

Evaluate the Implementation of Patient Safety Standards in Baharloo Hospital

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ARTICLE INFO	ABSTRACT
<p>Article type: Original Article</p> <hr/> <p>Article History: Received: 06 Jun 2023 Accepted: 27 Jan 2024</p> <hr/> <p>Key words: Patient safety standards, Patient Safety Friendly Hospital Initiatives (PSFHI), Hospital.</p>	<p>Introduction: The aim is to conduct an initial evaluation of Baharloo Hospital to assess its adherence to patient safety standards, laying the groundwork for the adoption of the WHO/EMRO Patient Safety Friendly Hospital Initiative (PSFHI). The overarching objective is to elevate the standard of patient safety and foster a culture of safety among both hospital staff and patients.</p> <p>Materials and Methods: The evaluation process utilized the PSFHI assessment manual, which includes a comprehensive collection of critical, core, and developmental standards. Three primary review tools were employed for the assessment: document review, face-to-face interviews, and observation.</p> <p>Results: The leadership and management domain exhibited the highest scores in critical criteria, reaching 89%, while the safe evidence-based clinical practice measures domain followed closely with 58%. The hospital demonstrated implementation of the majority (71%) of critical standards, over half (60.5%) of the core standards, and more than a quarter (28%) of the developmental standards.</p> <p>Conclusions: The baseline assessment reveals that Baharloo Hospital exhibited partial adherence to the patient safety standards mandated by the PSFHI. There exists an opportunity for enhancement to ensure the fulfillment of 100% of critical requirements, a fundamental prerequisite for achieving the status of a Patient Safety Friendly Hospital.</p>
<p>► Please cite this paper as: Razaghi Kashani F, Kazemi Toriki M. Evaluate the Implementation of Patient Safety Standards in Baharloo Hospital. <i>Journal of Patient Safety and Quality Improvement</i>. 2024; 12(1):59-66. Doi: 10.22038/PSJ.2024.72877.1393</p>	

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Introduction

The recognition of patient safety as a fundamental element to improve the quality of care is widely acknowledged. Internationally, there is an increasing focus on the safety of patients, driven by alarming reports that reveal a considerable number of patients encountering avoidable adverse events associated with healthcare (1). Investigations have suggested that around 10% of hospitalizations lead to unintended harm to patients (2).

Ensuring the safety of patients presents a significant challenge in the healthcare sector, especially in developing nations (3). The data suggests that in these environments, one out of every ten patients receiving medical treatment encounters severe harm. Moreover, due to the lack of accurate statistics in numerous countries, it is conceivable that the actual number exceeds the reported figures, considering that adverse events and medical errors are widespread issues faced by health systems worldwide. As a result, healthcare systems are making efforts to reduce medical errors and improve patient safety (4).

Studies conducted in developed nations indicate that up to 75 percent of healthcare errors may be avoidable. Beyond the human toll, an estimated 5% to 10% of health spending is linked to unsafe patient practices, with healthcare errors predominantly arising from system failures rather than individual actions (5). Empirical investigations underscore a positive connection between a more robust safety culture and a decrease in errors or enhanced outcomes. Therefore, for entities and nations without direct metrics for medical errors or adverse events, a cultural shift can serve as a surrogate "outcome measure" to assess the efficacy of patient safety interventions (6).

The incidence of healthcare-associated infections in certain developing nations is reported to be 20 times higher than in developed countries. It is crucial that, in these developing regions, efforts are directed not only towards resolving the issue but also towards gathering evidence related to unsafe care (7). Thus, ensuring safe and effective care depends not only on the knowledge, skills, and behaviors of frontline healthcare practitioners but also on the structure of care

delivery within specific healthcare settings. Patient safety, therefore, should be considered within the context of healthcare delivery processes and the organizational culture of healthcare institutions. Strategies for protecting patients from harm should be developed with a clear understanding of the science of safety (8).

Nations in the Eastern Mediterranean Region, encompassing 23 countries from Morocco in the West to Pakistan in the East, with a collective population of 550 million, have adopted a unified strategy endorsed by the World Health Organization through the Patient Safety Friendly Hospital Initiative (PSFHI) (9). Within hospitals committed to patient safety, focused endeavors are aimed at ensuring comprehensive patient safety measures (4).

The core aim of PSFHI is in harmony with national objectives focused on improving the quality and efficiency of hospitals. Its mission is to instill and foster a culture that places value on learning from mistakes and strives for the adoption of best practices (10). Moreover, it acts as a motivating factor for staff to actively engage in enhancing patient safety. The ultimate objective of the initiative is to raise the standard of patient safety in hospitals, creating an environment conducive to safer care, protecting the community from avoidable harm, and reducing adverse events within hospital settings. As a result, the initiative serves as a fundamental stride towards establishing a resilient national health system (11). The World Alliance for Patient Safety, also recognized as WHO Patient Safety, was founded in 2004 with the goal of rallying global initiatives to improve healthcare safety for patients across all its member nations (12). The Alliance aimed to unite international efforts in the field of patient safety and propel member countries toward safer healthcare practices (3).

The World Health Organization (WHO) has recognized the increasing importance of patient safety. Resolution WHA55.18 outlines WHO's diverse responsibilities, which include providing technical support to member states in establishing reporting systems, minimizing risks, devising evidence-based policies, fostering a safety-focused culture, and advancing a research agenda on patient safety (13).

The evaluation manual encompasses 140 benchmarks for patient safety in hospitals, organized into the following categories: Leadership and management, Patient and public involvement standards, Safe evidence-based clinical practices, Safe environment, and Lifelong learning (14).

Each category consists of various subcategories, with a set of benchmarks assigned to each. Benchmarks are further categorized into critical (20 in total distributed across the benchmarks), core (90 in total), and developmental criteria (30 in total) (2). Acknowledging the utmost importance of patient safety, this investigation was conducted to assess the patient safety status at Baharloo Hospital in Tehran. The evaluation was carried out following the WHO guidelines for Patient Safety Friendly Hospital Initiatives in 2019.

Materials and Methods

Methodology of Hospital Assessment

Hospital Selection: Baharloo General Hospital was chosen by the Ministry of Health and Medical Education (MOH&ME), Iran, to serve as a pilot site for the Patient Safety Friendly Hospital Initiative in Iran. The present study is qualitative and cross-sectional in nature and it took place from September 22nd to September 29th, 2019.

Assessment Team

The assessment team, consisting of two experts designated by WHO/EMRO, undertook the evaluation. The team provided the hospital leadership with a detailed briefing on the Patient Safety Friendly Hospital Initiative and the Patient Safety Assessment Manual. Over the assessment period, the team conducted 35 face-to-face interviews with various stakeholders, including the hospital manager, senior patient safety leader, patient safety coordinator, infection prevention and control officer, lab staff, blood bank staff, pharmacist, physicians, nurses, and patients. Document reviews were also conducted as part of the assessment process. The team compiled their findings and recommendations into a comprehensive report.

Review, Interviews, and Observation:

Both quantitative and qualitative data were collected using document review tools, interviews, and observations, including:

- **Questionnaire on hospital briefing & WHO patient safety solutions implementation:** The questionnaires were sent to the hospital a few days prior to the survey day.
- **Interview with the patient safety coordinator:** A standardized questionnaire was administered to evaluate patient safety initiatives in practice. Some of the questions were open-ended.
- **Interview with the Hospital Manager:** A standardized questionnaire was administered to assess leadership support for patient safety.
- **Document Review:** The examination of hospital documents related to patient safety, such as infection prevention and control, waste management, etc. A list of 143 documents was sent to the hospital a few days before the visit, and out of these, 90 documents were available and reviewed.
- **Observation Tour:** Recorded observations during a site visit to assess the patient safety environment. This involved visits to the Emergency Department, Blood Bank, Pharmacy, Surgical Wards, Outpatient Clinics, Admission, Kitchen, Central Sterilization Unit, Neonatology Unit, waste storage, and inpatient department.
- In cases where documents were unavailable, unstructured interviews were conducted to verify the hospital's compliance with Patient Safety standards. Such interviews included discussions with Blood Bank staff, doctors, three nurses, three patients, pharmacy staff, infection prevention and control officer, occupational health staff, lab staff, Radiology staff, and preventative maintenance staff.

Scoring and Leveling

Scoring presented no challenges when the patient safety standard was either met (score = 1) or not met (score = 0). In instances where the standard was only partially met (score = 0.5), assessors adhered to the structure, process, and output approach. If either the structure or process was identified and agreed upon, the standard was considered partially met. To systematically arrange and analyze the data, we employed the use of Excel and SPSS.

Results

General Hospital Information

Baharloo Hospital is a public Ministry of Health teaching hospital with a history dating back to 1314, originally established as a small clinic for the development of the railways network. Currently, with approximately 330 beds, the hospital boasts advanced facilities and a staff of about 35 faculty members across 17 sections. It serves as one of the main educational hospitals for the international campus of Tehran University of Medical Sciences. The Occupational Sleep Research Center (OSRC) is the sole research center at this hospital, and the Journal of Sleep Sciences (JSS) is its official scientific quarterly publication.

The hospital comprises 298 active beds, achieving a bed occupancy rate of 76.26%, a hospital admission rate of 75.31%, and an average length of stay of 3.69 days. The staff consists of approximately 670 members, including doctors, administrative staff, technicians, nurses, nurse aids, and midwives.

Baharloo Hospital exhibited partial compliance with patient safety standards. The highest critical scores were observed in the leadership and management domain, reaching 89% compliance, followed by the safe evidence-based clinical practice measures domain at 58%. Other domains demonstrated lower levels of compliance (Table 1).

Table 1: Results of baseline assessment

Domains	Critical Standards	Core Standards	Developmental Standards
A. Leadership and Management	8/9 89%	16/20 80%	3/6 (1 NA) 50%
B. Patient and Public Involvement	1/2 50%	10/16 62.5%	1/10 10%
C. Safe Evidence based Clinical Practices	3.5/6 (1 NA) 58%	16/29 55%	2/8 25%
D. Safe Environment	1/2 50%	9.5/19 50%	0/0
E. Lifelong Learning	0/0	3/6 50%	2/5 40%
Total	13.5/19 (1 NA) 71%	54.5/90 60.5%	8/29 (1 NA) 28%

NA: Not Applicable

This baseline assessment indicated that the hospital achieved only partial compliance with the patient safety requirements for the Patient Safety Friendly Hospital Initiative (PSFHI) (see Chart 1 and 2).

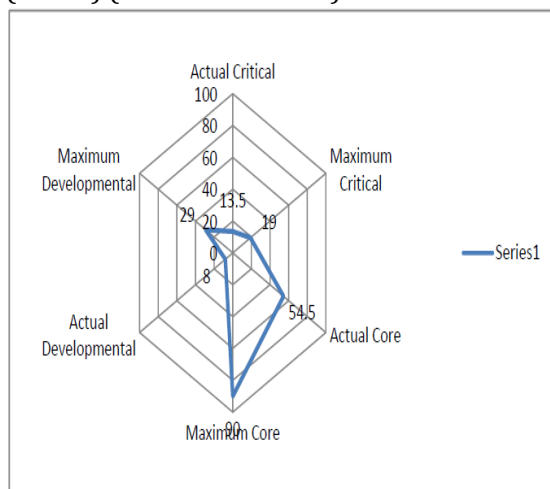


Chart 1: Total Results of baseline assessment

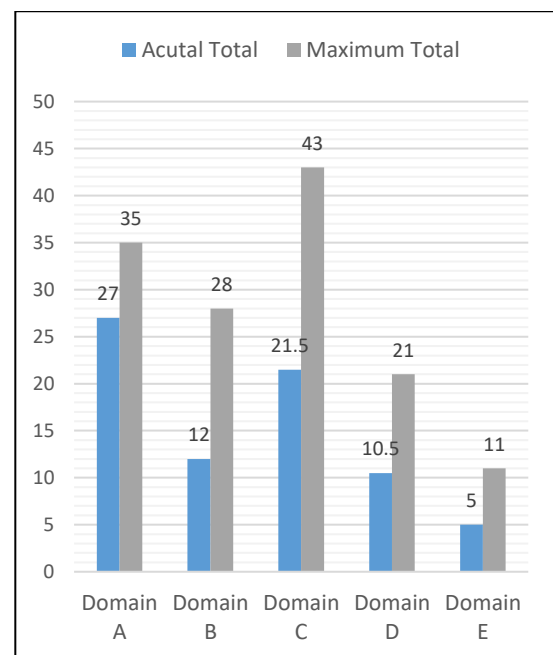


Chart 2: Results of Baseline assessment by Domain

While the majority of critical standards (71%), core standards (60.5%), and developmental standards (28%) were implemented, there is still room for improvement to ensure full compliance with the essential prerequisite of 100% for critical requirements to achieve the status of a Patient Safety Friendly Hospital. Notably, the Leadership and Management domain received the highest critical standard score, whereas the lowest score was observed in the Patient and Public Involvement & Safe Environment domain. In terms of core standards, the highest score was in the Leadership and Management domain, while the lowest scores were in the Lifelong Learning & Safe Environment domains.

The highest score for developmental standards was observed in the Leadership and Management domain, with the lowest score found in Patient and Public Involvement. Interviews conducted indicated substantial improvements have already been achieved. The key success factors for these accomplishments include an excellent team spirit and a motivated, enthusiastic staff. Additionally, committed leadership at the Ministry of Health and Medical Education (MoH & ME) level, an open culture for learning, and experience with quality improvement activities were clearly identified as factors contributing to the hospital's success. The leadership at Baharloo Hospital is notably keen on implementing patient safety initiatives within the hospital.

Discussion

The significance of patient safety is progressively acknowledged as one of the most crucial concerns in global healthcare delivery (15). Numerous patients do not receive adequate care and may face harm during their healthcare experiences (16). The adoption of quality improvement strategies, such as hospital accreditation, shows a positive correlation with the improvement of patient safety (17).

In spite of considerable research endeavors and modifications to healthcare policies and procedures, progress in ensuring patient well-being exhibits disparities, and the pace of advancement has been gradual (18). The query "How can we ascertain our enhanced safety?"

presents a difficulty for numerous institutions (19). A primary hurdle in enhancing patient safety lies in identifying the most efficient methods to uniformly incorporate evidence-based interventions and optimal practices within a medical facility, among healthcare institutions within a nation, or ideally, across numerous countries. Global initiatives for patient safety have encountered diverse levels of accomplishment, yet they face a lack of uniform structure and a standardized method for execution (8).

Progress in scientific knowledge and the utilization of technology across various sectors, healthcare included, indicates advancements in patient care. This headway has spurred transformations in healthcare systems globally. At present, the principal characteristic of these systems underscores care centered around communities with an emphasis on promoting health, minimizing risks, addressing heightened severity of illnesses, reorganizing for cost efficiency, and fostering the integration of healthcare systems (20).

The results from numerous examinations of healthcare organizations expose the prevalence of inaccuracies in medical procedures and a significant disparity between the caliber of healthcare provided and established benchmarks. Instances of these disparities encompass inaccuracies in medical procedures, complications and infections following surgeries, insufficient screening, and issues associated with cancer care (7).

In this study carried out at Baharloo Hospital, the utmost crucial scores were documented in the category of leadership and administration, achieving an 89% adherence rate. This was succeeded by the secure evidence-based clinical practice measures category with a 58% adherence rate, whereas the Lifelong Learning category registered the minimal adherence at 0%. Regarding fundamental scores, the maximum were noticed in the Leadership and Administration category, reaching 80%, whereas Secure Setting and Lifelong Learning categories demonstrated decreased adherence at 50%. In relation to developmental scores, the Leadership and Administration category exhibited the

maximum adherence at 50%, while Secure Setting recorded the minimal adherence at 0%. This foundational evaluation implies that the hospital demonstrated solely partial adherence with the requirements for patient safety within the Patient Safety Friendly Hospital Initiative (PSFHI).

Per Siddiqi and colleagues' investigation (2012) (9), the superior and inferior benchmarks achieved were within the secure setting (64%) and patient and public participation (25%) categories, respectively. This research encompassed

seven developing nations, specifically Egypt, Jordan, Morocco, Pakistan, Sudan, Tunisia, and Yemen.

In contrast, the outcomes of this examination reveal that the grades for patient safety benchmarks at Baharloo Hospital surpassed those noted in hospitals throughout the seven developing nations in the Eastern Mediterranean Regional as per Siddiqi and colleagues' study. A relative evaluation between the current investigation and the scrutiny by Siddiqi et al. is portrayed in Table 2.

Table 2: Patient safety baseline assessment scores for baharloo hospital in comparison with 2 other studies.

Standards	Max score	Baseline scores achieved by hospitals							
		Baharloo H	Egypt	Jordan	Morocco	Pakistan	Sudan	Tunisia	Yemen
Critical	20	71%	78%	50%	53%	65%	40%	55%	8%
Core	90	60.5%	46%	37%	28%	38%	27%	42%	18%
Developmental	30	28%	2%	12%	7%	12%	3%	20%	5%
Total score	140	54.28%	41%	34%	27%	36%	24%	39%	14%

Conclusion

In this foundational evaluation, Baharloo Hospital exhibited incomplete adherence to the patient safety benchmarks mandated for the Patient Safety Friendly Hospital Initiative (PSFHI). While the majority (71%) of imperative criteria and more than half of the fundamental criteria (60.5%) were put into practice, there is an opportunity for enhancement to ensure the accomplishment of 100% of the vital prerequisites—a pivotal condition for gaining acknowledgment as a Patient Safety Friendly Hospital. It is recommended that the contents of this report will steer the ongoing patient safety initiative at the hospital, concentrating specifically on the provided suggestions, to guarantee eligibility for at least level 1 PSFHI. Considering the apparent commitment of leadership at this hospital and the staff's dedication to patient safety, substantial enhancement is anticipated, reflected in heightened adherence to fundamental criteria and the attainment of 100% adherence to imperative criteria upon subsequent assessment. Per the declaration of the Eastern Mediterranean Regional Office (EMRO) of the World Health Organization, Baharloo Hospital secured the initial tier in patient safety within the region in 2012. The execution of strategies to ensure the Patient

Safety receiving medical care is affected by the unique characteristics of medical facilities. Measures that are legally required by governing bodies are more frequently put into practice in hospitals of higher standing. Successful implementation of initiatives to ensure patient safety may hinge on the legal integration and enforcement of guidelines, promoting organizational responsiveness to the needs of patients, fostering a culture within hospitals that prioritizes patient safety, and involving patients and their families actively (21). The initiative for Hospitals Favorable to Patient Safety (HFPSI) emphasizes the participation of patients and the public in evaluating and certifying hospital performance. Hospitals are urged to enhance health literacy among patients and those responsible for their care, enabling them to make well-informed choices about their healthcare. This entails involving the community in various activities and verification processes related to patient safety. Moreover, hospitals are expected to communicate incidents related to patient safety to patients and those responsible for their care, while also maintaining an environment that is considerate of the needs of patients. Ensuring the safety of patients is a notable challenge in public health that is often attributed to systemic shortcomings,

yet it provides an opportunity to enhance the quality of care. The HFPSI originated through collaborative endeavors among countries in the Eastern Mediterranean Region (EMR) and the World Health Organization's Eastern Mediterranean Regional Office (WHO/EMRO). It encompasses a diverse array of actions aimed at improving performance, ensuring environmental safety, and managing risks. The initiative spans across various hospital care disciplines and involves different stakeholders, necessitating a comprehensive and multifaceted approach to identify and address actual and potential risks to patient safety in specific services, while also seeking broad, long-term solutions for the healthcare system as a whole (10).

Acknowledgment:

we would like to express our deepest gratitude to the management of baharloo hospital and all staffs of the said hospital for giving enough information and helping us in conducting this research.

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