

Institutional Practices of a Private Hospital in Saudi Arabia: An Initiative to Improve the Hospital's Safety Culture

Jhessie L Abella

Al Khaffi National Hospital, Eastern Region Kingdom of Saudi Arabi, Learning and Development Manager.

ARTICLE INFO	ABSTRACT
<p>Article type: <i>Research Paper</i></p>	<p>Introduction: Study findings pertain to a private healthcare facility in the Eastern Region of Saudi Arabia, which highlighted its healthcare organization's implementation of hospital-wide approach aimed at promoting culture change to enhance patient safety. Patient safety is a vital component of quality health care. Health care organizations continually strive for improvement, leading to a growing recognition of the importance of establishing a safe culture, most especially within the Kingdom of Saudi.</p>
<p>Article History: Received: 19-Nov-2020 Accepted: 11-May-2021</p>	<p>Materials and Methods: The hospital's culture of safety was investigated using a descriptive research design. The study further discusses how the hospital was able to improve the safety culture within the confines of their organization by instituting several programs which forms as the framework of the hospital's commitment to safety. The study covers all the healthcare professional of the hospital (clinical and non-clinical) to provide their perception on the topic.</p>
<p>Key words: Best Practices, Institutional Practices, Patient Safety Culture, Safety</p>	<p>Results: This study yielded more than sixty percent (60%) response rate for three consecutive years which strongly supports the findings of the study. The institution's safety culture has dramatically improved from 2017's result of 46.4%, 58.6% (2018) and 74.4% in 2019 after engaging an organizational intervention which includes; leadership patient safety walk rounds, good catch campaign, improvement projects, adoption of lean management, continuous organization learning and development, quality accreditation and an intensified leadership support. A number of dimensions contributed to the highest perception of patient safety, including teamwork within and across units, organizational learning and continuous quality improvement, management support for patient safety, and an increase in the perception of overall patient safety culture by staff.</p> <p>Conclusion: The result suggested that the commitment of all healthcare professionals within the organization and an active engagement of managers and executives will absolutely result to positive change in the institution's culture of safety.</p>
<p>► Please cite this paper as: <i>Institutional Practices of a Private Hospital in Saudi Arabia: An Initiative to Improve the Hospital's Safety Culture</i> Abella J. <i>Journal of Patient Safety and Quality Improvement.</i> 2021; 9(2):121-128. Doi: 10.22038/psj.2021.53516.1296</p>	

Corresponding Author:

Al Khaffi National Hospital, Eastern Region Kingdom of Saudi Arabia, Learning and Development Manager.
E-mail: jhessieabella@gmail.com

Introduction

Hospitals have a dedicated team of medical professionals who provide health care services 24 hours a day, seven days a week. In addition to providing acute, convalescent, and curative health care, hospitals offer a range of diagnostic and therapeutic services. To provide safe treatment, hospitals must organize themselves around patients' needs (1). Global health issues such as patient safety require urgent attention. It is critical for the healthcare organization to improve the status and implementation of patient safety measures in order to improve the quality of care for all patients (17).

The locale of the study has been in the service for more than thirty years. The healthcare facility has proven its commitment to international and national safety standards by being accredited by Saudi Central Board for Accreditation of Healthcare Institution (CBAHI) on 2015 and was recently reaccredited last 2018, on the same year it paved way for the institution's JCI (Joint Commission International Accreditation) accreditation with an outstanding compliance grade to quality and patient safety standards.

The hospital recognizes the importance of transforming organizational culture in order to improve patient safety. This current effort aims to examine how cultural factors affects patient safety and the improvement efforts made within the medical and nursing departments.

This paper also compared the results of the previous study to determine if any variation of safety culture grade has taken place after one year following the implementation of several improvement activities. Patient safety culture measurement provided insight into areas for improvement and helped monitor changes over time (15).

A straightforward definition of safety culture has been given by JCI which define it as the sum of what an organization is and does in the pursuit of safety (16). In addition, safety culture refers to the beliefs, values, attitudes, perceptions, competencies, and behaviors of individuals and groups that affect the commitment of an organization to quality and patient safety (16). This goes to show that promoting a culture of safety

doesn't rely solely on the individual but a shared responsibility from the highest to the lower echelon of the organization (3). The concept of safety culture encompasses the actions and procedures taken by nurses, managers and other staff to define safe patient care, as well as the beliefs held by staff and nursing management about the safety of those actions and approaches. On the other hand, the 'safety attitude' is an aspect of 'safety culture' and entails dimensions used to describe how an organization's culture is organized (5).

An assessment of the Patient Safety Culture was completed in 2017 which reflected significant findings on a number of composite measures of the patient safety culture, while other areas still needed improving. It is evident that patient safety culture outcomes are linked to better performance on specific composites (15).

Through the 2019 survey, the organization was able to view its progress in observing and promoting patient safety culture, which allowed them to better understand and visualize their progress and identify improvement areas.

The first step in developing a safety culture is assessing the organization's existing safety culture. Healthcare organizations must conduct patient safety culture assessments to obtain a clear view of the areas of patient safety that need immediate attention, evaluate the strengths and weaknesses of their safety culture, compare their scores to those of other healthcare organizations, and identify the existing patient safety problems (6).

It was determined that this study would describe the improvement activities carried out by the hospital to enhance its culture of safety. After the extensive implementation of several initiatives last 2017, safety culture was again measured to determine if there are any significant changes in the result. The utilization of Plan-Do-Check-Act (PDCA) model has effectively brought positive changes in their health care processes and has auspiciously resulted to favorable outcomes. The result was outstanding and was attributed to the following key improvement engagements of the organization;

Leadership Patient Safety Walk Rounds.

It is an approach adopted from Institute for Healthcare Improvement (IHI), which is a series of scheduled activities performed by hospital administrators (Hospital Director, Vice HD, Medical Director, Nursing Director, Quality Manager, Facility Management and Safety Director and Infection Control Manager) in all patient care areas. Through this approach, the organization gave its leaders a way to talk to front-line employees about safety issues in the organization and to show their support for reporting errors. Moreover, this also demonstrate the commitment of the higher management to connect with the front line staff regarding safety issue and other issues which can affect the entire process of the department. The walk rounds also demonstrated a clear line of communication between the staff and the management, in this way they are guided on how to report, what to report and be not afraid to report safety issues arising from the department.

Even concerns of the staff were also discussed during the walk rounds, in this way staff are free to verbalize their concern which created connections, motivation and most importantly trust between the employee and the management. In health care, trust is essential not only between clinicians and patients, but also between staff and management (26).

Many aspects of workplace life, including job satisfaction and organizational effectiveness, have been shown to improve the quality of patient care when trust is present (7).

Organizational trust which exists between staff and management is a crucial ingredient of quality. A person's trust in an organization is expressed as a degree to which they are willing to believe that someone is acting sincerely and that they can be trusted to do so.

Good Catch Campaign

Reporting errors is fundamental to error prevention. Proactive management and an effective error reporting system are essential to identifying errors before they harm patients (18). The frequency of error reporting from the previous safety survey

exposed an alarming outcome to be the 9th least prioritize safety composite. An effective good catch may break the chain of events that could harm the patient or even lead to their death (9). The number of good catches can be as much as seven to 100 times higher than the number of serious events and can reveal weaknesses in the organization. Facilities can proactively implement risk reduction strategies to ensure patient safety by analyzing reports of good catches through adverse event reporting systems (9).

To address this concern the institution has adopted this program to promote reporting good catches to an OVR online reporting system or thru OVR form submitted to the QM department. Recognition and reward system has also been in place based on the volume and the quality of the reports. The program has significantly increased the reporting of events and it has been carried out continuously to sustain the engagement of the employees.

Adoption of Lean Management

The hospital has begun its transition to lean management in response to its commitment to improving patient safety and quality. Lean management aims to eliminate waste. The organization created a technical group under the guidance of the Vice Hospital Director who attended the intensive training at Virginia Mason Hospital in USA.

The hospital believed that processes can be optimized by eliminating waste, reducing steps, simplifying processes, and maximizing the use of resources. Through this it will reduce the number of steps where there are errors and ensure that processes are planned to use resources most effectively. Error reduction will improve patient safety, patient care, and treatment outcomes (10).

As the hospital adopt the principles of lean, several projects have been instituted to streamline the process in the hospital. Streamlining processes for patient care - such as testing, diagnosis, and treatment - also reduces the time spent on all the things that do not directly affect patient care (10).

Quality Improvement Projects

The utilization of Plan-Do-Check-Act (PDCA) model has been effective to make a positive change in the organization's health

care processes and has favorably brought favorable outcomes. Improvements projects which includes adoption of 5s in each unit, documentation improvement project, time reduction strategies in OPD clinics, SSI (Surgical Site Infections) improvement projects, visual control in Operating Room utilizing the sponge counter were some of the projects which has effectively contributed to the safety of the hospital.

Continuous Organization Learning and Development

The Hospital has embraced the context of leadership support in organizational learning, administrative financial support, learning from situations which arises as a result of human errors, continuous assessment of staff's clinical performance and skills and capability enhancement. The hospital's investment in staff training has proven the commitment of the organization towards enhancing the capability of each member to promote safety and quality care to our clients- our patients.

Quality Accreditation and an Intensified Leadership Support

Organizations can achieve any level of quality, but should constantly improve in order to keep their patients safe and reduce errors. The hospital has been reaccredited last 2018 by CBAHI and the same year the hospital was initially accredited by JCIA. This steps towards accreditation is a major leap by the hospital towards elevating the standard of quality the hospital provides. Accreditation is a powerful tool for promoting improvements in safety and is the primary driver of safety awareness and initiatives (11).

In the Kingdom of Saudi Arabia (KSA), healthcare organizations (HCOs) are increasingly aware of the importance of accreditation.

As a result, hospitals have allocated significant resources toward achieving accreditation (12). It has been revealed that accredited hospitals are performing better than non-accredited hospitals on a range of quality indicators.

Accreditation has had a positive role in improving quality and safety in general practice (13).

Materials and Methods

This study used a descriptive research design to assess the culture of safety of private healthcare institution in the City of Khafji. The design is adequately selected to describe the composite of safety culture while the institution has set in place improvement activities geared towards safety culture improvement. The inclusion criteria included all staff who worked in the practice areas and were employed for at least six (6) months were studied. Participants are required to have knowledge of the hospital system so that relevant information can be provided (20). A universal sampling was used and resulted to more than 60% response rate.

The AHRQ Hospital Survey on Patient Safety Culture self-administered questionnaire was used. The tool is a validated survey widely used to assess safety culture. This survey examined the perceptions of organizational culture in 12 areas, including error communication and teamwork within and between units (20).

Ethical Consideration

This study ensures the rights of the research subjects who participated in this study. They were told about the general nature of the study. Moreover, an informed consent was given to the respondents which states that confidentiality and anonymity will be guaranteed and they are free to decline from participation from the study. Consent was signed by all participants to ensure they fully understood the nature of the undertaking.

Participants were guaranteed that confidentiality and anonymity will be ensured to alleviate their fear. In addition, they were told that they can refuse to participate in the study.

Results

The survey covers all the healthcare professionals of the hospital. A patient safety culture questionnaire prepared by Agency for Healthcare Research and Quality was distributed to the hospital's medical staff. Universal sampling was utilized to make this survey more reliable as the perception of all

the involved in patient care is considered. The questionnaire consists of 42 items divided into 12 subscales measuring 12 aspects of a safety culture. An examination of 1,437 healthcare providers at 21 hospitals was part of the pilot research for the Hospital Survey on Patient Safety Culture (HSOPS). Study results showed a 29% response rate; 81% of study respondents were female, averaging 43 years of age. The study reported that the tool had acceptable levels of internal reliability (Cronbach's $\alpha = 0.63-0.84$) (21). The response rate provided an adequate data which means all staff are well represented in this survey. This also means that the result of this survey is not limited and we can generalize the results as applied to the entire hospital. The Nursing Department has the highest number of survey participants from 2017, 2018 and 2019 survey activities. For years, nursing has been considered a vital part of the delivery of healthcare, with nurses in a unique position to improve patient safety. Since nurses spend so much time with patients, they are uniquely positioned to improve patient safety. With this position, nurses gain insight into how to identify problems in healthcare systems and contribute to improving patient safety (22).

Imposing a culture of safety within the hospital implies the participation of everyone especially those who are involve in direct patient care. Generally, the participation of all healthcare providers to accomplish this survey has been considered as the overview of patient safety culture within the hospital.

Background of the Survey Participants

Table 1: Working Hours of the Respondents

Hours of Work	Percentage
< 20 Hours per Week	1.7
20 to 39	3.4
40 to 59	65.5
60 to 79	19.8
80 to 99	8.6

Ideally the hospital employees are required to complete a weekly working hour of 40 and should not exceed the eight (8) hours duty

per day. However, due to the current staffing situation in some areas and due to some unavoidable circumstances this requires an extended number of working time though it is not beyond 12 hours period in most cases. Employees are given an extra time to maintain the function of each unit with an ideal compensation from the employer. Based on Table 1 majority of hospital medical staff works for an extended hour of more than forty (40) per week. A small fraction of the survey participants however revealed that they work eighty (80) to ninety nine (99) hours per week. Working longer hours are physically and mentally demanding while battling fatigue. Some studies revealed that a person working for an extended hours of 10 to 12 hours per day significantly decline the workers productivity. Hospitals are very demanding considering the patient needs, family and the level of care provided to each patient. An accumulation of fatigue and inadequate sleep negatively affects our vigilance and our memory, our ability to process information, our reaction time, as well as our ability to make decisions (23). Moreover, evidence strongly suggests that extended-duration work shifts increase fatigue and reduce safety and performance (24).

The Hospital's Overall Patient Safety Grade

Table 2: Overall Patient Safety Grade

Patient Safety Grade	2017	2018	Change	2019	Change
	46.4	58	+12.2	74.4	+15.8

Most people consider hospitals to be the safest places to be sick because there are skilled care teams available round-the-clock for patients. Continually, their vital signs are monitored. Throughout the day, a physician checks on them to make sure they are doing well (14). While this might sounds good, hospitals aren't a safe place. You have a 1 in 25 chance of leaving the hospital with a new infection. The current patient safety grade based on Table 2 has significantly increased since 2017. It has increased to a +12.2 points from the previous score of 46.4 positive score upon instituting the major improvement activities towards improvement of safety culture. And this has significantly increased more in 2019 with +15.8 points.

Table 3: Safety Composite Ranking (The Most Important Composite of Patient Safety Culture)

12 Composite of Patient Safety	2017	Rank	2018	Current Rank	Change	2019	Current Rank	Change
Teamwork Within Units	85.87	1	83.15	1	-2.72	81.12	1	-2.03
Organizational Learning & Continuous Improvement	83.3	2	81.06	2	-2.23	80.61	2	-0.45
Management Support for Patient Safety	63.4	5	71.26	3	7.86	75.85	3	4.59
Teamwork Across Units	65.8	3	66.97	4	1.17	74.49	4	7.52
Overall Perceptions of Patient Safety	56.4	7	64.02	5	7.62	64.54	8	0.52
Frequency of Events Reported	55.7	9	63.23	6	7.53	64.62	7	1.39
Feedback & Communication About Error	62.6	6	61.4	7	-1.2	70.75	5	9.35
Handoffs & Transitions	56.05	8	60.32	8	4.27	67.35	6	7.03
Supervisor/Manager Expectations & Actions Promoting Patient Safety	63.42	4	59.02	9	-4.4	61.22	9	2.2
Communication Openness	53.2	10	48.26	10	-5.03	56.12	10	7.86
Non-punitive Response to Errors	32.1	11	36.8	11	4.7	38.78	11	1.98
Staffing	29.6	12	28	12	-1.6	31.38	12	3.38
Total	58.95333333		60.29083333		63.9025			

Based on Table 3 the areas of strengths from 2017 to 2019 have remained constant which included Teamwork within units, Organizational learning and continuous improvement, Teamwork across units, Management support for patient safety were the areas of strengths found to be the highlights of the organization's safety culture composite. These items were the

composites which received >60 points positive rating and remained within the top four ranking. It can also be observed in the table that majority of the composites has received significant increase in their annual rating. Communication openness, non-punitive response to errors and staffing remains to be at the lowest of all the factors in patient safety for three consecutive years.

Frequency of Events Reported within the Hospital
Table 4: Frequency of Events Reported

	2017	2018	Change	2019	Change
No Report	39%	34.5%	-4.50	57.1 %	+22.6
1-2 Event Reports	31.7%	34.5%	+2.8	21.4 %	-13.1
3-5 Event Reports	11%	10.3%	-0.7	12.2 %	+1.9
6-10 Event Reports	2.4%	7.8%	+5.4	4.1 %	-3.7
11-20 Event Reports	6.1%	3.4%	-2.7	4.1 %	+0.7
21 or more	0	6.9%	+6.9	1.0 %	-5.9

Even though errors cannot be prevented, procedures can be put in place to make errors more difficult. Health care systems cannot be designed to make healthcare safer if no one knows what kinds of problems occur, and how often. A completely open

system of reporting all adverse incidents and near misses is therefore essential to improving patient safety.

The hospital ensures that all employees are well oriented about the reporting system in the hospital. Currently there are two

systems in place, an online electronic portal and the OVR form which is filled up by the reporter. This allows healthcare workers to report hazards, hazardous situations, errors, close calls, and adverse events. By using this reporting system, the hospital can learn from these opportunities and hold people accountable for their actions.

Based on Table 4 the result showed a dramatic increase in reporting of events in the hospital from 2017 to 2018. This is a good indicator which may indicate that employees are engaged in cultivating within their practice a culture of learning from errors or mistakes. However, in 2019 reporting of incidence significantly declined with a "no report" climbed to 57.1%. This low reporting should be thoroughly investigated to determine the reason why employees failed to report. Incident reporting is indispensable in all organization most especially in healthcare because it prevents adverse situations from developing into a major accident or disaster.

Discussion

The overall patient safety grade of the hospital is exceptional, which means that the hospital is taking tremendous efforts to create within its organization an environment based on mutual trust, a shared understanding of the importance of safety, and a strong belief that preventive measures will be effective. No healthcare organization is perfect or even close to perfection. Nonetheless, one thing is certain continuous quest for improvement is not a one-time effort or a fast cure, but rather a lifelong journey. Maintaining this encouraging rating takes a lot of shared efforts among its leadership and members in the organization. Efforts in promoting a shared value of safety and continuously orient the staff member of what is expected and appropriate should be uphold all throughout the hospital operations. The Joint Commission International (2007) stated that patient safety culture can be influenced by multiple factors within a health organization, and it can support the prevention and reduction of patient harm. Patient safety management is the result of a variety of factors within a healthcare organization, including attitudes, values, skills, and behaviors (15). Patient

safety culture assessments should, ideally, be repeated every two or three years using the Agency for Healthcare Research and Quality (AHRQ) tool. In addition to this recommendation, the Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) accreditation standards recommend conducting an annual patient safety culture assessment (25).

Conclusion

The study's findings strongly suggest that the commitment of all healthcare professionals within the organization and active engagement of managers and executives has absolutely effect positive change in the institution's culture of safety. Instituting the following strategies; leadership patient safety walk rounds, good catch campaign, improvement projects, adoption of lean management, continuous organization learning and development, quality accreditation and an intensified leadership support has proven to improve the safety culture of the entire organization. These strategies taken by the hospital being the leader and involving everyone in the process has significantly improve the culture of safety in the organization. Leaders play an important role in developing a safe environment, but all healthcare staff members have responsibility. The commitment, openness to change, empowerment of everyone in the organization will also contribute to the overall safety of the organization. Safety attitude in healthcare is everybody's responsibility from the higher echelon of the organization down to the lower level will profoundly improve quality and safety of health services.

References

1. World health organization. The World Health Report 2008: Primary Health Care Now More Than Ever. (Online). Available from: https://www.who.int/whr/2008/whr08_en.pdf (Accessed 19 November 2020).
2. Joint commission international. The Essential Role of Leadership in Developing A Safety Culture. (Online). Available from: https://www.jointcommission.org/assets/1/18/SEA_57_Safety

- _Culture_Leadership_0317.pdf (Accessed 19 November 2020).
3. Agency for healthcare research and quality agency for healthcare research and quality. The Essential Role of Leadership in Developing A Safety Culture. (Online). Available from: <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/resources/infotranshops.pdf> (Accessed 19 November 2020).
 4. Paguio, Jenniffer, Pajarillo, Edmund. Safety culture and safety attitudes of nurses in the National University Hospital. *Philippine Journal of Nursing*. 2016;86: 10-16.
 5. Theodosios S. The Development of Patient Safety Culture. *Health Science Journal*. 2012;6(2): 207.
 6. Firth-cozens J. Organizational Trust: The keystone to patient safety. *Quality & safety in health care*. 2004;13(13): 56-61.
 7. National safety council. National Safety Council. (Online). Available from: <http://www.nsc.org/workplacetrainingdocuments/near-miss-reporting-systems.pdf> (Accessed 3 Nov 2020).
 8. Barnard D, Dumkee M, Bains B, Gallivan B. Implementing a Good Catch program in an integrated health system *Healthcare*. *HealthcQ*. 2006; 9(9):
 9. Tucker A, Edmondson C. Why Hospitals Don't Learn from Failures: Organizational and Psychological Dynamics That Inhibit System Change *California Management Review*. *California management review*. 2003;45(2): 55-72.
 10. Hosford, B. Hospital progress in reducing error: the impact of external interventions. *Hosp Top*. 2008;86(1): 9-19.
 11. Kuwaiti, A. The Impact of Accreditation on Enhancing Patient Safety and Improving the Quality-of-Care Indicators at King Fahd Hospital of the University, Saudi Arabia. (Online). Available from: <https://www.hilarispublisher.com/proceedings/the-impact-of-accreditation-on-enhancing-patient-safety-and-improving-the-quality-of-care-indicators-at-king-fahd-hospital-28895.html> (Accessed 3 Nov 2020).
 12. Amr A. Online library Wiley. (Online). Available from: 10.5694/mja14.00198 (Accessed 3 Nov 2020).
 13. Pearl R. KevinMDcom (Online). Available from: <https://www.kevinmd.com/blog/2014/02/4-reasons-hospitals-dangerous-places.html> (Accessed 3 Nov 2020).
 14. Alswat K, Abdalla RA, Titi MA, Bakash M, Mehmood F, Zubairi B, Jamal D, El-Jardali F. Improving patient safety culture in Saudi Arabia (2012–2015): trending, improvement and benchmarking. *BMC Health Services Research*. 2017 Dec;17(1):1-4.
 15. Joint commission international. PSNet . (Online). Available from: <https://psnet.ahrq.gov/primer/culture-safety>. (Accessed 13 June 2021).
 16. AHRQ. PSNet. (Online). Available from: <https://psnet.ahrq.gov/primer/culture-safety> (Accessed 13 June 2021).
 17. Elden N, Ismail A. The Importance of Medication Errors Reporting in Improving the Quality of Clinical Care Services. *Global journal of health science*. 2016;8(8): .
 18. Wallace SC, Mamrol C, Finley E. Promote a culture of safety with good catch reports. *Pa Patient Saf Advis*. 2017.
 19. Sorra J, et al. AHRQ. (Online). Available from: <http://www.ahrq.gov/professionals/quality-patientsafety/patientsafetyculture/hospital/index.html>. Accessed 13 June 2021).
 20. AHRQ. (Online). Available from: <http://www.ahrq.gov/qual/patientsafetyculture>. (Accessed 13 June 2021).
 21. International Council of Nurses . (Online). Available from: <https://www.icn.ch/nursing-policy/nursing-definitions>. (Accessed 13 June 2021).
 22. Taheri, M, Arabameri, E. The effect of sleep deprivation on choice reaction time and anaerobic power of college student athletes. *AJSM*. 2012; 3(1): 15-20.
 23. Lockley, S, Barger, K, Ayas, T. Effects of health care provider work hours and sleep deprivation on safety and performance. *JCI*. 2007;33(11): 7-18
 24. National Hospital Standards. Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) 2015.
 25. Birkhäuer J, Gaab J, Kossowsky J, Hasler S, Krummenacher P, Werner C. Trust in the health care professional and health outcome: A meta-analysis. *PloS one*, (2017); 12(2), e0170988. <https://doi.org/10.1371/journal.pone.0170988>
 26. Safety institute. Safety Resources and Tools to Promote a Safe Healthcare Delivery Environment for Patients. (Online). Available from: <https://www.premiersafetyinstitute.org/safety-topics-az/healthcare-associated-infections-hais/hai/> (Accessed 19 Nov 2020).