

Patient safety Culture among Physicians in a Public Medium Size Hospital in Cairo

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Received January 2015, accepted 24-3-12015

Abstract

Good clinical practice means providing care that is safe and effective without doing harm. This requires proper identification and acceptance of errors through sound safety culture. This study aims to measure patient safety culture among physicians and identify factors affecting it. **Methods:**The study was carried out in a medium sized public hospital in Cairo. Study tool is an Arabic version of the hospital survey on patient safety culture developed by the Agency for Healthcare Research and Quality (AHRQ). It measures 12 dimensions of safety culture in addition to two outcome variables. **Results:** A total of 78 physicians answered the questionnaire, analysis of data showed that only 42.3% of participants scored $\geq 50\%$ total safety culture. All dimensions scored < 75 while 8 out of the 12 dimensions scored below 50%. Certification was barely significant as a factor affecting total score safety culture while other studied factors were not significant. **Conclusion and Recommendations:** Perception of Patient safety culture among physicians of Al Qahira Al Fatimya hospital was negative. It is recommended that the hospital adopt a more open and non-punitive culture as well as training of physicians for a better safety culture.

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Introduction

The World Health Organization defines patient safety as the prevention of errors and adverse effects to patients associated with healthcare ⁽¹⁾. An adverse event is an event that results in unintended harm to the patient. It is related to the care and/or services provided to the patient rather than to the patients underlying medical condition ⁽²⁾.

Unsafe care is responsible for an enormous human toll everywhere. New research from the Eastern Mediterranean and Africa, involving eight countries including Egypt, suggests that approximately 8% hospital admissions in

26 hospitals showed at least one adverse event that caused harm to patients. Of these, the majority was judged to be preventable and about 30% was associated with the death of patients ⁽³⁾.

Some believe that an effective reporting system is the cornerstone of safe practice and a measure of progress towards achieving a safety culture. At a minimum, reporting can help to identify hazards and risks, and provide information as to where the system is breaking down. This can help in targeting improvement efforts and systems changes to reduce the likelihood of injury to future patients. Too frequently, the current response to

adverse events focuses on identifying and blaming health care providers⁽²⁾. No blame culture is the corner stone to ensure patient safety and achieve patient safety culture in any health organization. No blame culture is a phrase used to describe the tolerance of mistakes within an organization providing that people learn from these mistakes. It is usually associated with empowerment and the learning organization⁽⁴⁾.

Safety culture has become a significant issue for healthcare organizations striving to improve patient safety⁽⁵⁾ and some safety investigations have indicated that organizations need to change their culture to make it 'easy to do the right thing, and hard to do the wrong thing' for patient care⁽⁶⁾.

The safety culture of an organization is defined as the product of individual and group values, attitudes, perceptions, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of an organization's health and safety management⁽⁷⁾. The Institute of Medicine (IOM) states that a culture of safety in healthcare requires three elements: the first element is a belief that although health care processes are high risk, they can be designed to prevent failure, while the second is a commitment at the organizational level to detect and learn from errors and the third element is a fair and just environment which is balanced between no blame culture and accountability at the same time⁽⁸⁾, that is to say the organization does not tolerate intentionally unsafe actions, reckless actions, disregard for the welfare of patients or staff, or other willful misconduct and misbehavior⁽⁹⁾.

Patient safety culture still has many areas for improvement that need continuous evaluation and monitoring to attain a safe environment both for patients and health-care providers⁽¹⁰⁾.

Subjects and Methods

Study Type: A Descriptive study.

Sampling technique: all accessible physicians working in Al Qahira al Fatimya hospital.

Study setting: Al Qahira Al Fatimiya hospital; is located in Al Darrasa, Cairo and belongs to the Secretariat of Specialized Medical Centers, Ministry of Health. It is a medium sized hospital with bed capacity of 112 beds. The hospital staff includes 120 physicians, 78 nurses and 41 paramedics. The hospital was inaugurated in 2007 as an ophthalmology hospital then later on it expanded to include other medical and surgical units, and an Intensive Care Unit (ICU). However it does not have gynaecology nor ear, nose and throat inpatient units; only outpatient clinics and it lacks an emergency Unit.

Study subjects: Physicians working in the hospital.

Study Tool: Study tool is a validated Arabic version of the Hospital Survey on Patient Safety Culture designed by the Agency for Healthcare Research and Quality (AHRQ). It was pilot tested, revised and then released in November 2004. It consisted of 12 dimensions of patient safety culture in addition to outcome variables. It assesses hospital staff opinions about patient safety issues, medical error and event reporting (11-12).

The questionnaire is a self-administrated questionnaire which takes about 10-15

minutes to be completed. It includes: General personal data, seven unit-level aspects of safety culture, three hospital-level aspects of safety culture and four outcome variables. Most of the questionnaire items required respondents to answer to a 5-point Likert scale⁽¹²⁾. The questionnaire was pilot tested to ensure its compatibility with the Egyptian personnel.

Ethical Consideration: The study was approved by the Ethical Committee of MOHP. Administrative approval was also obtained from the hospital and an informed consent was taken from all study participants. Data was anonymously handled and used only for research purposes.

Data Collection and Management: Data collection was carried out during March, April and May 2014. Each questionnaire was examined for completeness. The questionnaire included both positively worded items and negatively worded items. Negatively worded questions were reversed. Percent of positive responses was calculated for each item. Composite score for each patient safety dimension was calculated by the summation of the positive responses to the items in that dimension divided by the total maximum score (excluding missing responses). Data was analyzed using Statistical Package for the Social Sciences (SPSS) software version 21. Quantitative data were presented using mean and standard deviation. While qualitative data were presented using frequency and percentage.

Results

The current study included 78 participants working as physicians in Al

Qahira Al Fatimya hospital, Table (1) shows that more than half (51.5%) of them are 30-45 years old, while 38.2% of them are <30 years old. Nearly two thirds (63%) were males. Also 64.5% have postgraduate degree versus 35.5% with Bachelor degree. Nearly half (49.3%) of the participants have less than five years' experience and 27.4% have 5-10 years' experience. More than three quarters (80.8%) of respondents worked for <5 years in the hospital. Similarly 86.5% of them worked \leq 40 hours per week. 98.7% of them have direct contact with patients versus only 1.3% without direct contact. The majority of participants are temporary staff.

Table (2) shows the physicians' mean percent scores of the safety culture 12 dimensions. The highest three scores were Teamwork within units, Supervisor/manager expectations & actions promoting safety and Organizational learning-Continuous improvement with mean scores of 66.2 ± 34.1 , 57.05 ± 33.20 and 53.63 ± 32.30 respectively. While the least scores were those of the dimensions *Frequency of events reported* and *Non-punitive response to error* scoring 29.00 ± 37.60 and 18.80 ± 21.21 respectively.

Table (3) shows that more than half (57.2%) of participants reported a "very good" or an "excellent" as a grade of patient safety in their units while 42.9% of study participants reported an "acceptable" or "good" grades. Not a single participant reported a "failing" grade.

Table (3) shows that 56.6% of participants have reported at least one event in that past 12 months while 43.4% have never reported any.

Table (5) shows that only 42.3% of participants scored $\geq 50\%$ total safety culture. Among the studied factors, none significantly affected total score safety culture, except for certification which was barely significant; where 51% of participants with postgraduate studies scored $\geq 50\%$ total safety culture versus only 25.9% of those with bachelor degree. Although total scores safety culture seem to increase with experience, however this finding was no significant. Also percentage of males who scored $\geq 50\%$ total safety culture was higher than their counterparts among females by 20% but this difference was not statistically significant.

Discussion

Patient safety culture is one of the topics of the hour nowadays; good clinical practice means providing care that is safe and effective without doing harm. This requires proper identification and acceptance of errors through sound safety culture. This study attempts to measure safety culture among physicians in Al Qahira Al fatimya hospital in cairo, as physicians play a vital role in an organization culture. The study uses a validated questionnaire developed by the AHRQ, it measures different aspects of safety culture on the unit level as well as hospital level. The AHRQ defines safety culture areas of strengths as those items that about 75 percent of respondents or more answered positively to it. Similarly, areas needing improvement are identified as those items that 50 percent or fewer respondents did not answer positively to it ⁽¹²⁾. Results shows that the participants show no areas of strengths where the dimension with the highest score Teamwork within units (66.2 \pm 34.1) is below 75 while areas requiring improvements are 8 out of 12,

namely; staffing, hospital management support for patient safety, Overall Perceptions of Safety, communication openness, Frequency of Event Reporting, teamwork across hospital units, and hospital handoffs and transitions and finally non-punitive response to errors which has the least score. Comparing to results from the 2014 AHRQ comparative database which included data from 653 USA hospitals; areas of strength were Teamwork Within Units (scoring 81), Supervisor/Manager Expectations and Actions Promoting Patient Safety (scoring 76) and Organizational Learning—Continuous Improvement (scoring 73). While areas requiring improvement were Non punitive Response to Errors (scoring 47), Handoffs and Transitions (scoring 47) and although the dimension Staffing scored 55 in the AHRQ benchmark, but still the AHRQ considered it as an area of improvement ⁽¹³⁾.

Regarding the outcome variable event reporting 56.6% of participants have reported at least one event in that past 12 months while 43.4% have never reported any. According to the AHRQ database, less than half of respondents (44%) reported at least one event in the past 12 months ⁽¹³⁾. Reporting of events is the corner stone of patient safety as it provides learning opportunities to improve the system.

As for the outcome variable “Safety Grade” as perceived by the participants, more than half (57.2%) of participants reported a “very good” or an “excellent” Comparing to 76 % as reported in the AHRQ database ⁽¹³⁾.

Univariate analysis shows no special trend among age groups, while a trend of higher total scores is noticed with higher years of experience. On the contrary,

Abbas et al., results showed that the perception of hospital staff about patient safety decreased as their years of experience increased. This contradiction may be attributed to different survey tool used in the later study (14). Duration spent in hospital does not significantly affect total score safety culture. This agrees with the results of Hamdan and Saleem (15).

Working hours per week was not significant as a factor affecting total score safety culture, this is in agreement with results of Ain Shams University Hospitals survey (10). On the other hand, in Hamdan and Saleem study this factor was not significant (15).

Conclusion and ecommendation

Perception of Patient safety culture among physicians of Al Qahira Al Fatimyia hospital was negative as 8 out of 12 dimensions scores below 50% and none of them scored 75% or more. Only 42.3% of participants scored $\geq 50\%$ total safety culture. It is recommended that the hospital adopt a more open and non-punitive culture as well as enhance reporting of events and proactive approach to errors. It is also recommended to train physicians for a better safety culture.

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Table (1) Characteristics of the Study Participants

Character	N (%)
Total number of participants	78
Age	
• <30	26 (38.2)
• 30-45	35 (51.5)
• > 45	7 (10.3)
Gender	
• Male	49 (63.6)
• Female	28 (36.4)
Certification	
• Bachelor's degree	27 (35.5)
• Postgraduate studies	49 (64.5)
Years of experience	
• <5 years	36 (49.3)
• 5-10 years	20 (27.4)
• >10 years	17 (23.3)
Duration at Hospital	
• <5 years	59 (80.8)
• ≥5 years	14 (19.2)
Working Hours per Week	
• ≤40 hours	64 (86.5)
• >40 hours	10 (13.5)
Direct Contact with Patients	
• Yes	77 (98.7)
• No	1 (1.3)
Permanent Staff	13 (16.7)
Temporary Staff	65 (83.3)

Table (2) Composite Scores of Safety Culture Dimensions

Dimension	Mean Percent Score	Std. Deviation
Teamwork within units	66.2	34.1
Supervisor/manager expectations & actions promoting safety	57.05	33.20
Organizational learning– Continuous improvement	53.63	32.30
Overall perceptions of patient safety	52.24	26.68
Staffing work conditions	47.76	23.71
Handoffs & transitions	45.51	32.67
Feedback & communication about error	43.38	36.86
Management support for patient safety	42.31	40.08
Communication openness	40.60	33.40
Teamwork across units	40.60	34.17
Frequency of events reported	29.00	37.60
Non-punitive response to error	18.80	21.21

Table (3) Patient Safety Grade as Reported by Participants

Grade	N (%)
Failing	0 (0)
Poor	6 (7.8)
Acceptable	27 (35.1)
Very good	38 (49.4)
Excellent	6 (7.8)

Table (4) Event Reporting as Given by Participants

Reporting	N (%)
No events reported	33 (43.40)
One or more events reported	43 (56.60)

Table (5) Factors Affecting Safety Culture Total Score

Factor	Categories	N (%)		P Value
		Score<50%	Score≥50%	
All Participants		45 (57.7)	33 (42.3)	—
Age	<30	18 (69.2)	8 (30.8)	0.423
	30-45	21 (60.0)	14 (40.0)	
	>45	3 (42.9)	4 (57.1)	
Gender	Male	25 (51.0)	24 (49.0)	0.097
	Female	20 (71.4)	8 (28.8)	
Certificate	Bachelor's degree	20 (74.1)	7 (25.9)	0.052
	Postgraduate studies	24 (49.0)	25 (51.0)	
Years of Experience	<5 years	25 (69.4)	11 (30.6)	0.255
	5-10 years	11 (55.0)	9 (45.0)	
	>10 years	8 (47.1)	9 (52.9)	
Duration at Hospital	<5	36 (61.0)	23 (39.0)	1.000
	≥5	8 (57.1)	6 (42.9)	
Working Hours per week	≤40	38 (59.4)	26 (40.6)	1.000
	>40	6 (60.0)	4 (40.0)	
State	permanent	6 (46.2)	7 (53.8)	0.376
	temporary	39 (60.0)	26 (40.0)	
Contact with Patients	Yes	45 (58.4)	32 (41.6)	0.423
	No	0 (0.0)	1 (100.0)	