

PATIENT SAFETY CULTURE AMONG HEALTH CARE PROVIDERS AT KABUL UNIVERSITY OF MEDICAL SCIENCES ABU ALI IBN SINA EDUCATIONAL HOSPITALS

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ABSTRACT

Background: In the field of healthcare, the well-being of patients is often compromised by instances of unsafe care or medical errors, leading to additional costs for both individuals and healthcare systems. Enhancing and fostering a culture of patient safety within the healthcare industry plays a crucial role in enhancing the quality of care provided to patients.

Aim: to assess the current state of patient safety culture among health care providers at Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals.

Design and methods: A descriptive cross-sectional study was conducted from June 2023 to September 2023 at the Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals. The data were collected using the Persian version of the standard Patient Safety

Culture Survey questionnaire, which consisted of 12 dimensions; the collected data were analyzed using the statistical packages for social science version 22.

Results: Among 282 health care workers, 270 completed the study, with a response rate of 95.74%. From the respondents, 205 (75.9%) were males, and the mean age was 33.3 (\pm 9.2) years. According to 12 aspects of patient safety culture, two indices of teamwork within hospital units and organizational learning (continuous improvement) were among the high-level positive responses, with average positive response rates of 78% and 64%, respectively. On the other hand, non-punitive responses to errors and hospital handoffs and transitions were at the lowest levels, with average positive response rates of 35.8% and 36.7%, respectively. The total mean patient safety culture in understudy hospitals was 51.78; in this study, 53.3% never reported at least one event in the last 12 months.

Conclusions: In the hospitals under investigation, patient safety was at an average level. It is suggested that hospitals emphasize patient safety issues more. The areas that had the lowest average ratings should receive special attention in order to strengthen them.

Keywords: patient safety, patient safety culture, Educational hospital, Kabul University of Medical Science.

INTRODUCTION

Human interactions in modern systems of providing health services, along with the use of complex technologies and new treatments, bring unwanted injuries, which are referred to as medical errors or harmful accidents [1]. After the publication of the United States Health Institute (Institute of Medicine, IOM) in 1999, based on the prevalence of health errors in this country, the category of patient safety received the attention of researchers and health experts [2]. The right to be safe while receiving health services is one of the most obvious human rights, and this issue is one of the concerns of any health service delivery system. Currently, most developed countries have realized that only having management systems and new and advanced technology in hospitals and health service systems is not enough to achieve sustainable development, but improving safe behaviors in employees, values, beliefs and attitudes They are concerned with safety and the organization's attitude towards safety, which basically forms their safety culture, is the way to prevent accidents [1]. Patient safety is a fundamental principle of health care and is now being recognized as a large and growing global public health challenge. Global efforts to reduce the burden of patient harm have not achieved substantial change over the past 15 years, despite pioneering work

in some health care settings. Patient safety is a framework of organized activities that creates cultures, processes, procedures, behavior's, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make error less likely and reduce its impact when it does occur. Every point in the process of care-giving contains a certain degree of inherent unsafely Clear policies, organizational leadership capacity, data to drive safety improvements, skilled health care professionals and effective involvement of patients and families in the care process, are all needed to ensure sustainable and significant improvements in the safety of health care, Patient safety in health care is an urgent and serious global public health concern. Patient harm exerts a very high burden on all health care systems across the world. Every year, an inadmissible number of patients suffer injuries or die because of unsafe and poor quality health care. Most of these injuries are avoidable. The burden of unsafe care broadly highlights the magnitude and scale of the problem. Patient harm due to adverse events is likely to be among the 10 leading causes of death and disability worldwide. It is commonly reported that around 1 in 10 hospitalized patients experience harm, with at least 50% being preventable. Around two-thirds of all adverse events resulting from unsafe care and the years lost to disability and death occur in LMICs [3].

Research design: Hospital-based descriptive cross-sectional study design was employed in Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals.

Research Setting: The research study was conducted in the teaching hospitals of Kabul University of Medical Sciences Abu Ali Ibn Sina (Ali Abad, Institute of Cardiovascular Diseases, Stomatology Hospital, Mayvand, Eye Hospital, and Shahre Ara).

Study population

Source population: The target populations are all the health care providers working in the teaching hospitals of Kabul University of Medical Science, Abu Ali Ibn Sina.

Study population: Selected health care providers from the teaching hospitals of Kabul University of Medical Science, Abu Ali Ibn Sina.

Eligibility criteria

Inclusion criteria

- Health care providers, including doctors, nurses, midwives, librarians, anesthesia legists, and radiology technicians, have at least six months of work experience and are willing to participate in the study.
- Those health care providers who were full-time workers.

Exclusion criteria

- New employees with less than 6 months of experience in teaching hospitals and employees who are not interested in participating in this study.
- Those health care providers who were on annual leave at the time of the study.
- Staff who appeared in more than one staffing category or hospital area or unit.

Sample size determination and sampling technique: According to information from the Human Resource Department of KUMS, 672 health care workers have been working in six hospitals. Based on this sampling unit, a sample size of 245 out of 672 was calculated using the Cochran online formula:

- Based on the above formula, it gave a minimum sample size of 245; with a 15% nonresponse rate, the final sample size was 282.
- Using a stratified sampling technique based on the proportion of health care providers in teaching hospitals.

Research Materials

Research Tool: The Persian version of the Hospital Survey on Patient Safety Culture (HSOPSC) was used to assess patient safety culture. Among health care providers, Although originally developed in the USA, the HSOPSC has been widely used internationally (including in countries in the Middle East region) to study and evaluate perceptions about patient safety culture in hospital settings. The HSOPSC is comprised of 42 items, and the participants respond to the items on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree' or from 'never to always'. The HSOPSC measures patient safety culture in Afghanistan's hospital in order to support teamwork and collaboration to improve patient safety. There are no measurement devices for patient safety in Afghanistan's national language. Afghanistan is also part of the international community and has similar health problems as most countries. Therefore, we used the HSOPSC tools to raise staff awareness about patient safety and assess the status of patient safety culture.

Data Collection: A hospital survey on patient safety culture (HSOPSC) questionnaire Translated and used to determine the culture of patient safety among health care providers in the teaching hospitals of Kabul University of Medical Sciences, Abu Ali Ibn Sina. This form includes two (2) sections and is filled out by the applicants according to their work experience and understanding and from Computer (Excel program, SPSS22) used for analysis.

Data Analysis Procedures: All section forms were checked cautiously. All variables of the form were entered into the Statistical Package for Social Sciences (SPSS) version 22. All the variables, which are included in the form, were checked for every mistake. Descriptive statistics, including means and standard deviations, were used to describe participants'

characteristics and dimensions of patient safety cultures. Frequency distributions were used to organize the data and present the responses obtained. The guidelines proposed by AHRQ were first used to analyze and interpret the respondents' perceptions of patient safety culture composites.

Ethical issues: In order to carry out this research, the relevant committees and councils of Abu Ali ibn Sina University of Medical Sciences, Kabul, discussed all aspects of the mentioned issue and then gave permission to carry out this research. By conducting this research, no problems were caused to patients or health care workers. In order to implement the plan as best as possible and comply with the ethical principles of the research, a brief explanation about the importance of the mentioned study has been presented to the health care workers, and if they agree with their participation, a questionnaire has been provided to them to complete. They could leave and keep confidentiality. The questionnaire was anonymous. It has been reviewed for approval by the Ethical Review Committee (ERC) of Kabul University of Medical Sciences. Participants' privacy and confidentiality were maintained by assigning codes to each of the key informants, and their anonymity was maintained throughout the research process.

Result

Background characteristics of the respondents: Out of the 282 healthcare workers who were given the questionnaire, 270 completed and returned it, resulting in a response rate of 95.7%. From the respondents, more than half of them were male (217; 54.1%), and the mean age of the workers was 33.13 (\pm 9.24) years. Regarding the professions of the respondents, most of them, 111 (41.1%), were doctors, followed by nurses, 95 (35.18%). The majority of the participants 130 (48.1%) had working experience ranging from 1 year to 5 years, and 282 (89.6%) of the workers had direct contact with the patient.

Table 1; Socio-demographic and professional characteristics of respondents

Age (years)	Minimum	Maximum	Mean	Std. Deviation
	21	65	33.133333	9.248169
Characteristics			Frequency	Percentage %
Gender				
	Male		205	75.9
	Female		65	24.1

Marital Status		
Single	95	35,2
Married	175	64.8
Hospital name		
Ali Abad hospital	114	42.2
Maiwand hospital	78	28.9
Shahr Aara	24	8.9
Heart Institute	24	8.9
Stomatology hospital	17	6.3
Eye hospital	13	4.8
Years of Work Experience		
1-5years	130	48.1
6-10years	110	40.7
11-15years	20	7.4
16-20 years	5	1.9
>20	5	1.9
Education level		
Specialist	56	20.7
Master	28	10.37
MD	16	5.9
DMD	11	4
Bachelor	120	44.4
Diploma	39	14.4
Professional Category		
Doctor	111	41.1
Nurse	95	35.18
Midwife	10	3.7
Technician	30	11.11
Pharmacists	11	4.1
Anesthetists	13	4.81

Hospital Work Unit		
Medical ward	90	33
Surgical ward	50	18.5
Pediatrics ward	34	13
ENT	20	7.4
Dermatology	12	4.4
Obstetrics ward	23	8.5
Laboratory/Radiology unit	30	11
Pharmacy unit	11	4
Direct contact with the patient		
Yes	242	89.6
NO	28	10.4
Attended Continuous medical Education		
Yes	118	43.7
NO	152	56.3
Attended workshop regarding quality control		
Yes	125	46.3
NO	145	53.7

Patient Safety Culture Dimensions

The twelve dimensions were examined to determine areas of strength (those where percent positive rating exceeds 75%) and those requiring improvement (scoring below 50 %). The proportion of positive responses for the dimensions of the patient safety culture varied from 35.8% for 'frequency of Non-punitive response to error' to 78% for 'Teamwork within hospital units' and the average positive response for all dimensions were 51.78% (table 2).

Table 2: Composite scores (mean % positive) for dimensions of patient safety culture

Dimensions	No of Items	% positive response
Organizational learning - continuous improvement	3	64

Teamwork within hospital units	4	78
Staffing work conditions	4	52.55
Supervisor/manager expectations & actions promoting safety	4	51.7
Feedback & communication about error	3	41.1
Teamwork across hospital units	4	62.5
Communication openness	3	39.1
Overall perception of safety	4	58
Adverse event reporting & recording	3	42.7
Hospital management support for patient safety	3	59.3
Hospital handoffs & transitions	4	36.7
Non-punitive response to error	3	35.8
Overall	42	51.78

Patient safety grade and numbers of events reported

In this study, the highest shared degree of patient safety was reported as 31.1% acceptable; in the same way, 27.4% were excellent, 19.6% were very good, 16.7%

were poor, and 5.2% failed

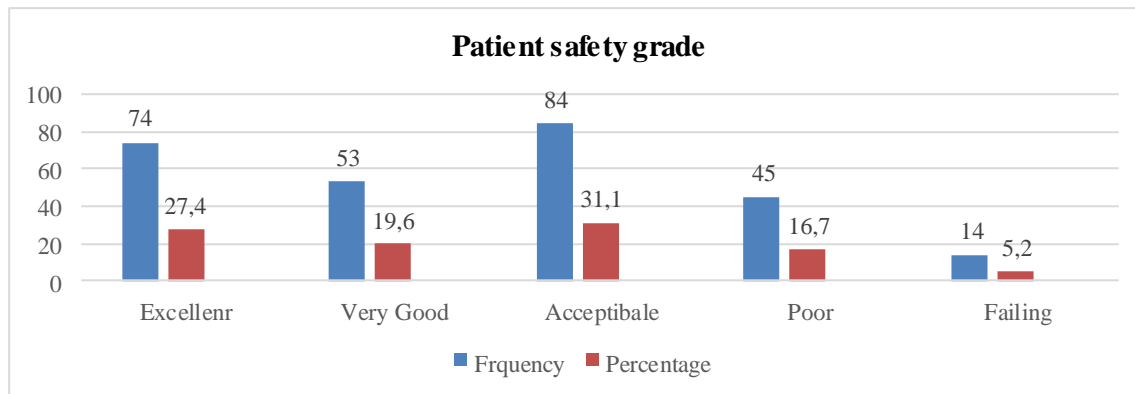
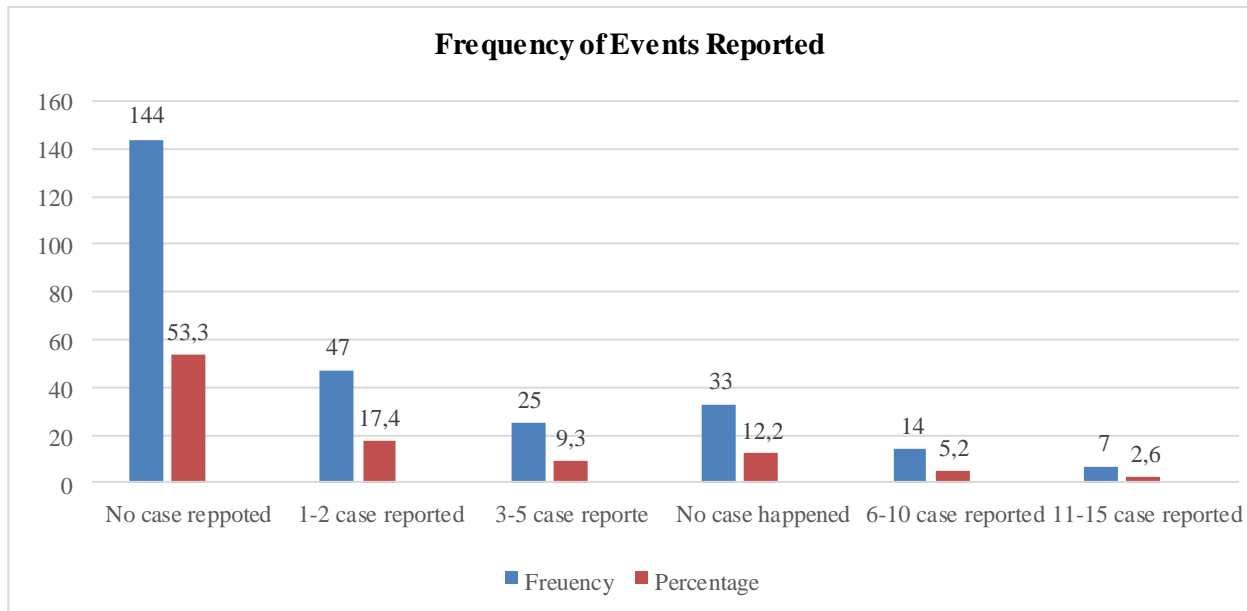


Figure 1: Percentage of health care professionals who gave their work area or unit a patient safety grade in Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals.



In this study, the majority of respondents, 53.3%, have never reported an event. 17.4% reported 1-2 events, 12.2% stated that no events had occurred, while 9.3% reported 3-5 events. Similarly, 5.2% reported 6-10 events, and 2.6% reported 11-15



events.

Figure2: Percentage of health care professionals reporting events in the past 12 months in Kabul

University of Medical Sciences Abu Ali Ibn Sina educational hospitals.

DISCUSSION

This study assessed the status of patient safety among health care providers at Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals. Using the Persian version of AHRQ's Hospital Survey on Patient Safety Culture tool. Based on the result the average positive result for all dimensions in this study was 51.78%, which is comparable with studies done in Netherlands 52.2% and Tehran 52%, a study assessing patient safety culture in 30 Lebanese hospitals reported an average score of 52.4%, similarly, a study of 12 Malaysian public hospitals obtained an average of 52.5% [16,17,25,26], Whereas it is lower than studies done in USA 65%, China 65%, Taiwan 64%, Palestine 62% and 62.7 % in Srilanka[18,19,20], This difference might be due to the difference in the socioeconomic status, the difference in participants' perception, the difference in staffing and hospital infrastructure, But it is Higher than a local study in Esteqlal hospital[3], The result indicates only one dimension "Teamwork within hospital units" was fit the criteria of good patient safety culture or area of strength which is ≥ 75 ; whereas dimensions "frequency of events reported and handoffs

and transitions”, non-punitive response to errors, , communication openness, feedback and communication about error, were fall below 50% of percent positive results that is poor/low patient safety culture area that needs improvement[21], Punitive culture was experienced in these hospitals which was evidenced Non-punitive response to error(35.8%) feel like their mistakes are held against them and worry about mistakes they made are kept in their personnel file. This view was supported by only 17.4% of participants’ report events ‘most either of the time or always’ and about53.3% of participants did not report any event in the last 12 months. Together this value indicates that staffs were scared to report errors and there may be a strong blame culture in the institutions that errors are not seen as an opportunity. This is in line with a study done in the Ethiopia[22]. The score for “supervisor/manager expectations and actions promoting patient safety” and “management support for patient safety” in the study area were 51.7% and 59.3% respectively. Which is lower than studies done in USA hospitals, Taiwan and Saudi Arabia[16,23].These may be their superiors are open to staff ideas; they are encouraged to say alternative viewpoints or express disagreement, may be managers are providing a good environment in which it is safe to admit errors and understand why the errors occurred. Regarding communication in the hospitals, the results were 39.1% for “communication openness” and 41.1% for “feedback and communication about error” in the study area. Which indicates majority of staffs were afraid to ask questions if they see something that may negatively affect patient care and did not get feedback about changes put into place based on their event reports. It is in line with studies done in Taiwan[16], whereas lower than USA and Netherland hospitals[16], This may be due to cultural differences especially communication styles. Western countries tend to be direct in communication, expect people to speak frankly and in a straightforward manner. With regard to the hospitals overall grading on patient safety, very few of the respondents, 47% either grades their hospitals as excellent or very good. It is much fewer when compared with that in the Palestine (63.8%), Saudi Arabia (69.6 %), Netherlands (63%), Taiwan (51%) and the USA 76 % [16, 20]. On the other hand, with respect to the number of events reported over the past 12 months, most of the respondents 53.3% never reported at least one event. That is lower when compared with studies done in Palestine 57.5 %, Saudi Arabia 57% and USA 45% of participants report at least one event [16, 20, 24].

5.1. Conclusion

There was a medium status of patient safety culture in Kabul University of Medical Sciences Abu Ali Ibn Sina educational hospitals, the reported dimensions, including "non-punitive



response to errors, hospital handoffs and transitions, communication openness, feedback and communication about errors, and frequency of events reported," were poor or low patient safety culture areas that need improvement, this research characterized the initial state of safety attitudes and behaviors within the university hospital system. The findings can guide targeted strategies to further strengthen a culture in which continuous quality improvement, open communication, and organizational learning from errors is promoted. This, in turn, should help elevate patient outcomes throughout Kabul University of Medical Sciences.

Recommendations

Based on our findings, we recommend that hospitals prioritize the variables we identified as crucial in our study and take action to enhance them in order to create a culture that values patient safety. Prioritized actions must focus on improving the institution's communication infrastructure, encouraging event reporting behavior, and bolstering support for patient safety from senior hospital administrators if they are to improve general impressions of patient safety. which calls for collective accountability from the government, healthcare organizations, managers, professionals, decision-makers, and researchers.

- The government needs to be required to appoint sufficient medical personnel to those facilities and create a setting that is suited for them.
- Hospitals must conduct ongoing evaluations of their organizations' patient safety cultures.
- Hospitals should develop and implement a robust non-punitive error reporting policy and system to address a low non-punitive error response score. This encourages employees to report mistakes without fear.
- Hospital leadership should provide targeted training to all employees, focusing on teams and units that score lower on specific dimensions such as "feedback and communication about errors." Empowering frontline employees is key.
- Managers should encourage staff ideas and debates and give them the freedom and confidence to report mistakes in order to foster a learning culture.
- A clear understanding of the status of safety culture requires further research using mixed methods to better explore professional attitudes toward patient safety culture, another variable (such as training, the presence of guidelines and protocols in hospitals), additional study participants (including patients), and data collection techniques (interviews, checklists).
- Hospitals should establish a formal mechanism for organizational learning from reported events so that they can



be analyzed and used to make changes that prevent future harm.

- Standardization of safety protocols and checklists across teaching hospital units is recommended to reduce variability in understanding and grading patient safety.
- Designate at least one clinical patient safety officer or champion in each hospital to lead focused improvement efforts based on their areas.

Limitations of the study

- **Generalizability:** The study was conducted in university hospitals. Caution is needed when extrapolating to other contexts with different characteristics.
- **Lack of patient perspectives** - Only gathering provider views neglects an important dimension of the safety culture.
- **A declaration bias** may be present in the quantitative evaluation of patient safety culture utilizing a self-administered questionnaire. In fact, a self-administered survey may affect the response of persons who, out of concern for retaliation or legal action, will give social replies that don't accurately reflect reality.

Author's contribution

All authors equally contributed, Z.H& AM drafted the manuscript and analyzed the data, ST data collection, MFB & AR translated the initial manuscript from Persian to English, intensively reviewed the manuscript, and responded to the reviewer's comments. **Conflicts Of Interest:** "The author(s) declare(s) that there are no conflicts of interest regarding the publication of this paper." **Acknowledgments:** The authors of this article would like to thank Kabul University of Medical Sciences, Educational hospitals, Directorate of EDC, the officials of Teaching Hospitals, Participants, without the cooperation of this institution; this research would not have been possible.

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