Original investigation

Attitudes and Barriers to Incident Reporting for Doctors and Nurses in a University Hospital's Surgery Departments

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ABSTRACT

Purpose: To assess awareness and use of the incident reporting system among doctors and nurses working in hospital surgery departments and to identify the reasons inhibiting incident reporting.

Methods: It was used a cross-sectional study design. The study population comprised doctors and nurses working in the surgery departments of a university's adult and children's hospital. A form including an incident reporting questionnaire was administered to the population.

Results: Compared to doctors, nurses were more aware of the existence of the incident reporting system, filled out more incident reporting forms, and were more knowledgeable about where and how to access the forms and what to do once they were complete. The main barriers to incident reporting were a lack of feedback, completing the form being too time consuming, and the ward being busy.

Conclusion: Nurses are more knowledgeable about incident reporting and report more incidents than doctors, who have more concerns. Doctors' main reason for not reporting incidents is the ward being busy while for nurses it is a lack of feedback.

Keywords: Barriers, incident, incident reporting, patient safety, reporting, surgery departments

INTRODUCTION

Patient safety, the primary prerequisite of quality healthcare, is a global issue that has become a priority for many international organizations (1-3). While the goal of the health care system is treatment patients are exposed to an environment characterized by complex interactions. This complexity leads to an increased risk of adverse and unexpected events (4). Although numerous methods have been developed to rectify the situation, studies report that preventable errors are repeated, causing patients harm (5). In health care and other high-risk industries, reporting systems are considered effective tools to understand negative situations or identify near misses and future errors that are not defined as accidents, gather information about risks and incidents, foresee possible damage caused by similar incidents, or learn lessons that might prevent repetition. These systems are deemed the cornerstone of the efforts for improving patient safety (6, 7).

The value of reporting systems lies in their ability to help identify errors and risky situations, analyse root causes, and take corrective measures. Although these systems are known to make a significant contribution to patient safety, with organizations investing great effort into encouraging incident reports, studies demonstrate how common lack of reporting is (8, 9). In a Taiwanese study on nurses' reporting errors in medical practice, it was observed that 57.1% had never reported an incident (10). A study in the South Australia demonstrated that despite awareness about incident reporting, almost 25% of the health care personnel did not know how to access an incident form or what to do with it once completed, and more than 40% did not fill out a report (11). In a study conducted in Ethiopia, 73% of the nurses stated that they would not report an incident if it went unwitnessed and was considered harmless (12). In a study on doctors and pharmacists in public health institutions in Malaysia, it was determined that 73.4% were aware of the medication error reporting system but only 44.8% used it (13).

The Turkish Ministry of Health started to develop the quality standards for hospitals within the framework of the Health Transformation Programme. These standards require the establishment of safety reporting systems in hospitals (14).

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Hospitals desirous of accreditation can apply to the National System for Accreditation in Health. The Accreditation Standards in Health also include the establishment of an incident reporting system (15). In addition to the foregoing, a safety reporting system, in which participation is voluntary, was created to collect reports of errors in medical processes at the national level. Its modules are used to report medication, laboratory, surgical process, and patient safety errors (16).

According to the results of the Harvard Medical Practice study, adverse events (AEs) associated with general surgery were twice as common as in general medical care (17). In a systematic review of the literature including studies from the USA, Canada, the UK, Australia, and New Zealand, it was found that the majority of in-hospital AEs were associated with surgical care (18). Another systematic review, incorporating evidence from 9 countries, showed that 14.4% of surgical patients experienced AEs (19). In a Swedish study focusing on surgical care, AEs have been reported to occur in 15.4% of surgical hospital admissions and 62.5% of the AEs were considered probably preventable (20). Anderson et al. (19) suggest that surgical patient safety improvement efforts should target the ward and other areas within the hospital as well as the operating room since more than half of potentially preventable surgical AEs occurred in general ward care, and the majority of all surgical AEs occurred in postoperative monitoring and daily care. Surgical safety can be improved through incident reporting systems (21). However, AEs remain underreported despite available reporting systems (22). A better understanding of incident reporting behavior in surgical wards may help to increase reporting. Therefore, the purpose of this study is to determine the level of incident reporting system awareness of doctors and nurses employed at the surgery departments of a hospital, evaluate their level of incident reporting, and identify the reasons why incidents go unreported. Owing to its simultaneous focus on these 3 aspects, it is thought that the study will contribute to improving incident reporting in surgery departments. To our knowledge, this is the first study investigating surgical incident reporting behavior in this context in Turkey.

METHODS

It was used a cross-sectional study design. The study used the "Incident Reporting Questionnaire" developed by Evans et al. (11) to evaluate the attitudes of doctors and nurses toward incident reporting. The original questionnaire was translated into Turkish by 3 specialists and then this Turkish version was translated back into English by an independent translator, and language validity was ensured by comparing it to the original. The reliability analysis provided a Cronbach's alpha of 0.79. In the literature, 0.70 and higher values indicate enough reliability (23). The questionnaire includes 19 items for the determination of barriers to incident reporting, scored on a 5-point Likert scale ranging from 1 = Completely Agree to 5 = Completely Disagree. In addition to the Incident Reporting Questionnaire, the form included 5 items on personal and demographic information and 6 items on participants' use of the incident reporting system and awareness. The study was conducted after receiving approval from the Ethics Commission of Hacettepe University (No: 35853172/431-1086, Date: April 5, 2016).

The study population consisted of doctors and nurses employed at surgery departments at the JCI- accredited adult and children's hospital of a university in the Turkish capital, Ankara.

A sample group was not selected in the study which tried to reach the entire population. A total of 219 persons -62 doctors and 157 nurses- were employed in the related departments between August 1 and September 2, 2016, the period when the study was conducted. Finally, 132 persons (60.3%) -44 doctors (70.9%) and 88 nurses (56.1%)- agreed to be involved in the study and filled out the questionnaire.

SPSS 21 was used for data analysis. The demographics of the participants and their use and awareness of the incident reporting system were analysed based on frequency and percentage. The chi-square test was used to determine statistically significant differences between doctors' and nurses' use and awareness of the incident reporting system, their status of reporting several types of incidents, and reasons for not reporting incidents.

Table 1. Doctors' and nurses' use and awareness of the incident reporting system

Questions		Doctors		Nurses		χ²	p
		Number	%	Number	%		
Is there an incident reporting system in your hospital?	Yes	37	84.1	87	98.9	11.244	0.002*
	No	7	15.9	1	1.1		
Have you ever filled out an incident reporting form?	Yes	5	11.4	77	87.5	72.262	<0.001
	No	39	88.6	11	12.5		
Do you know where or how to access the incident reporting form?	Yes	10	22.7	85	96.6	79.331	<0.001
	No	34	77.3	3	3.4		
Do you know what to do with the completed incident reporting form?	Yes	9	20.5	82	93.2	72.457	<0.001
	No	35	79.5	6	6.8		

*Fisher's Exact Test

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RESULTS

Of the health care professionals involved in the study, 66.7% were nurses, 72% were women, and 56.1% were aged 29 or below. Details of the use and awareness of the hospital's incident reporting system are provided in Table 1. More nurses than doctors responded "yes" to the question "Is there an incident reporting system in your hospital?" (p=0.002). Regarding the question "Have you ever filled out an incident reporting form?" a larger proportion of nurses (87.5%) than doctors (11.4%) responded positively (p<0.001). Moreover, regarding how and where to access incident reporting forms and what to do with them once they are complete, there was a significant difference between doctors and nurses (p<0.001), with nurses proving more knowledgeable.

The findings related to the incidents reported most by participants are depicted in Table 2. Evaluating doctors and nurses together, the most reported incidents were falls (50.0%). Evaluating doctors' and nurses' responses separately, the incidents most reported by the former were judicial cases (38.6%) while those most reported by the latter were related to medical materials (48.9%) and medical devices (48.9%). Nurses reported falls; medication, diagnosis and care process errors; and incidents related to facility safety, medical materials, and medical devices more than doctors (p<0.05).

Table 2. Percentage of doctors and nurses who claimed to have reported incidents

Incidents	Doctors	Nurses	Total	χ^2	p
Medication Errors	20.5	47.7	38.6	9.203	0.002
Falls	22.7	63.6	50.0	19.636	<0.001
Diagnosis and Care Process Errors	20.5	43.2	35.6	6.680	0.010
Sharp Object Injuries	34.1	46.6	42.4	1.876	0.171
Judicial Cases	38.6	43.2	41.7	0.249	0.618
Incidents Related to Facility Safety	22.7	47.7	39.4	7.679	0.006
Incidents Related to Medical Materials	20.5	48.9	39.4	9.916	0.002
Incidents Related to Medical Devices	22.7	48.9	40.2	8.339	0.004

Regarding why incidents could go unreported, the main reasons were "I never get any feedback on what action is taken" (50.0%), "The incident form takes too long to fill out and I don't have the time" (46.2%), and "When the ward is busy, I forget to make a report" (42.4%). Evaluating nurses and doctors separately, it can be seen that the main reason for doctors not reporting incidents was "When the ward is busy, I forget to make a report" (56.8%) while for nurses it was "I never get any feedback on what action is taken" (53.4%). Significant differences were identified in some statements between nurses and doctors considering their reasons for not

Table 3. Self-perceived barriers to reporting (percentage who agree with the statement)

Barriers	Doctors	Nurses	Total	χ^2	p
I am worried about disciplinary action	22.7	10.2	14.4	3.720	0.054
When the ward is busy I forget to make a report	56.8	35.2	42.4	5.598	0.018
I am worried about litigation	29.5	6.8	14.4	12.296	<0.001
The incident form takes too long to fill out and I just don't have the time	54.5	42.0	46.2	1.844	0.174
My co-workers may be unsupportive	18.2	18.2	18.2	0.000	1.000
I don't know whose responsibility it is to make a report	38.6	10.2	19.7	14.967	<0.001
I don't want the case discussed in meetings	15.9	9.1	11.4	1.354	0.245
I don't feel confident about the form being kept anonymous	27.3	13.6	18.2	3.667	0.056
Adverse incident reporting is unlikely to lead to changes in the system	50.0	26.1	34.1	7.434	0.006
I don't want to get into trouble	25.0	8.0	13.6	2.237	0.007
Junior staff are often blamed unfairly for adverse incidents	38.6	18.2	25.0	6.545	0.011
When it is a near miss, I don't see any point in reporting it	29.5	17.0	21.2	2.742	0.098
I never get any feedback on what action is taken	43.2	53.4	50.0	1.227	0.268
The error reporting form is too complicated and asks for too many details	34.1	29.5	31.1	0.283	0.595
If I discuss the case with the person involved, nothing else needs to be done	20.5	5.7	10.6	6.752	0.015*
I wonder about who else is privy to the information I disclose	43.2	36.4	38.6	0.575	0.448
The incident was too trivial	27.3	11.4	16.7	5.345	0.021
It's not my responsibility to report somebody else's mistakes	31.8	15.9	21.2	4.442	0.035
Even if I don't give my details, I'm sure they'll track me down	29.5	29.5	29.5	0.000	1.000

*Fisher's exact test

reporting incidents (Table 3). More doctors (56.8%) than nurses (35.2%) stated that they forgot to report incidents when the ward was busy (p=0.018). Doctors (29.5%) were also more concerned about litigation than nurses (6.8%) (p<0.001). To the statement "I don't know whose responsibility it is to make a report," doctors (38.6%) responded significantly more positively than nurses (10.2%) (p<0.001). Similarly, more doctors than nurses agreed with the statements that adverse incident reporting is unlikely to lead to system changes and junior staff are often blamed unfairly for adverse incidents (p=0.006; p=0.011).

Doctors agreed significantly more than nurses with the statements "I don't want to get into trouble" (p=0.007), "If I discuss the case with the person involved, nothing else needs to be done" (p=0.015), and "It is not my responsibility to report somebody else's mistakes" (p=0.035) as reasons for not reporting incidents. Doctors (27.3%) also cited the incident being too trivial as a reason for not filing a report more often than nurses (11.4%).

DISCUSSION

This study tried to identify the use and awareness of the incident reporting system among doctors and nurses employed at the surgery departments of a university hospital and the barriers to incident reporting. The analyses revealed that nurses were more aware of the incident reporting system than doctors. It can be suggested that nurses spending more time in wards, where they are in charge of all duties, might have improved their awareness in this respect. It is a matter of great concern that there are employees, albeit only a few, who are still unaware of the system although it has been in use since 2004. However, the fact that these employees have worked at the hospital for 1 year or less might explain their lack of awareness. The fact that more doctors did not know whose responsibility it is to report incidents is a proof that they are less aware of the system than nurses. This finding is consistent with previous results from various wards. For instance, in a study conducted with 186 doctors and 587 nurses in the 6 South Australian hospitals, nurses were more aware of the hospital's incident reporting system than doctors (11). A study in Jordan found that awareness of the hospital's incident reporting system was higher among nurses than doctors (24). In addition, a Malaysian study found that awareness about the incident reporting system was lower among doctors than pharmacists (13).

In the present study, participants were asked if they had ever filled out an incident reporting form; it was found that doctors lagged behind nurses in this regard. This finding is also parallel to the literature. For example, Evans et al. (11) determined that nurses filled out many more incident reporting forms than doctors. A study in the UK evaluating 191 incidents reported for a year determined that the number per nurse was 1.96 and that per doctor was 1.34 (25). George et al. (13) found that doctors were less likely to report medication errors than pharmacists. A study in Turkey found that nurses filled out more safety reporting forms than doctors and other health care professionals (26). Contrary to these consistent findings, Rashed et al. (27) in their study

conducted in Palestine stated that doctors were 2.1 times more likely to report incidents than nurses. A possible reason for this finding was expressed to be the fact that doctors are considered the ones ultimately responsible for patient care and the first ones to be blamed in case of adverse events for cultural reasons and the values given to the medical profession (28).

The present study also determined that nurses were more knowledgeable about where and how to access the incident reporting form and what to do with it once it was completed. This might be the result of nurses playing a more active role in the quality and accreditation processes of the hospital than other personnel, although training on incident reporting offered within the scope of orientation and quality training was compulsory for all personnel. Nurses being more knowledgeable about the incident reporting system are consistent with the literature. For example, a study in the UK determined that nurses were better informed than doctors about where to find the incident reporting form and what to do with it once it was completed (29). In a study conducted in Saudi Arabia, it was demonstrated that nurses had more information about the incident reporting system than doctors (30).

In this study, the types of incidents most reported by doctors and nurses were also examined. Among doctors, these were "judicial cases" and "sharp object injuries", while among nurses they were "falls" and "incidents related to medical materials and devices". Judicial cases being the most reported by doctors is an expected finding as doctors are usually concerned about litigation. The nurses' results can be attributed to the fact that they spend more time in wards and thus, with patients, than do doctors, and therefore, have a higher possibility of encountering falls and incidents related to medical materials and devices. It was also determined that the most reported incidents by all participants were "falls" and "sharp object injuries" while the least reported were "diagnosis and care process" and "medication errors". Previous results are mixed in this regard. For example, Evans et al. (11) found that the most reported incidents by doctors and nurses were falls and the least reported were pressure sores. A study on safety incidents at psychiatric units in medical centres of the Veterans Health Administration found that falls were the most reported incidents (31). Another Turkish study reported very low rates of incident reporting for medication errors (32). Despite these parallel studies, a study on the incidents reported in the anaesthesia intensive care units of a Turkish university hospital between 2006 and 2011 demonstrated that diagnosis and care process errors were among the most reported errors while falls were among the least reported incidents (33). The reason for this difference might be the peculiarities of anaesthesia intensive care unit wards, where the patients may be either conscious or unconscious; the generally lower rate of falls might have caused lower rates of incident reporting.

This study also tried to identify the barriers to incident reporting by doctors and nurses. The findings demonstrate that doctors mostly "forgot to make a report when the ward was busy". Other main barriers to doctors' incident reporting were the completion

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of the incident reporting form taking too long and the low likelihood of systemic change resulting from the reporting of adverse incidents. From the viewpoint of nurses, the main reason for not reporting incidents was a "lack of feedback about what action was taken". Other main obstacles to their incident reporting were the completion of the incident reporting form taking too long and wondering who would be privy to the information they disclosed. Across all participants, main barriers to incident reporting were the lack of feedback, completion of the form being time consuming, and the ward being busy. Previous studies have revealed mixed findings in this respect. For example, in Coyle et al.'s (34) study, lack of time, additional paperwork, and concerns about career and personal reputation were the main obstacles to incident reporting. In Evans et al.'s (11) study, the main obstacles to incident reporting by doctors were a lack of feedback, form completion being too time consuming, and thinking the incident was trivial, while the main obstacles for nurses were a lack of feedback, not believing the need for reporting near misses, and busyness in the ward. In Whitaker et al.'s (25) study, it was found that filling out the incident reporting form not leading to a visible change or action, as well as the lack of timely feedback, were the most important obstacles. George et al.'s (13) study identified the busy and hectic work environment as the main reason for not reporting medication errors.

Contrary to these consistent findings, in a study by Semiz Aydın et al. (32), the main reasons for nurses not reporting medication errors were never having witnessed a medication error, resolving errors among themselves, and not knowing how to report errors. A study in Qatar determined that fear and worry on submitting a report, the possibility of reporting leading to further investigation that could affect performance evaluation and career progress, concerns about the impacts on work relations, and potential lack of confidentiality were the obstacles to incident reporting (35).

CONCLUSION

The results demonstrate that there is considerable difference between doctors and nurses in terms of incident reporting; nurses had more information about incident reporting while doctors had more concerns (fearing of litigation, not wanting to get into trouble, thinking new staff are generally blamed unfairly in case of adverse events, fearing of disciplinary action, and not trusting that the form will be kept confidential). Health care professionals (especially doctors) should be encouraged to be more willing about incident reporting by eliminating their concerns and gaining their trust as a well-functioning incident reporting system is highly important for both patient safety and quality of care. It is also believed that training would be beneficial in making health care professionals (especially doctors) more conscious about

incident reporting. In such the training, it should be emphasized that the form will be kept anonymous; incident reporting is the responsibility of both practitioner and witness; reporting near misses that could cause harm if repeated is critical for patient safety and care quality; and sharing and discussing errors not only with the person involved but with all employees is of high importance for organizational learning.

Moreover, it is suggested that designing a simple and easy-to-fill incident reporting form will increase the rate of reporting in surgery departments. It can be said that the more user friendly the incident reporting system, the higher the number of persons filing reports. It is very important if any action is taken for the reported incident and if employees are given feedback in this respect. It is believed that seeking for and implementing effective solutions for reported incidents will create positive perceptions about the system in employees.

This study had both limitations and strengths. As the data were obtained from doctors and nurses employed at the surgery departments of one university hospital in Ankara, the results cannot be generalized to all health institutions and health care professionals in Turkey. However, the results obtained in this study has revealed incident reporting from various aspects (use and awareness of the incident reporting system, the types of errors reported, and the obstacles to incident reporting) among the same surgical staff. Future researchers should design their studies to enable the comparison of knowledge about and attitudes and behaviours toward incident reporting among health care professionals employed at different types of departments, wards and hospitals.

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