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2018

Journal of Taibah University Medical Sciences (2018) 13(3), 272–280

Taibah University

Journal of Taibah University Medical Sciences

www.sciencedirect.com

Original Article

An evaluation of patient safety culture in a secondary care setting in Kuwait

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Received 27 December 2017; revised 29 January 2018; accepted 11 February 2018; Available online 10 March 2018

الملخص

أهداف البحث: يعتبر خلق ثقافة سلامة المرضى الإيجابية أساسا لتحسين نتائج سلامة المرضى. تهدف هذه الدراسة لإجراء التقييم الأول لثقافة سلامة المرضى في محيط الرعاية الثانوية في الكويت.

طرق البحث: أجريت هذه الدراسة الاستطلاعية –المقطعية في القسم الطبي في مستشفى عام في الكويت باستخدام مسح لثقافة سلامة المرضى في المستشفى. وتم عمل تحليل الانحدار الخطي المتعدد لتحديد توقعات ثقافة سلامة المرضى. تم استخدام كلا من اختبار أنوفا وكروسكال واليس لتقييم الاختلافات بين مجموع الدرجات والدرجات التي تم تحقيقها في كل بُعدٍ حسب ترتيب الجنسيات.

النتائج: تم استلام ١٠٠٨ استبانة مكتملة، بمعدل استجابة ٧٥.٢٪. وجدنا ثلاثة أبعاد لثقافة سلامة المرضى لتكون مجالات ذات أولوية للتحسين: استجابة غير-عقابية للأخطاء، والتوظيف، وانفتاح التواصل. تم تحديد العمل الجماعي داخل الوحدات والتعليم التنظيمي مع التحسين المستمر كمجالات للقوة. كان لدى الذين استجابوا من الكويت/ دول الخليج إيجابية أقل لثقافة سلامة المرضى بالمقارنة بالمستجيبين الآسيويين. وأظهر تحليل الانحدار للمستجيبين أن" بلد المنشأ "، والمهنة، والعمر والحضور لدورات / محاضرات ثقافة سلامة المرضى كانت مرتبطة ارتباطا كبيرا لإدراك ثقافة سلامة المرضى.

الاستنتاجات: أظهرت هذه الدراسة أن سلامة المرضى ينظر إليها بشكل مختلف بين الطاقم الطبي من مختلف بلدان المنشأ، والمجموعات المهنية، والفئات العمرية. يجب الإقرار بهذه المتغيرات ومعالجتها عند تخطيط وتقييم مبادرات سلامة المرضى.

الكلمات المفتاحية: بلد المنشأ؛ الكويت؛ الخدمات الطبية؛ ثقافة سلامة المرضى

Abstract

Objectives: To improve patient safety outcomes, it is considered essential to create a positive culture of patient safety. This study carried out an initial evaluation of the patient safety culture in a secondary care setting in Kuwait.

Methods: This cross-sectional questionnaire study was conducted in a general hospital medical department in Kuwait, using the Hospital Survey on Patient Safety Culture (HSPSC). Multiple linear regression analyses were used to identify patient safety culture predictors. Both an ANOVA and a Kruskal Wallis test were carried out to assess the differences between participants' total scores and the scores they achieved in each dimension, categorized by nationality.

Results: A total of 1008 completed questionnaires were received, yielding a response rate of 75.2%. Three dimensions of patient safety culture were found to be priority areas for improvement: non-punitive responses to errors, staffing, and communication openness. Teamwork within units and organizational learning with continuous improvement were identified as areas of strength. Respondents from Kuwait and the Gulf State countries had a less positive perception of the hospital's patient safety culture than did Asian respondents. A regression analysis showed that the respondents' countries of origin, professions, age, and patient safety course/lecture attendance were significantly correlated with their perceptions of the hospital's patient safety culture.

Conclusion: This study demonstrates that patient safety is perceived differently by medical staff members from different countries of origin, professional groups, and age groups. These variables must be acknowledged and

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Peer review under responsibility of Taibah University.

ELSEVIER Production and hosting by Elsevier

 https://doi.org/10.1016/j.jtumed.2018.02.002

addressed when planning or evaluating patient safety initiatives.

Keywords: Country of origin; Kuwait; Medical services; Patient safety culture

Introduction

Creating and maintaining a positive patient safety culture is an essential aspect of reducing errors and improving patient outcomes.[1,2] However, achieving a positive culture can be challenging, as attitudes toward patient safety and the nature and prevalence of adverse events differ by country.[3,4] There are varying attitudes toward patient safety, even across the Arabic-speaking and ostensibly homogeneous Gulf countries of Kuwait, KSA, Qatar, Oman, Bahrain, and Jordan. The aspects of patient safety culture that need to be improved vary across Arab hospital settings.[5] Furthermore, there is a difference in what is known about patient safety culture in some Gulf countries. In the literature, only one study has examined patient safety culture in Kuwaiti primary care settings.[6] Prior to this study, no research has been carried out on Kuwaiti secondary care settings.

Kuwait is an interesting context because of its multi-national health workforce: only a third of the doctors and 6.5% of nursing staff in the six government hospitals are of Kuwaiti origin.[7] The situation is unlikely to change in the near future, due to low numbers of "home-grown" doctors and nurses.[8,9] This means that the majority of Kuwait's healthcare staff have been educated and initiated into working practices in other countries, where hospital staff may have a wide range of attitudes toward, and behavioral norms in relation to, patient safety.[10]

To standardize and support the provision of safe healthcare services,[11] the Ministry of Health (MOH) in Kuwait has embraced a number of patient safety and quality improvement initiatives, such as adopting nine patient safety solutions (Look-alike, sound-alike medication names; patient identification; communication during patient handovers; performance of correct procedure at correct body site; control of concentrated electrolyte solutions; assuring medication accuracy at transitions in care; avoiding catheter and tubing misconnections; single use of injection devices; and improved hand hygiene to prevent health care-associated infection) recommended by the World Health Organization.[12] Yet, changing the organizational culture is not an easy task.[13,14] The first step in any cultural change initiative is to assess the current patient safety culture,[15] to better understand the views of front-line (direct care) staff and managers toward patient safety.[16]

This study has conducted the first evaluation of patient safety culture in a Kuwaiti secondary care setting; its goal has been to extend understanding of the patient safety culture in multi-disciplinary, multi-national teams of healthcare professionals in Kuwait. Our objectives have been to gain insight into areas of strength and opportunities for improvement,[17] as well as to understand potentially different perceptions of patient safety culture among hospital staff members.

Materials and Methods

This cross-sectional observational study has used a pre-validated questionnaire (see below) to collect perceptions of patient safety culture.

The study was conducted in a large general hospital that covers a large catchment area in Kuwait. In order to explore the differences between professional groups and countries of origin, it has focused on inpatient and outpatient medical services, including general and specialized (cardiology and nephrology) departments, without comparing sites.

We sampled all groups of staff members, from those who delivered front-line care (nurses and doctors), to support services responsible for pharmacies, nursing, laboratories, and diagnostic imaging, and management, including directors and heads of department.

There are many safety culture assessment tools available.[17] In order to compare our findings with those from the other Gulf States in particular, we selected a tool that would allow us to compare findings across contexts. The Hospital Survey on Patient Safety Culture (HSOPSC)[2] has been used widely to assess patient safety culture; it has previously been used in Arabian contexts.[3,18]

The HSOPSC questionnaire includes 45 positively and negatively worded questions that measure 12 dimensions of patient safety culture, as shown in Table,[3] in addition to basic questions related to participant demographics. Participants show their level of agreement via a 5-point Likert scale, with responses ranging from strongly disagree/agree to never/always agree. We added two additional demographic questions to assess status (Kuwaiti, Arabic, Asian or other), and primary working area in the hospital. As the HSOPSC has been translated into Arabic and used in Arabian contexts,[18] we used a combination of Arabic and English versions of the survey.

After receiving ethics permission from the Ministry of Health in Kuwait and local approval for this study, we were provided with a list of the medical, nursing, and other staff working in the medical directorate. We assigned each staff member a numerical code, and labeled paper questionnaires with numerical codes, ensuring that we had one questionnaire per staff member.

The study was publicized in hospital communications; an overview was presented in department meetings by the first author (HQ). Paper (hard copy) questionnaires were distributed by the primary researcher (HQ) in later departmental meetings, handovers, and informally (to reach staff members who were unable to attend meetings and/or worked night shifts). Completed questionnaires were collected by the researcher (HQ) at the end of department meetings and via personal follow-up.

The collected data were analyzed using SPSS version 24.2; 10% of the entered questionnaires were randomly checked for missing data. Negatively worded items were reverse coded so that lower numbers (one and two) on the five-point Likert scale indicated positive responses. A descriptive analysis, based on

the AHRQ users' guide instructions, was carried out to calculate the response rate and the positivity percentage of items and dimensions.[19] The response rate was calculated by subtracting the number of incomplete surveys from the total collected and dividing this figure by the total target population.

The positive score percentage for each item was calculated by adding together the positive values and dividing this figure by the total number of responses for the item. The percentage of positive responses for each dimension was calculated by averaging the percentage of positive responses for each item included in the dimension.

Patient safety culture predictors were identified by conducting multiple linear regression analyses to study the association between total scores for patient safety culture and the participants' characteristics. The total patient safety culture score (the dependent variable) was calculated by adding together the scores achieved in all dimensions by each respondent, without including items related to patient safety grades or the number of events reported in the last 12 months.

Both an ANOVA and a Kruskal Wallis test were used to assess the differences between total scores and the scores achieved in each dimension by groups from different countries of origin. Skewness of data within each country of origin group was checked by comparing it to a histogram of a normal curve and calculating the Z distribution value. The Kruskal Wallis test was used when the data found to be skewed on the histogram had a Z value of more than 1.96 (Z = Skewness/Std. Error of Skewness); otherwise, an ANOVA was used. The significance level was set at 0.05.

Results

The response rate was 75.2% (1008 of 1340 distributed questionnaires). The majority of respondents were nursing staff (60.1%), followed by technicians (22.3%), and physicians (7.2%). The remaining 10.4% of responses were from pharmacists (2%), dietitians (1.2%), office workers—including file clerks and unit assistants—(1.2%), administrators and managers (1.1), physical therapists (0.8), and other professions (4%).

More than half of the study participants were Asian (65.6%), followed by Kuwaitis/Gulf State citizens (16.6%), people from other Arab countries (15.4%), and a small number of other countries of origin (2.5%). These data are shown in Table 1, which also indicates that most respondents were female (63.6%), between 30 and 45 years old (61.1%), with a bachelor's degree (73%), had 6–10 years of working experience in their current specialty (30.2%), had 1–5 years' experience in their current area/unit (50.9%), worked 40–59 h per week (73.5%), had direct contact with patients in their workplace (84.2%), and had attended patient safety courses/lectures (86%) and/or patient safety training or awareness activities in the workplace (78.7%).

Table 2 shows that 47.4% of respondents graded patient safety as poor and 16.7% graded patient safety as failing. Most respondents said they had not reported any patient safety event in the last 12 months (45%), although approximately one-third (34.7%) of respondents had reported 1–2 events in the last 12 months.

Table 3 shows that two dimensions of patient safety culture received ratings over 75% (Teamwork within Units,

Table 1: Respondents' characteristics.

Profession	**N = 1007**	**%**
Physician	73	7.2
Nurse	606	60.1
Pharmacist	20	2
Technician (e.g. EKG, Lab, Radiology)	225	22.3
Physical, Occupational, or Speech therapist	8	0.8
Dietician	12	1.2
File clerk, Unit assistant, or Office worker	12	1.2
Administration/Management	11	1.1
Other	40	4
Highest educational credential	**N = 1002**	**%**
Less than high school	7	0.7
High school	18	1.8
Technical school	46	4.6
Bachelor's degree	736	73
Master's degree	76	7.5
Ph.D./Board certified	38	3.8
Other	81	8
Period of working in the current area/unit	**N = 1008**	**%**
Less than 1 year	117	11.6
1–5 years	513	50.9
6–10 years	280	27.8
11–15 years	57	5.7
16–20 years	14	1.4
21 years or more	27	2.7
Gender	**N = 1008**	**%**
Male	367	36.4
Female	641	63.6
Country of origin	**N = 1008**	**%**
Kuwaiti/from the Gulf States	167	16.6
Arabian	155	15.4
Asian	661	65.6
European/American	0	0
Other	25	2.5
Age	**N = 1008**	**%**
Below 30 years	298	29.6
30–45 years	616	61.1
46–55 years	66	6.5
Over 55 years	28	2.8
Numbers of working hours per week	**N = 1007**	**%**
Less than 20 h per week	15	1.5
20–39 h per week	148	14.7
40–59 h per week	741	73.5
60–79 h per week	78	7.7
80–99 h per week	19	1.9
100 h per week or more	6	0.6
Having direct contact with patients	**N = 1005**	**%**
Yes	849	84.2
No	156	15.5
Attendance at patient safety courses/lectures	**N = 1008**	**%**
Yes	869	86.2
No	139	13.8
Work-place arrangement for patient safety training or awareness activities	**N = 1008**	**%**
Yes	793	78.7
No	123	12.2
I don't know	92	9.1

Table 2: Selected overall patient-safety grade of respondents and the number of events reported in the last 12 months.

	N	%
Patient safety grade		
Excellent	3	0.3
Very good	19	1.9
Acceptable	340	33.7
Poor	478	47.4
Failing	168	16.7
Events reported		
No event report	454	45
1–2 event reports	350	34.7
3–5 event reports	86	8.5
6–10 event reports	64	6.3
11–20 event reports	33	3.3
21 event reports or more	21	2.1

Organizational Learning—Continuous Improvement). Seven dimensions received ratings between 50 and 75% (handoffs and transitions, overall perceptions of patient safety, teamwork across units, event reporting frequency, error-related feedback, and communication, management support for patient safety, supervisor/management expectations and actions that promote patient safety). The remaining three dimensions received ratings under 50%: communication openness, staffing, and non-punitive response to error.

The dimension of non-punitive response to error achieved the lowest percentage of positivity. Respondents felt that their mistakes were held against them (Positivity = 25.7%), and that, when an event was reported, it felt like the staff member was being written up, rather than the problem (Positivity = 34.6%). Moreover, they worried that their mistakes were recorded in their personnel files (Positivity = 11.6%). In terms of staffing, although more than half the respondents said there were enough staff members to handle the workload (Positivity = 53.9%), staff members worked longer hours than recommended for patient care (Positivity = 18.5%), more agency/temporary staff members were used than recommended for patient care (Positivity = 35.7%), and staff members worked in crisis mode, trying to do too much, too quickly (Positivity = 12.4%). Finally, when it came to communication openness, the majority of respondents did not feel free to question the decisions or actions of those with more authority (Positivity = 31.5%). They were afraid to ask questions when something did not seem right (Positivity = 39.8%).

The total score for patient safety culture (the dependent variable) was calculated using the total scores achieved in all dimensions by each respondent (excluding items related to patient safety grades or the number of events reported in the last 12 months). This score was compared to the respondent characteristics using a stepwise linear regression (Table 4).

Changes in the independent variables in this model contribute to 11% of the variability in the total patient safety culture score (adjusted R square = 0.11). However, this table shows that participants from Kuwait and the Gulf States have a −6.23 decrease in total score (P = 0.001) while participants from other countries of origin have a 7.15 increase in total score (P = 0.036), in comparison to Asian staff. This means that respondents from Asian countries (India/Pakistan/the Philippines) have a significantly higher perception of the patient safety culture in the hospitals where they work than Kuwaitis or respondents from other Gulf States. Age was also relevant. Respondents under 30 had significantly lower perceptions of patient safety culture than those aged 30–45 (B = −3.418, P = 0.006). Respondents who did not attend patient safety courses or lectures had significantly lower perceptions of patient safety than those who did attend (B = −8.659, P = 0.000). A regression analysis revealed that physical therapists, technicians, dieticians, and file clerks had significantly lower perceptions of patient safety culture than nurses, at (B = −18.092, P = 0.005), (B = −9.521, P = 0.001), (B = −12.023, P = 0.022) and (B = −18.988, P = 0.000), respectively. Finally, technicians had a significantly higher perception of patient safety culture than did nurses (B = 6.938, P = 0.017).

The ANOVA and Kruskal Wallis test were used to compare the scores achieved by the main groups (Kuwaiti/Gulf state citizens, Arabic-speaking, Asian, and other). Table 5 shows that respondents from Kuwait and the Gulf States achieved a significantly lower mean patient safety culture score than did Asian respondents. The Asian respondents achieved significantly higher mean/median scores than the Kuwaiti/Gulf states respondents, at all dimension levels apart from the dimension of communication openness, for which Asian respondents achieved the lowest mean score. As respondents from other countries of origin constituted only 2.5% of the total sample, the results for this group are not highlighted (see Table 1).

Discussion

To the best of our knowledge, this is the first assessment carried out in Kuwait of the relationship between hospital staff members' countries of origin, healthcare professional groups, and perceptions of patient safety culture.

Our study was carried out in the context of a Kuwaiti public-sector hospital, where the majority of healthcare staff members were non-Kuwaiti citizens, born and trained elsewhere. Our linear regression analysis has shown that being a Kuwaiti is associated with a lower perception of patient safety culture than that of Asian respondents (B = −6.231, P = 0.001). The table also reveals[5] that Kuwaiti respondents achieved significantly lower mean scores in most of the patient safety culture dimensions, apart from communication openness, where Kuwaitis and Gulf citizens achieved a significantly higher mean score. It may be that citizens of Kuwait and the Gulf States are more open and empowered to speak up and ask questions in the workplace than non-Kuwaitis working in the country.[20] Although Kuwaitis and Gulf State citizens had a higher perception of communication openness than Asian respondents, they also had a lower perception of the frequency of events reported. This could be related to the presence of other confounding factors, which may negatively impact their thoughts and beliefs about

Table 3: Average percentage and number of positive responses for each item and dimension.

Patient safety culture items and dimensions	Positive responses		Total responses
	%	N	
(1) Non-punitive response to errors (dimension positivity = 23.96)			
Staff feel like their mistakes are held against them	25.7	259	1008
When an event is reported, it feels like the person is being written up, not the problem.	34.6	349	1008
Staff worry that any mistakes they make are recorded in their personnel files.	11.6	117	1008
(2) Staffing (dimension positivity = 30.13)			
We have enough staff to handle the workload.	53.9	543	1008
Staff in this unit work longer hours than recommended for patient care.	18.5	186	1008
We use more agency/temporary staff than recommended for patient care.	35.7	360	1008
We work in "crisis mode" trying to do too much, too quickly.	12.4	125	1008
(3) Communication openness (dimension positivity = 44.83)			
Staff speak freely if they see something that may negatively affect patient care.	63.2	637	1008
Staff feel free to question the decisions or actions of those with more authority.	31.5	317	1008
Staff are afraid to ask questions when something does not seem right.	39.8	401	1008
(4) Handoffs & transitions (dimension positivity = 54.33)			
Things "fall between the cracks" when transferring patients from one unit to another.	46.5	468	1006
Important patient care information is often lost during shift changes.	66.5	670	1008
Problems often occur in the exchange of information across hospital units.	42	423	1007
Shift changes are problematic for patients in this hospital.	62.3	627	1007
(5) Overall perceptions of patient safety (dimension positivity = 55.65)			
Patient safety is never sacrificed to get more work done.	78.8	794	1008
Our procedures and systems are good at preventing errors.	78.1	788	1008
It is just by chance that serious mistakes don't happen here.	26.9	271	1008
We have patient safety problems in this unit.	38.8	391	1008
(6) Teamwork across units (dimension positivity = 56.75)			
There is good cooperation among hospital units that must work together.	63.2	637	1008
Hospital units work well together to provide the best care for patients.	76.6	772	1007
Hospital units do not coordinate or work well together.	45.7	461	1008
It is often unpleasant to work with staff from other hospital units.	41.5	418	1007
(7) Event reporting frequency (dimension positivity = 57.15)			
When a mistake is caught and corrected before it affects a patient, how often is this reported?	48.2	486	1008
When a mistake has no potential to harm the patient, how often is it reported?	50.4	508	1008
When a mistake does not harm a patient, even though it could, how often is this reported?	60	604	1007
When a mistake is made that harms the patient, how often is this reported?	70	706	1007
(8) Feedback & communication about errors (dimension positivity = 67.27)			
We are given feedback on changes implemented as a result of event reports.	44.3	447	1008
We are told about errors that happen in this unit.	81.1	817	1008
In this unit, we discuss ways to prevent errors from happening again.	76.4	770	1008
(9) Management support for patient safety (dimension positivity = 67.33)			
The hospital management creates a work climate that promotes patient safety.	71	716	1008
The actions of hospital management show that patient safety is a top priority.	78.2	788	1008
Hospital managers only seem interested in patient safety after an adverse event has happened.	52.8	532	1008
(10) Supervisor/manager expectations & actions promoting patient safety (dimension positivity = 70.35)			
My supervisor/manager makes a positive comment when he/she sees that a job has been done right, in accordance with established patient safety procedures.	75.8	764	1008
My supervisor/manager takes seriously staff suggestions for improving patient safety.	78.5	792	1008
Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts.	51.9	523	1008
My supervisor/manager overlooks patient safety problems, even when they happen over and over.	75.2	758	1008
(11) Organizational learning—continuous improvement (dimension positivity = 86.6)			
We are actively taking steps to improve patient safety.	94.6	954	1008
Mistakes have led to positive changes here.	78.4	790	1008
After we make changes to improve patient safety, we evaluate their effectiveness.	86.8	875	1008
(12) Teamwork within units (dimension positivity = 88.2)			
People support one another in this unit.	92.6	934	1008
When a lot of work needs to be done quickly, we work together as a team to get the work done.	91.9	926	1008
In this unit, people treat each other with respect.	89.2	899	1008
When one area in this unit gets really busy, others help out.	79.1	797	1008

Table 4: Total score for predictors of patient safety culture.

Respondent characteristics	B	SEM	P-value
Country of origin (reference group = Asians)			
Kuwaiti/Gulf State citizens	**−6.231**	**1.830**	**0.001**
Arabs	−3.176	1.787	0.076
Other countries of origin	**7.155**	**3.415**	**0.036**
Age (reference group = 30−45 years)			
Below 30 years	**−3.418**	**1.244**	**0.006**
46−55 years	3.759	2.304	0.103
Over 55 years	−2.087	3.392	0.538
Attended patient safety courses or lectures (reference group = Yes)			
No	−8.659	1.583	**0.000**
Position in the hospital (reference group = Nurse)			
Physician	2.160	3.654	0.555
Pharmacist	−2.184	4.641	0.638
Physical therapist	**−18.092**	**6.497**	**0.005**
Technician (Lab, radiology, or nuclear medicine)	**−9.521**	**2.834**	**0.001**
Dietician	**−12.023**	**5.237**	**0.022**
Administration employee	2.675	5.692	0.638
File clerk	**−18.988**	**5.051**	**0.000**
Position or rank (reference group = Nurse)			
Hospital director/deputy director/assistant director	−9.805	8.820	0.267
Head of department	10.787	6.294	0.087
Assistant head of department	2.041	12.214	0.867
Head of unit	11.709	6.098	0.055
Consultant	−1.081	6.666	0.871
Senior specialist/Specialist	−1.450	4.106	0.724
Senior registrar	2.848	3.393	0.402
Registrar	−3.003	4.462	0.501
Assistant registrar	−2.829	5.696	0.620
Beginner	8.858	6.625	0.181
Assistant nurse	0.197	3.798	0.959
Technician	**6.938**	**2.893**	**0.017**

Adjusted R square = 0.11.
Bold font refers to statistically significant P-value.

reporting events. A qualitative case study in the UK explored the attitudes of medical physicians toward reporting adverse events in healthcare; most of the physicians agreed that, because incidents were unavoidable in the medical field, it would be pointless to report them. They also felt that the need to report incidents burdened them with excessive administrative duties.[21] However, the fact that employees who work together have varying perceptions of patient safety across different, broadly grouped countries of origin merits further investigation.

This study has also revealed other factors associated with the decreased perception of patient safety culture, including age (under 30 years), not attending safety courses or lectures, and the participants' positions (as physical therapists, technicians, dieticians, and file clerks). The literature shows that respondent characteristics influence the perception of patient safety in different contexts. El-Jardali (2014), who carried out a survey study to assess patient safety culture in a teaching hospital in KSA, found that the age of respondents (30−45 years) and position (physical therapist, nurse, and file clerk) were significantly associated with a lower perception of patient safety.[18]

Our respondents were more likely to rate patient safety as poor than those in other studies conducted in the Gulf States. Our findings were inconsistent with those of previous studies conducted in the Gulf States region. For example, one study assessed patient safety in primary healthcare settings in Kuwait; it included 369 staff from 4 different centers, 53.5% of whom rated the level of patient safety as very good.[6] Another survey, carried out to measure patient safety culture in 13 general hospitals in KSA in 2010, found that 60% of respondents graded patient safety in the workplace as excellent or very good; only 7% indicated that patient safety was failing or poor.[22]

The fact that respondents in this study perceive patient safety as poor may be related to the low positivity achieved in the dimensions of non-punitive response to error and communication openness. The literature has shown that non-punitive response to error was problematic in other recent studies conducted in similar settings in the region. For example, in a survey study carried out in KSA in 2015 to reassess the patient safety culture in a tertiary care teaching hospital, following a patient safety culture assessment carried out in 2014, 2592 participants stated that there was an improvement in some areas, but not in the non-punitive response to error, which achieved 24.8%[23] positive responses. A study conducted in seven different hospitals in Qatar in 2016 recorded similar findings: only 24% of 1604 respondents gave a positive response when asked about non-punitive responses to errors.[24] Working in such an environment is unlikely to promote learning from mistakes; it may lead to an emphasis on criticizing and punishing individuals, while overlooking system errors.[25] These findings on communication openness were consistent with those of a survey study conducted in four governmental hospitals in Oman to assess registered nurses' perception of patient safety culture; it also revealed low positivity in communication openness (49.7%).[26] Such results imply a blame-and-shame culture in the workplace that impedes transparency and makes working staff uncomfortable, inclined to conceal their weaknesses, rather than share their concerns.

The low rate of event reporting in the current study is consistent with the results of a study that assessed patient safety culture in primary healthcare settings in Kuwait in 2014, in which 86.8% of staff members indicated that they had not reported any event or had reported 1−2 events in the previous 12 months.[6] The low event reporting rate could be attributed to the poor feedback given to staff members about changes implemented as a result of reporting (Positivity = 44.3%). A study conducted in the UK to assess the feedback experience and attitudes of healthcare staff who reported incidents included 102 participants from different clinical specialties, 82% of whom believed that it was essential for future reporting to offer feedback on changes implemented after a reported event. Around half of the respondents stated that the absence of previous feedback hindered future reporting.[27] Employees may be reluctant to report an event if such information is not used to inform change. Low rates of event reporting may also be related to staffing, as indicated by the respondents (Positivity = 30.13%): working long hours in "crisis mode" may result in time constraints and exhaustion, which in turn may negatively affect communication openness in the workplace.[28] However, the respondents' perceptions of

Table 5: Comparison of the means of the total dimension scores of respondents, based on countries of origin.

Dimension	A		B		C		D		Sig	P-value
	Kuwaiti/Gulf States		Arabian		Asian		Other			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Total score for patient safety culture	139.41	±23.092	145.69	±18.609	149.23	±15.309	156.12	±13.467	A< B A < C A < D B < D	0.00
Teamwork within units	17[a]	3[b]	16[a]	3[b]	17[a]	2[b]	18[a]	2[b]	A < D B < D C < D	0.002[c]
Supervisor/Manager expectations & actions promoting patient safety	14.70	±3.370	14.59	±2.855	14.72	±2.536	16.08	±2.290	–	0.106
Organizational learning—continuous improvement	11.60	±2.268	11.87	±1.854	12.48	±1.612	12.60	±1.354	A < C B < C	0.00
Management support for patient safety	9.39	±2.845	10.90	±2.123	11.03	±2.070	11.84	±1.951	A < B A < C A < D	0.00
Overall perceptions of patient safety	13.03	±3.076	13.66	±2.557	13.21	±2.262	12.76	±1.640	–	0.072
Error-related feedback & communication	12[a]	4[b]	11[a]	3[b]	12[a]	3[b]	13[a]	3[b]	A < C A < D B <C B < D	0.00[c]
Communication and openness	10.53	±2.702	10.25	±3.135	9.46	±2.722	9.36	±2.099	A > C B > C	0.00
Frequency of events reported	12[a]	7[b]	14[a]	6[b]	16[a]	9[b]	18[a]	7[b]	A < C A < D B< C	0.00[c]
Teamwork across units	12.46	±3.281	13.26	±3.223	13.56	±2.611	14.56	±2.364	A < C A < D	0.00
Staffing	9.87	±2.950	10.21	±2.923	10.38	±2.580	10.28	±3.062	–	0.255
Handoffs & transitions	10.44	±3.817	12.37	±3.907	13.96	±3.656	13.96	±3.769	A< B A < C A < D B < C	0.00
Non-punitive responses to errors	7.71	±2.614	7.65	±2.296	7.58	±2.045	8.28	±2.894	–	0.574

SigGroups with a significant difference in means of scores.
[a] Median (Mdn).
[b] Interquartile Range (IR).
[c] Kruskal Wallis test.

staffing in this study were congruent with a systematic review carried out to assess the status of patient safety culture in Arab countries; this review confirmed that staffing was an area commonly in need of improvement in the vast majority of studies (18 studies met the inclusion criteria).[5]

This study has both strengths and weaknesses. We have used a validated questionnaire, enabling us to make direct comparisons with previous studies. A large number of participants from different professions and countries of origin took part in the survey. We collected data in one large, public hospital; this may not reflect Kuwaiti hospitals as a whole. The first author once worked in the hospital and was known to potential participants. This may have contributed to the high response rate.

Every method has its limitations: survey methods provide a snapshot in time. These findings are important because they highlight differences in interpretations of patient safety across groups of healthcare professionals and countries of origin. The variations in patient safety culture among different groups reflect findings from other contexts.[29] They highlight the importance of local interventions in promoting a shared understanding of patient safety among multidisciplinary and international workforces, trained in a variety of educational systems. Such interventions might include the development of targets and strategies for each professional group to improve the culture of patient safety. Hospital leaders should consider an alternative style of managing workplaces, other than "blame and shame." They should adopt an approach that puts more emphasis on the root (systemic) causes of problems than on individual factors.[30,31] The impact of any changes in this setting should be assessed against the snapshot, or baseline, findings reported in this paper. We also suggest the use of qualitative methods to explore the dimensions influencing patient safety culture in more depth.[32] A more nuanced understanding of perceptions of patient safety culture could then be used to inform the development and evaluation of improvement-focused interventions.[33]

Conclusion

It is important to consider professional sub-cultures within organizations whenever a patient safety culture evaluation is carried out. This study has shown that patient safety is perceived differently among staff members from different countries of origin and among different professional groups in a medical secondary care setting. Investing in initiatives and practices (such as training, policy setting, and leadership support) that improve the overall perception of patient safety and the frequency of events reported is essential for improving the safety of healthcare delivery.

Ethical approval

This study was approved by the ethical committee of The Ministry of Health of Kuwait in May 2017. Written consent/permissions to collect data were obtained from the hospital director and the heads of all relevant departments. Participant consent was assumed by questionnaire completion.

Authors' contributions

HAA conceived and designed this study, conducted the research, collected, analyzed and interpreted the data, and wrote the initial and final drafts of this paper. JAC and ZM provided advice on the study design, methodology, data interpretation, and writing. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Conflict of interest

The authors have no conflicts of interest to declare. This work has not been supported or funded by a drug company.

Acknowledgements

We would like to thank Dr. Gordon Prescott (Medical Statistician) for his statistical advice. We also would like to thank the Ministry of Health of Kuwait for giving us the opportunity to conduct this study. Our thanks and appreciation to all who participated in this study.

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How to cite this article: Alqattan H, Cleland J, Morrison Z. An evaluation of patient safety culture in a secondary care setting in Kuwait. J Taibah Univ Med Sc 2018;13(3):272–280.