

Assessment of Patient Safety Culture in Primary Health Care Settings in Kuwait

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ABSTRACT

BACKGROUND: Patient safety is critical component of health care quality. We aimed to assess the awareness of primary healthcare staff members about patient safety culture and explore the areas of deficiency and opportunities for improvement concerning this issue.

METHODS: This descriptive cross sectional study surveyed 369 staff members in four primary healthcare centers in Kuwait using a self-administered "Hospital Survey on Patient Safety Culture" adopted questionnaire. The total number of respondents was 276 participants (response rate = 74.79%).

RESULTS: Five safety dimensions with lowest positivity (less than 50%) were identified and these are; the non - punitive response to errors, frequency of event reporting, staffing, communication openness, center handoffs and transitions with the following percentages of positivity 24%, 32%, 41%, 45% and 47% respectively. The dimensions of highest positivity were teamwork within the center's units (82%) and organizational learning (75%).

CONCLUSIONS: Patient safety culture in primary healthcare settings in Kuwait is not as strong as improvements for the provision of safe health care. Well-designed patient safety initiatives are needed to be integrated with organizational policies, particularly the pressing need to address the bioethical component of medical errors and their disclosure, communication openness and emotional issues related to them and investing the bright areas of skillful organizational learning and strong team working attitudes.

Key words: Safety culture, patient safety, primary healthcare

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INTRODUCTION

Patient safety is a global issue affecting countries at all levels of development. Although estimates of the size of the problem are scarce, particularly in developing and transitional

countries, it is likely that millions of patients worldwide suffer disabilities, injuries or death every year due to unsafe medical care [1]. Health care-associated infections, misdiagnosis, delays in treatment, injury due to the inadequate use of medical devices,

and, adverse events due to medication errors, are common causes of preventable harm to patients [2]. Patient safety is defined as “the prevention of harm to patients with emphasis on the system of care delivery that prevents errors, learns from the errors that do occur and is built on a culture of safety that involves health care professionals, organizations, and patients [3]. Patient safety is a critical component of health care quality [4]. Achieving a culture of safety requires an understanding of the values, beliefs, and norms about what is important in an organization and what attitudes and behaviors related to patient safety are expected and appropriate [5]. The safety culture of an organization is 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 [6]. Assessing the organization's existing safety culture allows organizations to obtain a clear view of the patient safety aspects requiring urgent attention. Safety culture assessment surveys allow hospitals to identify the strengths and weaknesses of their safety culture [7].

It is important that health care providers in Primary Health Care (PHC) facilities to have background knowledge about patient safety in order to minimize the incidence of adverse events that may lead to serious disabilities to the patients, especially that the primary health care centers are considered as the first line of defense against health problems [8].

In Kuwait there are 72 primary health care centers spread over the 5 health regions of the country. The services offered by them include general practitioner services and childcare, family medicine, maternity care, diabetes patient care, dentistry, preventive medical care, nursing care and pharmaceuticals. Quality and accreditation directorate of Ministry of Health applies quality, accreditation and safety programs only at the level of secondary and tertiary care hospitals [9], so it is anticipated that there are many opportunities for improving the safety culture among health care providers in PHC in Kuwait. The objective of this study is to assess the awareness of primary healthcare staff members about the culture of patient safety and explore the areas of deficiency and opportunities for improvement concerning it.

METHODS

Study design, settings and duration

This study is a descriptive cross sectional one conducted over a period of three months (from April 2011 to June 2011) in the Capital of Kuwait, State of Kuwait, in four PHC centers: Al-Qadsiya center, Al-Faihaa center, Al-Yarmouk center and Al-Shamiya center.

Sampling

There are 22 PHC centers in the Capital of Kuwait. The 4 selected PHC facilities included in the study were purposefully selected with the highest client attendance after revising the client attendance rates in all PHC centers in the capital in the year prior to study conduction (2010). The selected centers represent 18% of all PHC centers in Kuwait City. All full time primary health care centers' staff employees in the selected 4 PHC centers were included in the study and these constituted 369 staff members, representing the four targeted groups (physicians, nurses, technical and administrative staff). However those who completed more than 50% of the items of the questionnaire perfectly were 276 participants (response rate = 74.79%). Respondents excluded from the survey are those who answered less than one entire section of the survey or fewer than half of the items throughout the entire survey (in different sections) or if every item's response is the same (e.g. all “4s” or all “5s”) [10]

Data Collection

Data collection was conducted using a self-administered structured questionnaire composed of 2 parts: First part; concerning data of the participants' age, sex, work area and work experience details. Second; concerning the Hospital Survey on Patient Safety Culture (HSOPSC) developed by the Agency for Healthcare Research and Quality (AHRQ) [10]. The questionnaire is composed of 2 parts: First; questions concerning the participants' age, sex, work site and type and work experience details. Second; It examines patient safety culture from a hospital staff perspective. The survey can be completed by all types of hospital

staff- from housekeeping and security to nurses and physicians. The survey includes fourteen dimensions; twelve of them are multiple-item dimensions (two outcome dimensions and ten safety culture dimensions) and the last two are single item dimensions used to check the validity. The dimensions were examined through 44 items in addition to 7 items as background characteristics of the staff. HSOPSC is a validated instrument and its dimensions and their reliability estimates have been proved. The items for most part were measured using the 5-point likert response scale of agreement (Strongly Disagree to Strongly Agree) or frequency (Never to Always) [10]. The HSOPSC was translated into Arabic language and was pilot tested on 10% of the sample size taken from the same study population but not from the study sample.

Statistical analysis

Data were analyzed using the SPSS version 17. Characteristics of respondents are displayed using descriptive statistics. Calculation of the composite frequencies for the 12 patient safety dimensions measured by HSOPSC data collection tool was performed according to the user's guidelines published by the AHRQ [10]. Items were worded in both positive and negative directions. Negatively worded items were first reverse coded so that a higher score would indicate a more positive response in all cases. The responses to each item in the dimensions "Strongly Agree/Agree" or "Most of the time/Always" are considered positive responses for positively worded items and for reverse worded items, disagreement indicates a positive response ("Strongly Disagree/Disagree" or "Never/Rarely" responses). Composite frequencies of the total percentage of positive responses of each safety culture dimension were computed for the individual units as well as for the PHC center as a whole. The composite frequency percentage is calculated by dividing the total number of positive responses of all items constituting a dimension (numerator) by the total number of responses to all items of that dimension excluding missing responses (denominator) multiplied by 100. The resulting number is the percentage of positive responses for that particular dimension [10].

RESULTS

Table 1 demonstrates that nearly 32.3% of the surveyed staff was nurses and 15.6 % was from administration /Management /Engineer, while physicians constituted nearly 12% only and 85.4% of the respondents have direct interaction with the patients. Nearly one third of the studied group (30.48%) have 1 to 5 year work experience in his/her current specialty, 26.39% have 6 to10 year work experience and only 7.4% have more than 21 year work experience. The participants who work for 40 to 59 hours per week represent 58.11% of the group.

Table 2 illustrates that 53.4% of the surveyed staff rated patient safety grade in their work unit as very good and 32% as excellent and that 74.1% of the staff reported no events in the last 12 months, and nearly 13%% reported only 1 to 2 events.

Patient safety culture dimensions' positivity at the unit level is shown in Table 3. Three dimensions had less than 50% positivity, these dimensions are: Non- punitive response to error (24%) which is the first least positive dimension, staffing (41%) which is the third least positive dimension and communication openness (45%). This means that these dimensions need attention and corrective actions. In particular non punitive response to errors where only 33% of the staff gave positive response as regards feelings if their mistakes are held against them and as well only 25% gave positive response as regards that when an event is reported, it is the person who is written up not the problem and at last only 13% gave responded positively regarding their worries that their mistakes being kept in their file. Staffing is another area of concern as only 24% gave positive response being working in "crisis mode" and also only 26% gave positive response as regard working longer hours than is best for patient care. Open discussion with those with more authority has got the lowest positivity (37%) among all communication openness items and only 30% of the interviewed staff had positive response regarding supervisor's instructions whenever pressure appears at work. Teamwork within center units and organizational learning continuous improvement were the two dimensions of highest

At the PHC facility level, Table 4 demonstrates that center handoffs and transitions dimension has a positivity less

TABLE 1

BACKGROUND CHARACTERISTICS OF THE PARTICIPANTS		
STAFF POSITION	N=276	%
Nurses	89	32.3
Technicians	57	20.7
Administration /Management/Engineer	43	15.6
Physician	33	11.9
Pharmacist	30	10.9
Unit Clerk/Secretary	22	7.9
Dietician	2	0.7
DIRECT CONTACT OR INTERACTION WITH THE PATIENTS	N=260	%
Typically have direct contact or interaction with patients	222	85.4
Do not have direct contact or interaction with patients	38	14.6
WORK DURATION IN HIS/HER CURRENT SPECIALTY OR PROFESSION	N = 269	%
< 1 year	29	7.4
1 -	82	30.5
6 -	71	26.4
11 -	47	17.5
16 -	29	10.8
≤ 21	20	7.4
NUMBER OF WORKING HOURS / WEEK	N=265	%
< 20 hours per week	13	4.9
20 -	81	30.6
40 -	154	58.1
60 -	12	4.5
80 -	2	0.8
≤100	3	1.1

TABLE 2

PATIENT SAFETY AS GRADED BY THE SURVEYED STAFF AND THE NUMBER OF EVENTS REPORTED IN THE PAST 12 MONTHS			
VARIABLE		N = 266	%
PATIENT SAFETY GRADE	Excellent	85	32
	Very Good	142	53.4
	Acceptable	35	13.1
	Poor	4	1.5
		N=259	%
EVENT REPORTING	No event reporting	192	74.1
	1-	33	12.7
	3-	20	7.7
	6-	5	1.9
	11-	6	2.3
	21-	3	1.3

TABLE 3

DESCRIPTION OF SAFETY CULTURE DIMENSIONS AT THE UNIT LEVEL POSITIVITY (82% AND 75% POSITIVITY RESPECTIVELY)		
ITEMS OF PATIENT SAFETY CULTURE DIMENSIONS AT THE UNIT LEVEL	POSITIVE RESPONSES	TOTAL RESPONSES
NON PUNITIVE RESPONSE TO ERROR (DIMENSION'S POSITIVITY = 24%)		
-Staff feels their mistakes are held against them (reverse worded).	88 (33%)	270
-When an event is reported, it feels like the person is being written up, not the problem (reverse worded).	69 (25%)	271
-Staff worry that mistakes they make are kept in their personnel file (reverse worded).	35 (13%)	268
Total	192 (24%)	809
STAFFING (DIMENSION'S POSITIVITY = 41%)		
-We have enough staff to handle the workload	160 (58%)	275
-Staff in this unit we work longer hours than is best for patient care. (reverse worded)	70 (26%)	265
-We use more agency/temporary staff than is best for patient care. (reverse worded)	141 (53%)	266
-We work in "crisis mode" trying to do too much, too quickly. (reverse worded)	65 (24%)	269
Total	436 (41%)	1075
COMMUNICATION OPENNESS (DIMENSION'S POSITIVITY = 45%)		
-Staff will freely speak up if they see something that may negatively affect patient care.	140 (53%)	266
-Staffs feel free to question the decisions or actions of those with more authority.	100 (37%)	267
-Staffs are afraid to ask questions when something do not seem right. (reverse worded)	122 (46%)	268
Total	362 (45%)	801
SUPERVISOR/MANAGER EXPECTATIONS AND ACTIONS PROMOTING SAFETY (DIMENSION'S POSITIVITY = 53%)		
-My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures.	192 (71%)	269
-My supervisor/manager seriously considers staff suggestions for improving patient safety	188 (70%)	268
-Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts. (reverse worded)	80 (30%)	264
-My supervisor/ manager overlook patient safety problems that happen over and over. (reverse worded)	102 (38%)	269
Total	562 (53%)	1.070
FEEDBACK AND COMMUNICATION ABOUT ERROR (DIMENSION'S POSITIVITY = 62%)		
-We are given feedback about changes put into place based on event reports.	151 (57%)	267
-We are informed about errors that happen in this unit.	157 (60%)	263
-In this unit, we discuss ways to prevent errors from happening again.	181(68%)	265
Total	489 (62%)	795
ORGANIZATIONAL LEARNING CONTINUOUS IMPROVEMENT (DIMENSION'S POSITIVITY = 75%)		
-We are actively doing things to improve patient safety.	251 (91%)	275
-Mistakes have led to positive changes here.	176 (67%)	263
-After we make changes to improve patient safety, we evaluate their effectiveness.	184 (67%)	273
Total	611(75%)	811
TEAMWORK WITHIN CENTER UNITS (DIMENSION'S POSITIVITY = 82%)		
-People support one another in this unit.	34 (87%)	270
-When a lot of work needs to be done quickly, we work together as a team to get the work done.	235 (87%)	271
-In this unit, people treat each other with respect.	237 (86%)	275
When one area in this unit gets really busy, others help out.	184 (68%)	269
Total	890 (82%)	1085

TABLE 4

DESCRIPTION OF SAFETY CULTURE DIMENSIONS AT THE PHC FACILITY LEVEL		
ITEMS OF PATIENT SAFETY CULTURE DIMENSIONS AT THE FACILITY LEVEL	POSITIVE RESPONSES	TOTAL RESPONSES
CENTER HANDOFFS AND TRANSITIONS (DIMENSION'S POSITIVITY = 47%)		
-Things "fall between the cracks" when transferring patients from one unit to another. (reverse worded)	118 (46%)	258
-Important patient care information is often lost during shift changes. (reverse worded)	124 (48%)	259
-Problems often occur in the exchange of information across center units. (reverse worded)	131 (50%)	260
-Shift changes are problematic for patients in this center. (reverse worded)	119 (45%)	262
Total	492 (47%)	1039
TEAMWORK ACROSS ALL PHC CENTER UNITS (DIMENSION'S POSITIVITY = 63%)		
-There is good cooperation among hospital units that need to work together.	186 (70%)	264
-Center units work well together to provide the best care for patients.	201 (76%)	263
-Center units do not coordinate well with each other. (reverse worded)	142 (54%)	263
-It is often unpleasant to work with staff from other Center units. (reverse worded)	129 (49%)	261
Total	658 (63%)	1.051
CENTER MANAGEMENT SUPPORT FOR PATIENT SAFETY (DIMENSION'S POSITIVITY = 67%)		
-Center management provides a work climate that promotes patient safety.	203 (77%)	265
-The actions of center management show the patient safety is a top priority.	205 (78%)	263
-Center management seems interested in patient safety only after an adverse event happens. (reverse worded)	121 (47%)	259
Total	529 (67%)	787

than 50% (47%), particularly for shift changes that are problematic for patients in this center (positive response of only 45%) and problems during patient transfers (positive response of only 46%). Dimension's positivity are moderate regarding team working across all PHC center units (63%) and management support for patient safety (67%) with special attention to items concerning working with staff from other units of the same center (positive response of 49%) and that PHC center's management seems interested in patient safety only after an adverse event happens (positive response of 47%).

As demonstrated in Table 5, frequency of event reporting among all staff is the second worst patient safety dimension among all dimensions investigated by the HSOPSC, as it has an overall positivity of only 32%. All the items constituting this dimension have positive responses less than 50%, particularly for reporting mistakes that occur but yielded no potential harm to the patient (positive response of 24%). Overall perceptions of safety is moderate (dimension's positivity = 61%), as 69% of participants claimed that patient safety is never sacrificed to get more work

done and 67% claimed that the systems are good at preventing errors from happening. On the other hand 53% and 55% respectively responded positively regarding that it is only due to chance that serious mistakes don't happen and having no patient safety problems in the unit.

DISCUSSION

The present study is the first to document the patient safety culture in PHC settings in Kuwait. Surveyed PHC staff members fall into four main job categories; physicians, nurses, technical and administrative staff, majority have direct interaction with the patients. About third of them was from the nursing category while 11.9% was physicians. The overall patient safety grade was rated as excellent or very good by 85% of respondents, and overall perception of patient safety is moderately positive as around 69% claimed that patient safety is never sacrificed to get more work done. These findings are comparable to a study in Saudi Arabia including 13 general hospitals in Riyadh

TABLE 5

OUTCOME MEASURES OF PATIENT SAFETY CULTURE		
OUTCOME MEASURES	POSITIVE RESPONSES	TOTAL RESPONSES
FREQUENCY OF EVENT REPORTING AMONG ALL STAFF (DIMENSION'S POSITIVITY = 32%)		
- When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	89 (33%)	267
-When a mistake is made, but has no potential to harm the patient, how often is this reported?	63 (24%)	267
-When a mistake is made that could harm the patient, but does not, how often is this reported?	105 (40%)	265
Total	257 (32%)	799
OVERALL PERCEPTIONS OF SAFETY (DIMENSION'S POSITIVITY = 61%)		
-Patient safety is never sacrificed to get more work done.	186 (69%)	271
-Our procedures and systems are good at preventing errors from happening.	180 (67%)	270
-It is just by chance that more serious mistakes don't happen around here. (reverse worded)	143 (53%)	270
-We have patient safety problems in this unit. (reverse worded)	148 (55%)	270
Total	657 (61%)	1081

city and surveying 223 health professionals including nurses, technicians, managers and medical staff and revealed that the overall patient safety grade was rated as excellent or very good by 85% of respondents and 63% thought that patient safety is never sacrificed to get more work done and 70% claimed that their procedures and systems are good at preventing errors from happening compared to 67% in the current study. About 43% indicated that they did not report any events in the past year [12], compared to 74.1% in the current study which is a much higher rate of event non reporting, that may be attributed to the fear of keeping errors in the person file and the culture that when a mistake happens, it is the person who is reported rather than the mistake.

The results of the current study indicate that several safety culture dimensions are potential areas for improvement but with prioritization; there are 5 safety dimensions with low positivity (less than 50%) and need to be considered of high priority focused areas. These are non – punitive response to errors (24%) which is the worst safety dimension, frequency of event reporting (32%), staffing (41%), communication openness (45%) and center handoffs and transitions (47%). The lowest two dimensions “non-punitive response to error (24%)” and “frequency of event reporting (32%)” appears to be closely related to each

other because of the "blame and shame" culture where failure is punished or concealed and people refuse to acknowledge that problems exist. In this pathological culture, people will not be enthusiastic to report the adverse events due to fear of punishment, absence of error acknowledgement and obstruction of any possibility of learning from error. However, the positivity of these dimensions although low, yet higher than the results of a similar study done in 12 PHC centers, surveying 180 staff member in Turkey, which revealed that positivity of the frequency of event reporting was only 12% compared to 32% in the present study and for non-punitive response to error was only 18% compared to 24% in the current study [13]. In Ain-Shams University hospitals, Egypt, non-punitive response to error reached only 19.5% positivity while adverse event reporting and recording was only 33.4% [14]. The higher positivity results in the present study could be attributed to the relatively adequate positivity of the organizational learning dimension as 67% of the subjects claimed that mistakes have led to positive changes and that these changes are evaluated for their effectiveness.

Staffing is another lowest dimension as regards patient safety culture (positivity of only 41%) which indicates that staff is working under tension. This figure is close to a study on a 239 nursing staff in Iran which achieved only 38%

positivity as regards staffing dimension [15]. Similarly, communication openness dimension's positivity is as low as 45%. This is in agreement with study done in Netherlands involving 583 staff members in four general hospitals, where a positive response of only 34% was reported for this dimension [16] and to enhance patient safety culture, the communication needs to be more supportive and open and apply less blame [17]. Center handoffs and transition in the current study achieved 47% positivity which indicates that there is real problem regarding the safe continuity of care.

The main area of strength as revealed in the current study is organizational learning, a bright area of 75% positivity meaning that, there is a learning culture only when mistakes are disclosed. A similar finding was reported among Iranian nursing staff as 67% positive responses regarding organizational learning [15]. Also organizational learning positivity of 75.9% is reported among hospital staff in Riyadh, Saudi Arabia [18]. In the current study, teamwork within PHC facility's units is the most powerful dimension as regards patient safety culture positivity with a composite score of 82%. This means that people like to actively perform and cooperate with their close peers in the same unit. Similarly, the score of teamwork within units documented in Saudi Arabia in King Fahd general hospital and Ajyad emergency hospital on 5250 staff members revealed that the teamwork within units for patient safety has 84% positivity [12].

The last two dimensions concerning the whole PHC facility safety culture, namely; teamwork across the center's units (63% positivity) and center's management support for patient safety (67% positivity) are comparable to the findings of a study done in 68 hospitals in Lebanon involving 6807 hospital employees to get a baseline assessment of patient safety, the hospital management support for patient safety reached 78.4% positivity and teamwork

across hospital units was of 56% positivity [19]

Generalization of the current study's results is one of the study's limitations as the PHC centers included in the study were selected as a purposive sample. Also a non- respondent analysis for 10-20% of the non-respondents is sometimes recommended in organizational survey studies [19]. This was not feasible in the current study as the HSOPSC tool was anonymous and self- administered. However the later recommendation is of importance only if non-respondents are treated as a different population [20].

CONCLUSION

Patient safety culture in primary healthcare settings in Kuwait is not as strong as improvement for the provision of safe health care. Well-designed patient safety initiatives in PHC services based on systematic interventions are needed to be integrated with organizational policies, particularly the pressing need to address the bioethical component of medical errors and their disclosure, communication openness and emotional issues related to them and investing the bright areas of skillful organizational learning and strong team working attitudes.

ETHICAL CONSIDERATIONS

An ethical approval was obtained from the governmental authorities involved; the Kuwait Institute for Medical Specialization, primary health care directorate and the health region of capital of Kuwait. The questionnaire was anonymous. An informed consent was included. Subjects were informed about the study objectives, procedures and autonomy and confidentiality were assured before obtaining their approval to participate in the study.

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