Ortiz, 2005, Lehman et al, 2004). Medication errors are considered as an old hospital problem and one of the most common events in the existing professional nursing (Handler et al, 2004). Licensed registered nurses are responsible for the preparation, administration and evaluation of therapeutic responses to medications administered to patients. Study results have indicated approximately one third of adverse drug occurrences are associated with medication errors that are viewed as preventable. Ten to 18% of all reported hospital injuries have been attributed to medication errors.Assessment of student progress in developing requisite knowledge and skills is fundamental to the safe administration of medication. In a descriptive study in 2011, 733 nurses working in Urmia teaching hospitals were included. The purpose of this study was to explore medication error reporting rate and its barriers and facilitators among nursing students in teaching hospitals.

Data was collected using a questionnaire based on Haddon matrix. The questionnaire consisted of three items about medication error reporting rate, eight items on barriers of reporting, and seven items on facilitators of reporting. The results revealed the rate of reporting medication errors among nurses was far less than medication errors they had made. Nurses perceived that the most important barriers of reporting medication errors were blaming individuals instead of the system, consequences of reporting errors, and fear of reprimand and punishment. Some facilitating factors were also determined. Overall, the rate of medication errors was found to be much more than what had been reported by nurses. Therefore, it is suggested to train nurses and hospital administrators on facilitators and barriers of error reporting in order to enhance patient safety (SnorBayazeti, 2012).

Statement of problem: A descriptive cross sectional study on perceived barriers related to reporting of medical errors among nursing students studying at selected college of Nursing, India.

Objectives

- To assess the perceived barriers related to reporting of medical errors
- To find out the causes of medication error reporting.
- To find out the association between demographic variables and barriers related to medical error reporting

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MATERIALS & METHODS

A descriptive cross-sectional research design was adopted in selected college of nursing, Kerala, India. Study population composed of 135 B.Sc(N)students studying in third and fourth year selected through purposive sampling technique. The data was collected using structured questionnaire prepared by the researchers based on literature reviews (Koohestani 2005, Mohammad NejadHojjati and Ehsani, 2009). A questionnaire offours parts were prepared as follows: the first part aimed to collect the demographic information of the students (gender, age, hospital ward); the second part was rating scale related to the perceived barriers of medical error with 20 items and the third part was related to perception related to medication errors and the fourth related to the causes of medication errors on the nursing studentsopinionwith 20 items (scoring based on the frequencies). The reliability of the questionnaire was determined using test-retest method (r = 0.8). In order to comply with ethical considerations, the researchers explained the aim of the study to the study participants and then they were assured that the information will be confidential.Data analysis was done using statistical software package SPSS for windows version 22. Appropriate descriptive and inferential statistics were used to analyze the data.

RESULTS

In the present study a total of 135 nursing students were enrolled. Majority of the students were in the age group of 19 to 24 years (73.4%), qualified with B.Sc nursing (60%), majority of the females (96.6%) and they had total experiences between 1 to 4 years (60 %) in ward. Table 1 reveals majority of nurses reported too much workload 83%, failure of complex system 55 %, blaming nurses if patients are harmed 55 %, medication protocols too complex 45%, too long and time consuming reporting 32%, fear of negative consequences 16%, lack of clear guidelines to report 11%, process of reporting error is cumbersome and incompetence 3%. Mean and standard deviation of perceived barriers related to reporting by the nursing students were (mean =5.133, SD =1.20). Most of the nursing students made minor medication errors without harming patients rather than major errors resulting in patient harm. The nursing students whose medication errors had not harmed the patients had reported less than ¼of their errors. However, participants with major medication errors causing patient harm had reported less than½ of their errors. In addition, there was a significant gap between the frequency of medication errors and the rate of medication errors reporting.

Table 1 :Frequency distribution of Perceived barriers related to reporting (N=135)

S.No	Variables	n	%
1	Medication protocols too complex	61	45
2	Failure of complex system	74	55
3	Too much workload	112	83
4	Process of reporting error is cumbersome	4	3
5	Lack of clear guidelines to report	15	11
6	Fear of negative consequences	22	16
7	Incompetence	4	3
8	Too long and time consuming reporting	43	32
9	Blaming nurses if patients are harmed	74	55

Table 2. Perceptions of nursing students about actual and reported rates of medication error (N=135)

Type of medication error	Rate of error	Rate of reporting	Priority
Without patient harm	1.96 (1.83)	0.26 (0.68)	1
Resulted to patient harm	0.50 (0.13)	0.13 (0.42)	2

Causes of Medication Error

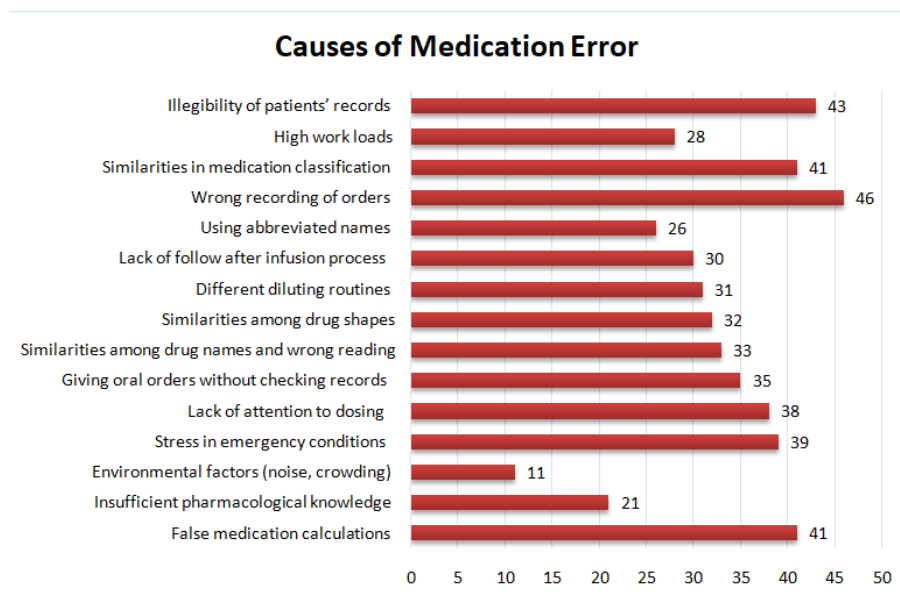| Cause	Value
Illegibility of patients' records	43
High work loads	28
Similarities in medication classification	41
Wrong recording of orders	46
Using abbreviated names	26
Lack of follow after infusion process	30
Different diluting routines	31
Similarities among drug shapes	32
Similarities among drug names and wrong reading	33
Giving oral orders without checking records	35
Lack of attention to dosing	38
Stress in emergency conditions	39
Environmental factors (noise, crowding)	11
Insufficient pharmacological knowledge	21
False medication calculations	41

Fig 1. Causes of medication errors from the viewpoint of nursing students

Table 3. Association Between Selected Demographic Variables and Perceived Barrier Scores of Nursing students (N=135)

Variables	Upto mean	Above mean	χ^2 df=1
Age			
<25 Years	24	68	2.57
>25 Years	0	43	
Gender	4	20	0.76
Male	63	48	
Female	30	45	0.08
Area of residence	20	40	
Rural	16	41	2.94
urban	23	55	
Type of family			
Nuclear			
Joint			

Fig.1. depicts majority of nursing students expressed wrong documentation of medication 46%, illegibility of patient records 43 %, similarities in medication classification 41 %, false medication calculations 41%, stressful emergency situations 39%, lack of attention to dosing 38%, giving oral orders without checking records 35%, similarities among drug names and wrong reading 33%, similarities among drug shapes 32%, different diluting routines 31%, lack of follow up after infusion process 30%, using abbreviated names 26%, high workload 28%, insufficient pharmacological knowledge 21% and environmental factors includes noise, crowding 11%. Table 4 infers, that there was no significant association between selected demographic variable and barrier scores of nursing students.

DISCUSSION

This study showed that a gap between the actual rate of medication errors and the reporting rate among nurses. Nurses with trivial and major medication errors had reported less than ¼ and less than half of their errors, respectively. In a research conducted in Jordan revealed that 42.1% of the nurses had made at least one medication error in their careerSnor 2012). Another study showed that mean rate of medication errors ofnurses was 19.5% while the reporting rate was as low as 1.3% in a 3-month period. The results of the abovementioned studies, together with the findings of the present study, indicate that medication error reporting rate is low. Since most cases of medication errors are not reported by nurses, nursing managers must demonstrate positive responses to nurses who report medication errors in order to improve patient safety. Research from all over the world has shown that medication error is one of the most important issues to be addressed in healthcare settings. Most importantly, it is worth mentioning that accurate error reporting is fundamental to error prevention and patient safety. Therefore, devising and implementing effective error reporting systems require careful consideration in order to modify and reduce the barriers to reporting medication errors. Since, greater number of barriers would lower the reporting of errors, reducing barriers would encourage nurses to report their medication errors. The findings of the present study revealed that nurses do not report many medication errors because they think reporting will result in punitive measures. A similar study identified fear of legal liability, job threat, economic adverse effects, face saving concerns, and adverse consequences of reporting for the individual as the most important barriers to error reporting. Hansel et al 2016 found legal liability as the main reporting

barrier perceived by nursing staff. It can be concluded that the first and foremost step toward a better reporting system is to create a reliable environment for nurses to feel safe to report errors without fear of consequences and repercussion. In other words, it is essential to build an environment in which it is safe for nurses to admit medication errors, learn from the error, and understand the nature of the error.

Conclusion

The results of this study help those who involve in the health care system to improve patient safety and improve the process of reporting medical errors by nursing students' participation in the process of reporting error, while improving knowledge and attitude through nursing student's instructors must demonstrate positive responses to nursing students for reporting medication errors to improve patient safety. Nurses are able to identify medication errors, but are reluctant to report them. Fear of the consequences was the main reason given for not reporting medication errors.

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