JBACHS
Journal of Basic and Clinical Health Sciences

J Basic Clin Health Sci 2021; 3: 76- 84
https://doi.org/10.30621/jbachs.906812
RESEARCH ARTICLE

VIEWS OF WORKERS ON ELIMINATING THE CULTURE OF FEAR IN ERROR REPORTING

Ecem AYDENIZ[1], Seyda SEREN INTEPELER[2]

[1] Izmir Katip Celebi University Atatürk Training and Research Hospital, Izmir, TURKEY
[2] Dokuz Eylul University, Faculty of Nursing, Izmir, TURKEY

Address for Correspondence: Ecem AYDENIZ, **E-mail:** ecemyaprak2010@gmail.com
Received: 31.03.2021; **Accepted:** 16.08.2021; **Available Online Date:** 20.09.2021

Cite this article as: Aydeniz E, Seren Intepeler S. Views of Workers on Eliminating the Culture of Fear in Error Reporting. J Basic Clin Health Sci 2021; 3: 76- 84.

ABSTRACT

Purpose: This study examined nurses' ideas, views, and their recommendations for overcoming the barrier of fear in reporting medical errors.

Method: The study was conducted using the descriptive qualitative research method. In this study, in-depth interviews were conducted with 13 nurses working in a training and research hospital. In the study sample, we included nurses who had completed their institutional orientation, and had been working for at least six months and agreed to participate in the study. Data were analyzed using the content analysis method.

Results: The results showed that fears continues to be a key factor in failing to report errors. The study determined three main themes for the elimination of fear: "Training/Informing," "Expectations from Managers," and "Facilitating Initiatives."

Conclusions: Fear is an essential barrier in medical-error reporting. The views and recommendations of employees are crucial for solving this problem. The findings of this study are informative for guiding future research and managers.

Key words: Error-Reporting, barriers to error-reporting, fear, patient safety

INTRODUCTION

Error/incident reporting is significant in eliminating/managing problems concerning patient safety and identifying the appropriate solutions for these problems (Somyurek & Ugur, 2016). However, there is a gap between errors and their reporting. Errors are not always reported due to individual and administrative reasons. Previous studies focus mostly on fear among other barriers error reporting (Bairami & Taleghani, 2016; Bayazidi et al., 2012; Chiang & Pepper, 2006; Hajibabaee et al., 2014; Kahriman & Ozturk, 2016; Karaca & Arslan, 2014; Nwozichi, 2015).

Health workers must report their mistakes to the related unit without any fear to avoid and reduce errors. Errors must be explained, studied, and fixed through the root-cause analysis, which would enable everyone to learn from old mistakes and avoid new ones (Ovali, 2010; Savas, 2013). Studies on health workers have illustrated that the most frequently observed barrier in error reporting is fear. Previous studies show that health workers do not report medical errors due to the following reasons:

• the fear of accusation of negative patient output (Chiang & Pepper, 2006; Nwozichi, 2015),
• the fear of being condemned (Bairami & Taleghani, 2016; Bayazidi et al., 2012; Soydemir et al., 2016),
• the fear that the person who made a mistake will be perceived as incapable by other members of the team (Blegen et al., 2004; Chiang & Pepper, 2006; Jahromi et al., 2014; Noble & Pronovost, 2010; Stratton et al., 2004),
• the fear of being scolded by doctors (Chiang & Pepper, 2006; Wakefield et al., 2005),

• the fear that patients will develop negative attitudes (Chiang & Pepper, 2006; Wakefield et al., 2005),
• the belief that reporting errors to patients will result in court cases and the fear of being legally responsible/charged (Alsafi et al., 2015; Bairami & Taleghani, 2016; Bayazidi et al., 2012; Hashemi et al., 2012; Jahromi et al., 2014; Moffatt-Bruce et al., 2016; Noble & Pronovost, 2010; Soydemir et al., 2016; Uribe et al., 2002),
• the fear that the error will be told to someone else and reporting will not be confidential (Noble & Pronovost, 2010; Uribe et al., 2002),
• the fear that reporting will have a negative consequence (Chiang & Pepper, 2006; Stratton et al., 2004; Wakefield et al., 2005),
• the fear of the manager's reaction (Bairami & Taleghani, 2016; Blegen et al., 2004; Mostafaei et al., 2014; Poorolajal et al., 2015), and
• the fears of losing image, job, honor, and dignity, as well as experiencing financial losses (Bairami & Taleghani, 2016; Hashemi et al., 2012; Noble & Pronovost, 2010; Soydemir et al., 2016),

Studies examined the gap between errors and their reporting and focused on fear as the primary barrier to medical error-reporting. However, the current scholarly literature on what can be done to eradicate fear in Turkey and the world is limited. This study aimed to determine nurses' ideas, views, and recommendations for overcoming the barrier of fear in reporting medical errors. Our study is planned to contribute to the literature and guide the managers.

Research Question

What are the views of nurses' towards the elimination of fear culture?

MATERIAL AND METHODS

This study was carried out using the descriptive qualitative research method in a training and research hospital in İzmir, 2016. The field site is an 1100-bed regional hospital. When the number of incidents reported in the institution was examined, it was found that only 9 error reports were made in six months. The reported drug error is one and the wrong drug is sent from the pharmacy. Seven reports of falls are reported, and all reports are subject to patient falls. Surgical safety incident reporting is one and the issue is not to use the appropriate product.

In the study sample, we included nurses who had completed their institutional orientation, and had been working for at least six months (to fully grasp the institutional functioning) and agreed to participate in the study. Consistent with the qualitative research method, in-depth interviews were carried out individually. The purposeful sampling method was used in the selection of voluntary participants by considering the criteria of the unit, age, education level, and years of professional experience. Specifically, we included participants of young, middle, and old ages, with different education levels and years of Professional experience, and working in every unit of the hospital (internal and surgical clinics, intensive care unit, emergency, surgery and observation units). There was no participant refusing to participate. A brief meeting was held with participants prior to the start of the study. Participants were informed about the aims and objectives of the research. The written and verbal approvals of each interviewee were taken and included in the study. We continued to conduct interviews until the data started repeating itself. Finally, we completed our research by interviewing 13 employees. The characteristics of these participants are illustrated in Table 1. Accordingly, the mean age of the nurses participating in the study was 33 (X ± SD = 33.0 ± 6.5). The education of most nurses is at undergraduate level (61.5%). 30.7% of the nurses worked in the internal medicine unit and the mean duration of work experience was 11.9 years (X ± SD = 11.9 ± 8.1).

Instruments and Data Collection

The "Sociodemographic Characteristics Question Form" and the "Semi-structured Interview Form", which was devised by the researchers in light of previous studies (Bairami & Taleghani, 2016; Kingston et al., 2004; Soydemir et al., 2016), and used in the interviews on the barriers to error-reporting, were administered to the participants. The research questions were applied to two participants by pilot test. It was decided that it was appropriate and then applied to the participants of the study.

The interview form consisted of three open-ended questions to determine the ideas, views, and suggestions of particpants on the actions and system necessary for tackling with the culture of fear. We employed the individual in-depth interview technique in data collection (Creswell, 1998; Yildirim & Simsek, 2011). Interviews were carried out in a quiet room at the units where the participants worked. Each interview lasted approximately 30-40 minutes. The

Table 1. Demographic Characteristics of Participants

Demographic Characteristics	**n**	**%**
Age (X± SD =33.0± 6.5)		
20-25	2	15.3
26-31	4	30.7
32-37	3	23.0
38-43	4	30.7
Education		
High school	2	15.3
Two-year degree	1	7.6
Undergraduate	8	61.5
Postgraduate	2	15.3
Units		
Internal medicine unit	4	30.7
Surgical units	2	15.3
Intensive care units	2	15.3
Emergency services	2	15.3
Operating room	2	15.3
Observation Unit*	1	7.6
Work experience (X± SS =11.9± 8.1)		
0-10 years	6	46.1
11-20 years	4	30.7
>21 years	3	23.0

interviews were conducted by researcher Ecem Aydeniz. The researcher is female. Ecem Aydeniz (BSN, PhD) has been working at Izmir Katip Celebi Teaching and Research Hospital in Izmir from Turkey. Ecem Aydeniz has 10 years of clinical and intensive care experience. She has worked in management field for 5 years. She continues to work as a clinical nurse at an internal clinic right now. There was no one beside the participants and the researcher while the interviews were taking place. Two repeat interviews were carried out. After these two interviews, the data collection process was terminated.

Data Analysis

Interviews were analyzed using content analysis. In data analysis, the researcher (two researchers) transcribed the voice recorded interviews on the computer on the same day of the interviews. Data were transcribed in their original form without using the names of the interviewees and were replaced by numbers. After the transcription of data, the

Table 2. Main Themes and Sub-categories of Health Workers' Views on Eliminating the Culture of Fear

Main Themes	**Sub-Themes**
Training/Informing	Legal Process Reporting Process Professional and Awareness Training
Expectations from the Manager	Administrative Approach Punishment
Facilitating Initiatives	Raising Awareness Team Support Motivation/Encouragement

researchers used the induction method. At this stage, data were categorized under the themes designated by researchers. Themes were identified derived from the data. Later, researchers discussed the similarities and differences between these themes and prepared a consensual research report. The findings of the study were conveyed clearly in this report. Notes taken during the study were kept for a possible confirmation analysis. The data were clear and did not need correction. Participants provided feedback on the findings.

For the validity and reliability of the study; with different people on the same subject

interviews were held. Purposive sampling method was used by evaluating the criteria of unit, age, education level and professional experience. The detailed presentation of the participants is presented in the table. Multiple researchers were involved in the collection, analysis and interpretation of the data. The results are presented in a way that includes the participants' own statements so that they do not reflect the researcher's prejudices or opinions. To ensure validity, researchers continued collecting data until they reached data saturation. Researchers paid particular attention to conducting interviews in a suitable environment and maintaining long interactions with the interviewees.

Ethics Committee Approval

The Non-Interventional Research Ethics Committee (Decision No: 2012/11-10, decision dated 22.03.2012) and the hospital (decision dated 30.05.2011), where the study was conducted, approved this study.

RESULTS

Analyzing the employees' views, three main themes - "Training/Informing", "Expectations from Managers", and "Facilitating Initiatives" – and eight sub-themes were constructed (Table 2).

Theme 1: Training/informing

Employees noted that training programs are important in overcoming the barrier of fear. Within this scope, they made recommendations on "legal processes," "reporting system /process" and "professional awareness."

Legal Processes

Concerning the "legal process," a nurse said, "[…] I mean, one needs to know what type of a legal process is expected after the report. In fact, I think that both nurses and doctors should be informed in the same manner."

Another nurse noted, "legal issues are studied; for example, how many related court cases are there? How many are finalized? What are the penalties? What are the criteria for being ostracized from their profession? These should be explained to us."

Reporting System

Participants also highlighted the importance of receiving information/training on the purpose and significance of reporting, the reporting system, privacy in the report, and the process of reporting.

They believed that being informed about these issues were crucial in reducing the fear and frequency of medical error-reporting. One of the nurses expressed her views:

"This fear […] I mean, first questions like why this is done for what reason and why
there are notification reports should be explained. It is important to inform people about the consequences of reporting. Of course, this is another dimension. Reports might increase if employees are better informed about the entire process."

A nurse said, "most people do not know where they should report a medical error. It could be useful to offer an in-service training on the steps that should be taken in case of malpractice."

Another nurse narrated, "to be honest; I do not know much about this. There could be a briefing on this. I mean, they could explain 'we examine the reports in the following way. The process goes on like this."

One nurse highlighted the need for ensuring privacy in the reporting system. She noted, "most of our friends do not know that their names will not appear in the report forms. They think that they will be exposed. I think that the processes of report forms and are the reason for filling out the form should be explained better."

Professional Awareness

Employees believed that professional training, in-service training on medical-error reporting, increasing awareness (consciousness) on medical errors and their reporting, and professional expertise would reduce/prevent medical errors. They think that fear would be eliminated if errors were minimized or prevented. Therefore, they expressed their recommendations/views on preventing fear indirectly through their suggestions on eradicating errors. Below, one participant expressed her opinion that acquiring professional awareness would eliminate fear.

"When you start your profession, you need to be aware […] of things that can be done. I mean, everyone needs to have the same awareness level and act without any fear. If we accept that all employees have the same awareness, then there will not be any need to be afraid. You know, this can be realized through training." Similarly, another nurse stated her
suggestions to prevent medical errors; and indirectly, her views on preventing the fear of reporting errors:

"For example, we all graduated from the university knowing injection practices. However, in the end, things may be forgotten, updated or changed. I mean, practices may change. So, I always believe that there should be time allocated for regular in-service training."

A participant nurse underlined the significance of professional training and expertise by stating, "Expertise might be important for improving one's knowledge and skills because the more developed knowledge and skills one has, the better self-confidence she will have. She will know what to do and what not to do. She will make fewer mistakes, and she will not be afraid of reporting her mistakes, even if she has one."

Theme 2: Expectations from Managers

Employees underlined that managers' communication, attitudes, and behaviors are
important in overcoming fear, when employees make a mistake or after they report a mistake
they witnessed. Employees expect a supportive, helpful, understanding, and non-judgmental
approach from their managers.

Administrative Approach

A nurse said, "In other words, your superior will not judge you. When he does not
judge you – of course – you will act more comfortably. If my managers were a little bit more constructive in their communication with employees, people would not be afraid of reporting mistakes". Similarly, another nurse told,

"This is connected to relationships at the workplace. I mean, we know each other […] one might directly say 'you are a very good nurse. You do everything right. You care much but there must have been a moment of inattentiveness or exhaustion." One of the participant nurses explained,

"As I said, when there is an error, it is boomed out to everyone in a way to humiliate us. It is told as a complaint. Therefore, our superiors must stand with us. They should support us so that we know we can trust them. If we think that we cannot trust them, we avoid expressing them [mistakes]."

Punishment

Employees described that managers punished those who made mistakes by changing their workplaces, which negatively affected the attempts to reduce the fear in medical-error reporting. A participant

commented on such punishments: “My workplace might be changed. This is very important. When people are called upon to the administration, their places are changed. I mean, one might say ‘I should not be involved in anything. I should stay at the clinic. I do not want my place to be changed.’ This means that people want assurance after the report of errors.” However, a nurse believed that changing places could be a solution. She said, “sometimes changing places might be positive for that person. Perhaps, that person is going through a hard time. If she is transferred to a better place, she might like it better. However, if you give the idea that she will be transferred to a bad place, she might be scared.”

Theme 3: Facilitating Initiatives

Health workers made various recommendations for overcoming the barrier of fear in medical-error reporting. These were grouped in three sub-themes “raising awareness,” “team support,” and “motivation/encouragement” within the scope of facilitating initiatives.

Raising Awareness

Regarding raising awareness, a nurse said, “you know, it can be a poster or a flier. There should be an awareness on this subject. Most people are uninformed.” One of the nurses explained that orientation programs could be useful in raising awareness: “It should be included in the orientation programs so that the newcomer will learn. This subject might be repeated periodically because some people come back to work after maternity or sick leave. It could also be included in the automation system. I think all resources should be used.” Another nurse added that awareness could be raised by discussing the subject frequently and conveying the message that anyone can make mistakes:

“I do not know if this is correct. However, I think that saying ‘you can make mistakes’encourages people to talk. Now everyone is hiding what they are doing. This should be discussed a lot. I mean, it should be on the agenda all the time. It is not something easy to handle. This is a problematic situation…”

Team Support

Employees, who participated in the study, highlighted the significance of team support in overcoming the barrier of fear. A nurse said, “there should be team support. They should not judge you. They should support you. They will solve the situation together.” Likewise, another nurse expressed, “this requires teamwork. Although you want to report a mistake, your teammates might oppose you; therefore, there should be a consensual decision, made as a team”.

Motivation/encouragement

Participants put forward many motivating (encouraging) recommendations such as creating a reliable work environment where employees could report medical errors without any fear, announcing/rewarding the units reporting medical errors, receiving support messages from the manager, and active participation of employees in the report process. One participant said, “it would be nice to have an inspiring and encouraging sentence or a picture pop-up on the screen, on this issue, when we turn on the computer every day.” Another nurse said, “I mean, the nurse in charge should encourage other nurses by saying that ‘do not be afraid to make mistakes, but be careful.’ The fear of making a mistake increases mistakes. I believe that encouraging nurses in this way could be useful. In fact, rewards could be useful too. If a person makes a mistake and then reports it, she could be rewarded.” One of the participants added that “voluntary people could be selected by asking whether they would like to be a part of such a project and a committee.”

DISCUSSION

Analyzing the employees’ views, three main themes - “Training/Informing”, “Expectations from Managers”, and “Facilitating Initiatives” – and eight sub-themes were constructed.

Interviews revealed that employees did not have any knowledge about the legal dimension of medical errors. According to previous studies, medical errors are not reported to patients due to the belief that medical-error reporting would result in court cases, and there would be legal repercussions (Hashemi et al., 2012; Jahromi et al., 2014).

The reasons why the employees want to be informed about the legal process, penalties and disciplinary process are thought to be the increase in the number of lawsuits filed regarding medical errors in recent years and the lack of adequate training of the employees about the legal dimension of the errors. According to the results of our study, employees highlighted the purpose and importance of reporting. They believed that receiving training on the system, subjects, and privacy of reporting, and the institutional

processes after report were essential to reduce fear and increase medical-error reporting. In a qualitative study, the lack of information about the reporting system was determined as the most important reason for not reporting medical errors (Soydemir et al., 2016). The published literature illustrated that lack of a reporting system and not knowing how to notify errors constituted an barrier to reporting. Studies also indicated that employees feared punishment by their managers after the report (Mostafaei et al., 2014; Poorolajal et al., 2015).

In our study, employees expressed their views on eliminating fear indirectly through their recommendations on preventing medical errors. The study by Khammarnia et al. (2015) highlighted that medical errors could be reduced through strategies such as safe implementations and receiving training on the changing systems and technology. Many studies recommend regular training on patient safety, informing employees, and in-service training (Arslan et al., 2015; Hisar et al., 2015; Karaca & Arslan, 2014; Rizalar et al., 2016; Somyurek & Ugur, 2016).

In our study, "administrative approach" and "punishment" constituted the main theme of "expectations from managers." Accordingly, employees noted that the administration's approach and communication method could be effective in reducing fear. Fearing manager's attitude towards mistakes is a significant barrier to the report (Bairami & Taleghani, 2016; Blegen et al., 2004; Mostafaei et al., 2014; Poorolajal et al., 2015). The attitude and behavior of managers are important in supporting the person who committed the error and inhibiting a potential harm to patients, and patient deaths (Kahriman et al., 2016). Refraining from reporting errors and being afraid of the manager constitute an important barrier to medical-error reporting. Therefore, participant employees' suggestion on an aiding/supportive administrative approach was an expected finding in this study.

Participant employees explained that managers punished those who committed errors by changing their workplaces, which had an adverse effect on reducing fear. Previous studies examined the reasons for errors and suggested focusing on the system's approach rather than the person's approach, and openly discussing the possibilities of making the system better, instead of punishing individuals (Harris & Peeples, 2015; Hubbeling, 2016). Today, it cannot be said that a structured patient safety system is fully and completely provided in Turkey; therefore, managers' decision on change of workplace is a common managerial approach towards medical errors.

In this study, "raising awareness," "team support," and "motivation/encouragement" constituted the main theme of "Facilitating Initiatives." Accordingly, employees suggested distributing posters, fliers, photographs, and documents for creating curiosity and raising awareness on this issue. They also provided many recommendations such as publishing supportive messages for the units which notify medical errors on the automation system and initiating a project with volunteers in the institution. Studies revealed that multi-dimensional approaches, which include factors reminding incident report, increased the rates of reporting to a significant extent (Capucho et al., 2013; Ilan et al., 2011). In our study, employees also underlined the importance of team support in overcoming the barrier of fear. Previous studies report that the fear of being perceived as incapable by other members of the team is a common barrier to reporting errors (Blegen et al., 2004; Jahromi et al., 2013; Chiang & Pepper, 2006; Stratton et al., 2004). In the study by Morello et al. (2013), one strategy for enhancing the culture of patient safety at hospitals was a team-based approach. Since providing health services is a teamwork, employees need to work together by trusting each other. For employees, feeling the trust of the team is an important issue. Therefore, our finding that employees offered recommendations to improve team support was an expected result.

In this study, employees offered many suggestions so that errors could be reported easily without fear. These recommendations included more frequent discussion of this issue, rewarding the units which notified errors and support messages from the manager. The study by Moffatt-Bruce et al. (2016) argued that an environment of trust, where employees are encouraged and even rewarded for providing safety-related information, could only be constructed through culture. Similarly, Khammarnia et al. (2015) suggested simple strategies such as learning from and rewarding error-reporting, developing the culture of patient safety, and increase error-reporting. The findings of our study indicated that employees needed encouragement in reporting medical errors.

Limitations

No limitations were considered in the study

CONCLUSION

Error/incident reporting is significant in preventing/managing problems related to patient safety and finding appropriate solutions. Studies examined the gap between errors and their reporting and focused on fear as the primary barrier to medical error-reporting. However, the current scholarly literature on what can be done to eradicate fear in Turkey and the world is limited. Fear is an essential barrier in medical-error reporting. The views and recommendations of employees are crucial for solving this problem.

Our study contributes to the existing studies and guides managers. Our findings suggested that managers can organize in-service training, case studies, workshops/symposiums/conferences on the legal aspects of medical errors, error reporting system /processes, and issues related to professional/awareness raising. They can display a supportive, helpful, understanding, and non-judgmental approach when a medical error is reported or revealed. Managers can use changing workplaces as a solution and not a threat.

Author contributions: Conception: EA, SSI. Design: EA, SSI. Supervision: EA, SSI. Fundings: EA, SSI. Data collection and or processing: EA, SSI. Analysis-Interpretation: EA, SSI. Literature Review: EA, SSI. Writing: EA. Critical Review: EA.
Conflict of interests: No conflict of interest.
Ethical Approval: The Non-Interventional Research Ethics Committee (Decision No: 2012/11-10, decision dated 22.03.2012) approved this study.
Funding: Dokuz Eylul University Scientific Research Projects Coordination Unit (Grant Number: 2013.KB.SAG.016 (2012350)).
Informed consent: The written and verbal approvals of each interviewee were taken and included in the study.
Peer-review: Externally peer-reviewed.

REFERENCES

1. Somyurek N, Ugur E. Establishing a culture of patient safety in intensive care units: nurse eye malpractice. Journal of Health and Nursing Management 2016; 3: 1-7.
2. Bairami F, Taleghani YM. Improving medical error reporting: a successful experience from Iran. Iranian Journal of Public Health 2016; 45: 713-714.
3. Bayazidi S, Zarezadeh Y, Zamanzadeh V, Parvan K. Medication error reporting rate and its barriers and facilitators among nurses. Journal of Caring Sciences 2012; 1: 231-236.
4. Chiang H, Pepper GA. Barriers to nurses' reporting of medication administration errors in Taiwan. Journal of Nursing Scholarship 2006; 38: 392–399.
5. Hajibabaee F, Joolaee S, Peyravi H, Alijany-Renany H, Bahrani N, Haghani H. Medication error reporting in Tehran: a survey. J Nurs Manag 2014; 22: 304-310.
6. Kahriman I, Ozturk H. Evaluating medical errors made by nurses during their diagnosis, treatment and care practices. Journal of Clinical Nursing 2016; 25: 2884-2894.
7. Karaca A, Arslan HA. Study to evaluate the patient safety culture in nursing services. Journal of Health and Nursing Management 2014; 1: 9-18.
8. Nwozichi CU. Why are chemotherapy administration errors not reported? Perceptions of oncology nurses in a Nigerian tertiary health institution. Asia-Pacific Journal of Oncology Nursing 2015; 2: 26–34.
9. Ovali F. Patient safety approaches. The Journal of Health Performance and Quality 2010; 1: 33-44.
10. Savas H. Medical intervention errors. 3rd ed. Ankara: Seçkin Publishing; 2013.
11. Soydemir D, Intepeler SS, Mert H. Barriers to medical error reporting for physicians and nurses. Western Journal of Nursing Research 2016; 39: 1348-1363.
12. Blegen MA, Vaughn T, Pepper G et al. Patient and staff safety: voluntary reporting. American Journal of Medical Quality 2004;19: 67-74.
13. Jahromi ZB, Parandavar N, Rahmanian S. Investigating factors associated with not reporting medical errors from the medical team's point of view in Jahrom, Iran. Global Journal of Health Science 2014; 6: 96-104.
14. Noble DJ, Pronovost PJ. Underreporting of patient safety incidents reduces health care's ability to quantify and accurately measure harm reduction. Journal of Patient Safety 2010; 6: 247-250.
15. Stratton KM, Blegen MA, Pepper G, Vaughn T. Reporting of medication errors by pediatric nurses. Journal of Pediatric Nursing 2004; 19: 385-392.
16. Wakefield BJ, Uden-Holman T, Wakefield DS. Development and validation of the medication administration error reporting survey. In: Henriksen K, Battles JB, Marks ES, et al., editors.

Advances in patient safety: from research to implementation. Rockville: AHRQ Publication; 2005.p. 465–478.
17. Alsafi E, Alsafi E, Baharoon S, Ahmed A, Al-Jahdali HH, Al Sayyari A. Physicians' knowledge and practice towards medical error reporting: a cross-sectional hospital-based study in Saudi Arabia. Eastern Mediterranean Health Journal 2015; 21: 655-664.
18. Hashemi F, Nasrabadi AN, Asghari F. Factors associated with reporting nursing errors in Iran: a qualitative study. BMC nursing 2012; 11, 20.
19. Moffatt-Bruce SD, Ferdinand FD, Fann JI. Patient safety: disclosure of medical errors and risk mitigation. The Annals of Thoracic Surgery 2016; 102: 358–362.
20. Uribe CL, Schweikhart SB, Pathak DS, Dow M, Marsh GB. Perceived barriers to medical-error reporting: an exploratory investigation. Journal of Healthcare Management 2002; 47: 263-280.
21. Mostafaei D, Barati Marnani A, Mosavi Esfahani H et al. Medication errors of nurses and factors in refusal to report medication errors among nurses in a teaching medical center of iran in 2012. Iranian Red Crescent medical journal 2014; 16(10), e16600.
22. Poorolajal J, Rezaie S, Aghighi N. Barriers to medical error reporting. International Journal of Preventive Medicine 2015; 6: 97.
23. Kingston MJ, Evans SM, Smith BJ, Berry JG. Attitudes of doctors and nurses towards incident reporting: a qualitative analysis. Medical Journal of Australia 2004; 181: 36-39.
24. Creswell JW. Qualitative inquiry and research design: Choosing among five traditions. Thousand Oaks, CA: Sage Publications, Inc. 1998 p.
25. Yildirim A, Simsek H. Qualitative research methods in social sciences, 8th ed. Ankara: Seckin Publishing; 2011.p.72-76.
26. Khammarnia M, Ravangard R, Barfar E, Setoodehzadeh F. Medical errors and barriers to reporting in ten hospitals in southern Iran. The Malaysian Journal of Medical Sciences 2015; 22: 57-63.
27. Arslan S, Cetisli NE, Bakan G, Erkan S. Patient safety culture of health professionals. Gaziantep Medical Journal 2015; 21: 78-83.
28. Hisar KM, Arslan CB, Kısa S, Hisar F. Perception and opinions of staff working in a public hospital about patient safety. Gumushane University Journal of Health Sciences 2015; 4: 148-161.
29. Rizalar S, Buyuk ET, Sahin R, As T, Uzunkaya G. Culture of patient safety and affecting factors. Dokuz Eylul University Faculty of Nursing Electronic Journal 2016; 9: 9-15.
30. Harris CT, Peeples RA. Medical errors, medical malpractice and death cases in North Carolina: the ımpact of demographic and system variables. Contemporary Readings in Law & Social Justice 2015; 7: 46.
31. Hubbeling D. Medical error and moral luck. HEC Forum 2016; 28: 229-243.
32. Capucho HC, Arnas ER, Cassiani SHBD. Patient Safety: a comparison between handwritten and computerized voluntary incident reporting. Revista Gaúcha de Enfermagem 2013; 34: 164-172.
33. Ilan R, Squires M, Panopoulos C, Day A. Increasing patient safety event reporting in 2 intensive care units: a prospective interventional study. Journal of Critical Care 2011; 26: 431 e11-8.
34. Morello RT, Lowthian JA, Barker AL, McGinnes R, Dunt D, Brand C. Strategies for improving patient safety culture in hospitals: a systematic review. BMJ Quality & Safety2013; 22: 11-18.