

ASSESSMENT OF PATIENT SAFETY AT AL-AZHAR UNIVERSITY HOSPITALS

By

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ABSTRACT

Background: Patient safety is a critical component of health care quality. Therefore, all health-care professionals have obligations to provide safe and qualified health care to avoid unintentional harm to patients. **Objective:** Assessment the levels of patient safety inside the studied departments of Al-Azhar University Hospitals. **Material and methods:** The present descriptive cross-sectional study was carried out from first of September, 2014 until the end of August, 2016. Data were collected using standards checklist, adapted from World Health Organization Patient Safety Friendly Hospital Initiative (PSFHI) to assess patient safety in hospital, through observation, interviews, and reviewing documents in selected hospitals. Hospitals were classified into three levels of low (lower than 50%), average (50-70%), and high (higher than 70%) based on the compliance level with standards of patient safety. **Results:** The overall compliance level of patient safety standards was evaluated low in the studied hospitals, 45% in New Damietta Hospital and 46.4% in Al- Hussein Hospital. The leadership and management domain was evaluated low in the studied hospitals. Moreover, it is better in New Damietta Hospital (41.4%) than Al- Hussein Hospital (40%). The safe evidence-based clinical practice domain was evaluated average in the studied hospitals. Moreover, it was better in Al- Hussein Hospital (61.4%) than New Damietta Hospital (57.9%). **Conclusion:** The overall compliance level of patient safety standards was evaluated low in the studied hospitals. None of the studied hospitals assessed achieved the 20 critical patient safety standards that are necessary to enroll a hospital in the PSFHI. Necessary investments in strategic and operational planning should be considered in order to achieve 100% standards.

Key words: Critical standard, patient safety, patient safety friendly hospital.

INTRODUCTION

The simplest definition of patient safety is the prevention of errors and adverse effects to patients associated with health care (Gallagher et al., 2015). The National Patient Safety Foundation identified patient safety as a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery (Emanuel et al., 2008). Documentation of the scale of iatrogenic harm to patients has been

accelerating since 1991, with one of the first hospital population studies. Studies progressed to national estimates, and the focus moved from negligence to preventability (Michel et al., 2007). Studies confirm that medical error is prevalent in our health system and that the costs are substantial (Weingart et al., 2008). The situation of unsafe practice in developing countries and countries in economic transition including Eastern Mediterranean Region (EMR) with an average 10% of all inpatient admissions

resulting in some form of unintended harm. So, the pressing need to tackle the issue of patient safety should be clear (WHO, 2008).

MATERIAL AND METHODS

A descriptive cross-sectional study design was conducted from first of September, 2014 until the end of August, 2016. The study was conducted in New Damietta and Al- Hussein University Hospitals because they included the place where the researcher works. The research tool in this study was standards checklist adapted from WHO patient safety friendly hospital initiative to assess patient safety in hospitals (WHO, 2016). The checklist consisted of five domains: leadership and management, patient and public involvement, safe evidence based clinical practice, safe environment, and lifelong learning. There were nine standards in leadership and management, seven standards in patient and public involvement, two standards in safe evidence based clinical practice, two standards in safe environment, and two standards in lifelong learning. Data were collected through observation and reviewing of 28 different criteria, having interviews with the hospital managers,

infection control nurses, laboratory staff, head nurses, selected doctors, patients and nurses. Different document and measures were assessed and observed in departments such as inpatient wards, pharmacy, blood bank, laboratories, endoscopy unit, and medical record archive. Research data were scored according to scoring guideline provided by WHO safety program. If the patient safety standard was met for structure, process, and output, the given score was equal to 1. If it was not met for structure, process, and output, the given score was equal to 0. When standard was met for structure and process, the given score was equal to 0.5. If the hospital total means score in four domain was less than 50%, it was considered low. If it was between 50% and 70%, the status of hospital was considered average. If it was more than 70%, the status of hospital was considered high.

RESULTS

Leadership and management domain:

The compliance level to the relevant standards was low in the studied hospitals, 41.4% in New Damietta Hospital and 40% in Al- Hussein Hospital (Table 1).

Table (1): Leadership and management assessment score of patient safety in the studied hospitals.

Standards	Score	Maximum score	New Damietta Hospital		Al- Hussein Hospital	
			No	%	No	%
Critical standards	9	9	4.5	50	4	44.4
Core standards	20	20	8.5	42.5	8.5	42.5
Developmental standards	7	7	1.5	21.4	1.5	21.4
Total		35	14.5	41.4	14	40

Patient and public involvement domain: 32.1% in New Damietta Hospital and 33.9% in Al- Hussein Hospital (Table 2).
The compliance level to the relevant standards was low in the studied hospitals,

Table (2): Patient and public involvement assessment score of patient safety in the studied hospitals.

Standards	Score Maximum score	New Damietta Hospital		Al- Hussein Hospital	
		No	%	No	%
Critical standards	2	1.5	75	1.5	75
Core standards	16	5.5	34.4	6.5	40.6
Developmental standards	10	2	20	1.5	15
Total	28	9	32.1	9.5	33.9

Safe evidence-based clinical practices domain: The compliance level to the relevant standards was average in the studied hospitals, 58% in New Damietta Hospital and 61.4% in Al- Hussein Hospital (Table 3).

Table (3): Safe evidence-based clinical practice assessment score of patient safety in the studied hospitals..

Standards	Score Maximum score	New Damietta Hospital		Al- Hussein Hospital	
		No	%	No	%
Critical standards	7	5.5	78.6	6	85.7
Core standards	29	17.5	60.3	18.5	63.8
Developmental standards	8	2.5	31.3	2.5	31.3
Total	44	25.5	58	27	61.4

Safe environment domain: The compliance level to the relevant standards was average in the studied hospitals, 66.7% in New Damietta Hospital and 69% in Al- Hussein Hospital (Table 4).

Table (4): Safe environment assessment score of patient safety in the studied hospitals.

Score Standards	Maximum score	New Damietta Hospital		Al- Hussein Hospital	
		No	%	No	%
Critical standards	2	2	100	2	100
Core standards	19	12	63.2	12.5	65.8
Total	21	14	66.7	14.5	69

Lifelong learning domain: Lifelong learning was lacking or inadequate in the studied hospitals. There was no patient safety curriculum and most hospital staff was not provided patient safety orientation programs.

Patient safety scores: The overall compliance level of patient safety standards was evaluated low in the studied Hospitals (45%) in New Damietta Hospital and (46.4%) in Al- Hussein

Hospital. As regard New Damietta Hospital, critical standards were evaluated average (67.5%) with low core standards (48.3%), and also low score of developmental standards (20%). As regard Al- Hussein Hospital, critical standards were average (67.5%) with also average score for core standards (51.1%), and low score of developmental standards (18.3 % - Table 5).

Table (5): Patient safety baseline assessment scores for the studied hospitals.

Score Hospitals	Critical standards (20)	Core standards (90)	Developmental standards (30)	Total (140)
New Damietta Hospital:				
No	13.5	43.5	6	63
%	67.5	48.3	20	45%
Al- Hussein Hospital:				
No	13.5	46	5.5	65
%	67.5	51.1	18.3	46.4%

DISCUSSION

This study was systematically investigating the current state of patient safety standards in Al-zhar University Hospitals. The findings of this study produced an opportunity for health system managers and providers of health services to improve their organizational safety and contribute to building mutual trust and transparency between patients and providers of healthcare services. As regards leadership and management assessment score of patient safety, this study revealed that total scores were low, i.e. 41.4% and 40% in New Damietta and Al- Hussein Hospitals respectively. This might be due to lack of policies, guidelines, and standard operating procedures readily available for clinical or support services. These findings coincided with a study conducted in seven developing country hospitals which revealed that the compliance to the relevant standards varied between 18 and 47% (**Siddiqi et al., 2012**). On the other hand, these findings did not coincide with a study in Isfahan Hospitals which reported that the leadership and management mean score of patient safety was evaluated average, i.e. 66.7 % (**Raeisi et al., 2013**).

Regarding patient and public involvement domain, this study found that total scores were 32.1% and 33.9% in New Damietta and Al- Hussein hospitals respectively. Level of compliance was evaluated low in the studied hospitals. The problems in communication, information flow, patient misidentification and competing tasks were found to have measurable negative impact in team performance and patient safety in the studied hospitals. These findings were

consistent with a study conducted by **Abbasi et al. (2012)** who found that hospital status according to patient and public involvement domain was at a low level (49%).

As regards the safe evidence-based clinical practice domain, the present study revealed that total scores were 57.9% and 61.4% in New Damietta and Al- Hussein hospitals respectively. Level of compliance was evaluated average in the studied hospitals. This nearly was in accordance with the study conducted in Isfahan Hospitals which reported that the safe evidence-based clinical practice domain was evaluated average with score 51% (**Raeisi et al., 2013**).

Regarding to the safe environment domain, the level of compliance was evaluated average, i.e. 66.7% and 69% in New Damietta and Al- Hussein hospitals respectively. This relatively agreed with the study conducted in Iran by **Raeisi et al.(2013)** who reported nearly the same results with a mean score of 53.1 %. On the other hand, these results disagreed with a study conducted by **Mohamed et al.(2009)** in Bahrain who reveal that separation of waste in a health care facility is 86%. The reason for this mismatch can be pointed to weakness in staff training about appropriate medical waste management and failed to demonstrate a fire evacuation plan.

None of the studied hospitals achieved the 20 critical patient safety standards that are necessary to enroll a hospital in the PSFHI (**WHO, 2016**), because the policies and plans are not sufficient in this area. Critical standards score was 67.5% in both studied hospitals. This was relatively consistent with the study

conducted by **Siddiqi et al. (2012)** who revealed that the critical standards score in Egyptian hospitals participating in the study was 78%.

Moreover, this study found that the core standards in both hospitals were 48.3% and 51.1% respectively. This agreed with the study conducted in Egypt by **Siddiqi et al. (2012)** who nearly reported the same results, i.e. 46%. On the other hand, developmental standards were 20% and 18.3% in New Damietta and Al- Hussein Hospitals respectively. These finding was not coincided with the study conducted by **Siddiqi et al. (2012)** who revealed that only 2% was the percentage of developmental standards in Egyptian hospitals participating in this study. This might be due to lack of interest and knowledge of patient safety issues at this time.

The overall compliance level of patient safety standards were 45% and 46.4% in New Damietta and Al- Hussein hospitals respectively. This might be due to the poor state of infrastructure and equipment, unreliable supply and quality of drugs, shortcomings in waste management and infection control, poor performance of personnel because of low motivation or insufficient technical skills, lack of protocols and failures in communication. This was nearly in accordance with the study conducted in seven developing countries by **Siddiqi et al. (2012)** who revealed that overall assessment score varies in the range 14 and 41% across the seven countries, and represents 41percentage in Egypt. On the other hand, this not in accordance with the study conducted at Shiraz Educational hospitals by **Norozi et al.(2012)**who revealed that

patient safety level was average with a mean score of 58%.

CONCLUSION

The overall compliance level of patient safety standards was evaluated low in the studied hospitals. None of the studied hospitals achieved the 20 critical patient safety standards that are necessary to enroll a hospital in the PSFHI. There were absence of family rights statement, inappropriate patient identification and absence of mechanisms to communicate adverse events to patients in the studied hospitals. Also, in both hospitals clear protocols were not available to guide action taken when the staff was infected.

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تقييم سلامة المرضى في مستشفيات جامعة الأزهر

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خلفية البحث: سلامة المرضى هي عنصر حاسم في جودة الرعاية الصحية؛ وبالتالي، فإن جميع العاملين في مجال الرعاية الصحية لديهم التزام لتوفير الرعاية الصحية الآمنة والمؤهلة لتجنب الضرر غير المقصود للمرضى.

الهدف من البحث: تقييم مستويات سلامة المرضى داخل أقسام مستشفيات جامعة الأزهر.

مواد وطرق البحث: أجريت هذه الدراسة الوصفية التحليلية المستعرضة من الأول من سبتمبر 2014 وحتى نهاية أغسطس 2016 وقد تم جمع البيانات باستخدام المعايير المرجعية المقتبسة من مبادرة منظمة الصحة العالمية للمستشفيات الصديقة لسلامة المرضى، وذلك من خلال الملاحظة والمقابلات واستعراض الوثائق في مستشفيات الدراسة. وقد تم تصنيف المستشفيات إلى ثلاثة مستويات: منخفضة (أقل من 50%)، متوسطة (من 50% إلى 70%)، وعالية (أعلى من 70%) على أساس مستوى الالتزام بمعايير سلامة المرضى.

النتائج: كان مستوى الالتزام الكلي بمعايير سلامة المرضى منخفضاً في مستشفيات الدراسة حيث بلغ: 45% في مستشفى دمياط الجديدة و46.4% في مستشفى الحسين. كما تم تقييم مجال القيادة والإدارة منخفضة في المستشفيات التي شملتها الدراسة. ولكنه كان أفضل في مستشفى دمياط الجديدة 41.4% من مستشفى الحسين 40%. بينما تم تقييم مجال الممارسة السريرية المبنية على الأدلة متوسطاً في المستشفيات التي شملتها الدراسة. ولكنه كان أفضل في مستشفى الحسين 61.4% عن مستشفى دمياط الجديدة 57.9%.

الخلاصة: كان مستوى الالتزام الكلي بمعايير سلامة المرضى منخفضاً في المستشفيات التي شملتها الدراسة. كما لم تحقق أي من مستشفيات الدراسة معايير سلامة المرضى العشرين الأساسية الضرورية للاتحاق بالمستشفيات الصديقة لسلامة المرضى.