ORIGINAL ARTICLE

Oman Medical Journal [2018], Vol. 33, No. 3: 200-208

Assessment of Patient Safety Culture in an Adult Oncology Department in Saudi Arabia

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ARTICLE INFO

Article history:
Received: 27 November 2017
Accepted: 4 January 2018

Online:
DOI 10.5001/omj.2018.38

Keywords:
Safety Culture; Surveys; Saudi Arabia.

ABSTRACT

Objectives: We sought to evaluate patient safety culture across different healthcare professionals from different countries of origin working in an adult oncology department in a medical facility in Saudi Arabia. ***Methods***: This cross-sectional survey of 130 healthcare staff (doctors, pharmacists, nurses) was conducted in February 2017. We used the Hospital Survey of Patient Safety Culture (HSOPSC) to examine healthcare staff perceptions of safety culture. ***Results:*** A total of 127 questionnaires were returned, yielding a response rate of 97.7%. Eight out of 12 HSOPSC composites were considered areas for improvement (percent positivity < 50.0%). Significantly different mean scores were observed across the three professional groups in all 12 HSOPSC composites. Doctors tended to rate patient safety culture significantly more positively than nurses or pharmacists. Nurses scored significantly lower than pharmacists in the majority of HSOPSC composites. No significant differences in patient safety culture composite scores were observed between Saudi/Gulf Cooperation Council (GCC) and non-Saudi/GCC groups. Regression analysis showed that the frequency of reported events is predicted by feedback and communication about errors, and teamwork across units. Perception of patient safety is associated with respondents' profession and teamwork across units. ***Conclusions:*** This study brings to the fore the assumption that all healthcare professionals have a shared understanding of patient safety. We urge healthcare leaders and policy makers to look at patient safety culture at this granular level in their contexts and use this information to develop strategies and training to improve patient safety culture.

Patient safety is defined as the prevention of harm to patients in the healthcare system through a care delivery system that prevents errors, learns from the occurrence of errors, and involves healthcare organizations, professionals, and patients.[1] Safety culture refers to group and individual values, perceptions, attitudes, and staff competencies that determine the style and commitment to an organization's safety and health management.[2] Exemplars of safety culture features might include acknowledegment, existence of a blame-free environment and/or collaboration across all disciplines, and ranks and commitment of the organization's resources to resolve safety concerns.[3]

Many scholars have assessed and documented patient safety culture in different contexts,[4] including Arab countries.[5–7] A strength of many of these earlier studies is their large sample sizes. However, previous studies typically included diverse healthcare providers, yet failed to compare patient safety culture perceptions across different professional groups.[8–10] Recent evidence suggests that diverse professional groups have different attitudes regarding patient safety.[11] Moreover, context is also important in patient safety culture – not just in terms of country, but also at the more micro-level of departments.[12–14] For example, differences were identified in patient safety culture scores across clinical departments within the same hospital.[13] Ignoring department level patient safety culture could potentially hinder patient safety improvement at the hospital level and may discourage multiprofessional collaboration.[13]

Saudi Arabia is a particularly interesting context to study patient safety culture/climate, as more than half of healthcare workers are from overseas.[15] Staff multilingualism and differing cultural backgrounds

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are considered to contribute significantly to medication errors[16] and may be a major threat to patient safety.[17–19]

However, to the best of our knowledge, no study has investigated whether healthcare staff from different backgrounds working in Saudi Arabia, or indeed in any other context, have different or similar perceptions of patient safety. It is crucial to understand differences and similarities between different groups of staff as this will provide insight into potential differences that may act as barriers, or facilitators, in developing learning and interventions to strengthen patient safety culture.

To address these gaps, a baseline assessment was conducted into the patient safety culture in an adult oncology department in a public hospital in Saudi Arabia. An oncology department was chosen as this department particularly relies on effective and cohesive multidisciplinary team working,[20,21] which is a core factor in patient safety.

The aim of this study was to evaluate whether patient safety culture differs across different professional groups and people from different countries of origin working within the same department.

METHODS

This study used a cross-sectional questionnaire to identify the differences and similarities in perceptions of patient safety culture between doctors, pharmacists, and nurses, and between Saudi/Gulf Cooperation Council (GCC) and non-Saudi/GCC groups of healthcare staff.

We used the Hospital Survey on Patient Safety Culture (HSOPSC). The HSOPSC is psychometrically robust[22] and has been validated in numerous settings,[23] including the Arab Gulf.[6–8] The HSOPSC can be used to measure patient safety culture for whole hospitals or for specific departments within a hospital.[24]

The survey includes 42 items grouped into 12 composites (e.g., communication openness, management support for patient safety, teamwork across and within units). Items are scored using a five-point Likert scale reflecting agreement (1 = strongly disagree to 5 = strongly agree) or frequency (1 = never to 5 = always, or 1 = excellent to 5 = failing) where higher scores indicate strengths in patient safety. The survey includes two questions asking respondents to provide an overall grade on patient safety for their work area/unit and to indicate the number of events they reported over the past 12 months. We added additional sociodemographic questions to the HSOPSC to examine if professional group (doctor, pharmacist, nurse) or origin (Saudi, Arab Gulf, or international) influenced responses.

An English version of HSOPSC was used in this study because English was the common language in the department studied, and we did not wish to use a combination of Arabic and English versions of the HSOPSC since translation can result in errors and misunderstandings.

The study setting was in the adult oncology department at a medical facility in Saudi Arabia. This department was selected because a review of recent hospital records by a health committee appointed by the hospital board highlighted a number of issues with medication errors, communication and human factors, and hinted that some of these may have been related to communication issues between different professional groups.

Ethical approval was obtained from the institutional review board committee. Approval for the study was also given from the medical director of the cancer center and the chairperson of the adult oncology department. Permission to use the HSOPSC was granted from the Agency for Healthcare Research and Quality (AHRQ).

After obtaining necessary ethical and institutional approvals, an email explaining the study was sent to the medical director and senior staff within the oncology department. The principal investigator was present in the department, distributing paper copies of the questionnaire along with instructions for completing the survey, and answering any queries about the study in person. Consent was assumed by questionnaire return. Consistently with other studies using HSOPSC, respondents were asked not to provide identifiable details (to ensure anonymity).

The HSOPSC User's Guide was used to guide data management and analysis.[23] Completed questionnaires were entered into MS Excel, and exported into SPSS Statistics (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.) Twenty-five percent of the data entry was checked by an independent researcher to ensure accuracy.

The HSOPSC includes both positively and negatively worded items; all scored using

five-point frequency scales. The percentage of positive responses for each item and composite were calculated. An item's percent positivity was calculated by averaging the total percent positivity for each item. Composite percent positivity was calculated by averaging the percent positivity of all items included in the composite. The 12 composites of the HSOPSC were then examined to determine areas of strength (positive rating > 75%), those requiring improvement (< 50%), while those from 50% to 75% were considered neutral.[23] Negatively worded items were reversed to compute a percent positive response rate. Composite level items were computed by summing item scores within each composite and dividing by the number of items. Percent positivity was calculated for each item and composite. Descriptive analysis, univariate analysis, and multivariate analysis were conducted to compare groups, and the significance level was set at 0.05.

Descriptive analysis was used to describe respondents' demographic and professional characteristics, as well as the frequency of events reported in the past 12 months, patient safety grade, and the number of years' experience working in the hospital and the adult oncology department. A *t*-test (independent sample) was used to examine differences in the mean of composite scores of Saudi/GCC and non-Saudi/GCC nationality. Differences in the mean composite scores of medical doctors, pharmacists, and nurses were examined using analysis of variance (ANOVA) plus post-hoc (least significant difference) tests. Linear regression analysis was used to examine the association between patient safety culture outcome variables (frequency of event reported and overall perception of patient safety culture) against the 10 remaining composites, gender, and profession.

RESULTS

Of the 130 distributed questionnaires, 127 were returned complete, yielding an overall response rate of 97.7%. Of those who responded, 67.7% were nurses, 16.2% were doctors, and 13.8% were pharmacists. Table 1 illustrates that the majority of respondents were female (74.6%), reflecting the high number of female nurses in the department (note that most of the doctors were male, while there was a reasonably even gender balance in the pharmacy group). Less than one-fifth of respondents were Saudi citizens or from Arab Gulf countries (16.2%). Most respondents had one to five years of healthcare work experience (53.1%). The majority of respondents indicated that their work required direct contact with patients (84.6%). All responses were included in the analysis.

Nearly half of respondents (45.4%) gave the department a 'very good' patient safety grade, 21.5% gave it an 'excellent' patient safety grade, while the rest (30.8%) rated it 'fair' or below. Forty percent

Table 1: Sociodemographic and professional characteristics of respondents in addition to the frequency of events reported and patient safety grade.

Characteristics	n	Percentage
Gender		
Male	30	23.1
Female	97	74.6
Profession		
Medical doctors	21	16.2
Pharmacists	18	13.8
Nurses	88	67.7
Nationality		
Saudi/GCC	21	16.2
Other	106	81.5
Experience in current hospital, years		
< 1	13	10.0
1–5	64	49.2
6–10	39	30.0
≥ 11	11	8.5
Experience in the oncology department, years		
< 1	15	11.5
1–5	69	53.1
6–10	36	27.7
≥ 11	7	5.4
Interaction or contact with patients		
Yes	110	84.6
No	17	13.1
Patient safety grade		
Excellent	28	21.5
Very good	59	45.4
Acceptable or poor	40	30.8
Number of events reported in the last 12 months		
0	52	40.0
1–2	46	35.4
3–5	19	14.6
≥ 6	10	7.7

Note: Some categories were collapsed because of small numbers.
GCC: Gulf Cooperation Council

Table 2: Distribution of positive responses and scores for survey composites and items.

Patient safety composites and survey items	Average percent positive response	Mean ± SD
Teamwork Across Units	**6.1**	**2.3 ± 0.5**
There is good cooperation among hospital units that need to work together	5.5	2.3 ± 0.8
Hospital units work well together to provide the best care for patients	4.7	2.3 ± 0.7
Hospital units do not coordinate well with each other (NR)	8.7	2.3 ± 0.9
It is often unpleasant to work with staff from other hospital units (NR)	5.5	2.2 ± 0.9
Non-punitive Response to Errors	**11.3**	**2.2 ± 0.7**
Staff feel like their mistakes are held against them (NR)	11.8	2.1 ± 0.9
When an event is reported, it feels like the person is being written up, not the problem (NR)	15.0	2.4 ± 1.0
Staff worry that mistakes they make are kept in their personnel file (NR)	7.1	2.2 ± 0.7
Handoffs and Transitions	**14.2**	**2.3 ± 0.7**
Things 'fall between the cracks' when transferring patients from one unit to another (NR)	14.2	2.3 ± 1.0
Important patient care information is often lost during shift changes (NR)	16.5	2.4 ± 1.0
Problems often occur in the exchange of information across hospital units (NR)	4.7	2.0 ± 0.8
Shift changes are problematic for patients in this hospital (NR)	21.2	2.5 ± 1.1
Communication Openness	**17.3**	**2.3 ± 0.8**
Staff will freely speak up if they see something that may negatively affect patient care	18.9	2.4 ± 1.0
Staff feel free to question the decisions or actions of those with more authority	14.2	2.3 ± 1.0
Staff are afraid to ask questions when something does not seem right (NR)	18.9	2.3 ± 1.2
Staffing	**27.6**	**2.7 ± 0.5**
We have enough staff to handle the workload	55.1	3.4 ± 0.9
Staff in this unit work longer hours than is best for patient care (NR)	3.1	1.9 ± 0.7
We use more agency/temporary staff than is best for patient care (NR)	32.3	2.9 ± 1.1
We work in 'crisis mode' trying to do too much, too quickly (NR)	19.9	2.4 ± 0.9
Supervisor/Manager Expectations and Actions Promoting Patient Safety	**27.8**	**2.6 ± 0.6**
My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	46.5	3.4 ± 0.7
My supervisor/manager seriously considers staff suggestions for improving patient safety	20.4	2.4 ± 1.1
Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts (NR)	22.1	2.3 ± 1.1
My supervisor/manager overlooks patient safety problems that happen over and over (NR)	22.0	2.2 ± 1.1
Management Support for Patient Safety	**27.8**	**2.6 ± 0.7**
Hospital management provides a work climate that promotes patient safety	16.5	2.4 ± 0.9
The actions of hospital management show that patient safety is a top priority	28.3	2.5 ± 1.2
Hospital management seems interested in patient safety only after an adverse event happens (NR)	38.6	2.9 ± 1.1
Overall Perceptions of Patient Safety	**49.0**	**3.2 ± 0.5**
Patient safety is never sacrificed to get more work done	70.1	3.7 ± 0.8
Our procedures and systems are good at preventing errors from happening	66.1	3.6 ± 0.9
It is just by chance that more serious mistakes don't happen around here (NR)	25.2	2.7 ± 1.0
We have patient safety problems in this unit (NR)	34.7	2.9 ± 1.1
Feedback and Communication About Error	**56.1**	**3.4 ± 0.6**
We are given feedback about changes put into place based on event reports	14.2	2.3 ± 0.9
We are informed about errors that happen in this unit	70.9	3.8 ± 0.8
In this unit, we discuss ways to prevent errors from happening again	83.4	4.1 ± 0.7
Frequency of Events Reported	**62.4**	**3.6 ± 0.9**
When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	61.4	3.5 ± 1.1
When a mistake is made, but has no potential to harm the patient, how often is this reported?	59.8	3.5 ± 0.9
When a mistake is made that could harm the patient, but does not, how often is this reported?	66.1	3.7 ± 1.0

Table 2: Distribution of positive responses and scores for survey composites and items. *(-continued)*

Patient safety composites and survey items	Average percent positive response	Mean ± SD
Organizational learning/continuous improvement	**65.3**	**3.5 ± 0.4**
We are actively doing things to improve patient safety	94.5	4.3 ± 0.6
Mistakes have led to positive changes here	19.7	2.5 ± 0.9
After we make changes to improve patient safety, we evaluate their effectiveness	81.9	3.5 ± 0.7
Teamwork within units	**69.3**	**3.7 ± 0.5**
People support one another in this unit	93.0	4.2 ± 0.6
When a lot of work needs to be done quickly, we work together as a team to get the work done	85.8	4.1 ± 0.8
In this unit, people treat each other with respect	91.3	4.2 ± 0.7
When one area in this unit gets really busy, others help out	7.1	2.5 ± 0.7

NR: negatively worded; SD: standard deviation.

of respondents had never reported an event, while 35.4% had reported one or two events, and the remainder (24.6%) had reported three events or more in the last 12 months.

Table 2 shows that no composite received a rating above 70.0%. Four composites received ratings between 50.0% and 70.0% (teamwork within unit, organizational learning/continuous improvement, feedback and communication about errors, and frequency of events reported). While, arguably, the overall perception of patient safety was on the cusp (49.0%) of the definition of needing improvement, the following seven composites received ratings well under 50.0%: supervisor/manager exception and action promoting patient safety (27.8%), management support for patient safety culture (27.8%), communication openness (17.3%), teamwork across hospital units (6.1%), staffing (27.6%), hospital handoffs and transitions (14.2%), and non-punitive response to error (11.3%).

Items not in immediate priorities of improvement were examined to determine areas of relative strength and weakness. In the composite 'teamwork within the unit', supporting one another, working as a team to get the work done, and treating each other with respect were very highly rated (93.0%, 85.8%, and 91.3%, respectively), in contrast with the item 'when one area in this unit gets really busy, others help out' (7.1%). In the composite 'organizational learning/continuous improvement', actively doing things to improve patient safety and evaluating planned change were highly rated (94.5% and 81.9%, respectively) in contrast with the item 'mistakes have led to possible change' (19.7%). In the composite 'feedback and communications about error', being informed about errors within the unit and discussing ways to prevent errors from happening were rated highly (70.9% and 83.4%, respectively) whereas being given feedback about changes post-event was not (14.2%). Finally, in the composite 'frequency of events reported', the three items were rated similarly.

Items scoring in the category of requiring improvement (< 50%) were then examined to determine areas of relative strength and weakness.

The composite on the cusp, which requires improvement, 'overall perception of patient safety', includes four items, two of which had a high rating ('patient safety is not sacrificed' (70.1%), 'our procedures are good at preventing errors' (66.1%) but two were poorly rated ('it is by chance serious mistakes don't happen' (25.2%), 'we have patient safety problems in this unit' (34.7%).

In the composites 'teamwork across hospital units', 'communication openness', 'hospital handoff and transitions', and 'non-punitive response to errors', item scores were consistently low [Table 2]. In the composite, 'supervisor/manager expectations and actions promoting patient safety', 'supervisors/managers say good things when they see a job done according to established patient safety procedure' had the highest rating in this composite (46.5%) compared with 'supervisor/manager seriously considers staff suggestions for improving patient safety', 'whenever pressure builds up, the supervisor/manager wants to work faster, even if it means taking shortcuts', and 'supervisor/manager overlooks patient safety problems that happen over and over' scored 20.4%, 22.1%, and 22.0%, respectively. In the composite 'hospital management support for patient safety', 'hospital management provides a work

Table 3: Comparison of mean±standard deviation between medical doctors, pharmacists, and nurses with patient safety culture composite scores.

Patient safety culture composite	Sig	Medical doctors	Pharmacists	Nurses
Teamwork within units	c	3.9 ± 0.3	4.0 ± 0.5	3.6 ± 0.6
Supervisor/manager expectations and actions promoting patient safety	a,c	2.6 ± 0.5	3.4 ± 0.7	2.4 ± 0.5
Organizational learning/continuous improvement	c	3.6 ± 0.5	3.8 ± 0.4	3.5 ± 0.4
Management support for patient safety	b,c	3.2 ± 0.5	3.2 ± 0.7	2.3 ± 0.5
Overall perception of patient safety	a,b,c	3.5 ± 0.5	2.8 ± 0.5	3.2 ± 0.4
Feedback and communications about error	d	3.6 ± 0.7	3.4 ± 0.6	3.4 ± 0.5
Communication openness	a,b,c	3.4 ± 0.6	2.8 ± 0.5	2.0 ± 0.7
Frequency of events reported	c	3.4 ± 0.7	3.1 ± 0.7	3.7 ± 0.9
Teamwork across hospital units	a,b	2.6 ± 0.6	2.1 ± 0.4	2.2 ± 0.4
Staffing	a,c	2.5 ± 0.6	3.0 ± 0.4	2.6 ± 0.5
Hospital handoffs and transitions	b,c	2.7 ± 0.8	2.5 ± 0.6	2.1 ± 0.6
Non-punitive response to errors	a,b,c	2.9 ± 0.8	2.4 ± 0.7	2.0 ± 0.6

a: significant difference between medical doctors and pharmacists; b: significant difference between medical doctors and nurses; c: significant difference between pharmacists and nurses; d: no significant difference between professions.

climate that promotes patient safety', 'the actions of hospital management show that patient safety is a top priority', and 'hospital management seems interested in patient safety only after an adverse event happens' rated low, with scores of 16.5%, 28.3%, and 38.6%, respectively. In the composite 'staffing', 'staff work longer hours than is best for patient care' rated extremely low (3.1%) in contrast with 'availability of enough staff to handle the workload', 'using agency/temporary staff exceeding what is best for patient care', and 'working in "crisis mode" trying to do too much, too quickly' (55.1%, 32.3%, and 19.9%, respectively).

Significantly different mean scores were observed across the three professional groups in all 12 patient safety culture composites [Table 3]. Doctors rated the following significantly more highly than nurses and pharmacists: overall perceptions of patient safety, communication openness, teamwork across units, and non-punitive response to errors. Pharmacists rated teamwork within the unit significantly more highly than nurses and rated the following significantly more highly than doctors and nurses: supervisor/manager expectations and actions promoting patient safety, organizational learning/continuous improvement, and staffing. Nurses rated eight composites less positively than doctors, and in six of these cases the difference was statistically significant: management support for patient safety, overall perception of patient safety, communication

Table 4: Comparison of mean±standard deviation between Saudi or Gulf Cooperation Council (GCC) nationality and non-Saudi nationality with patient safety culture composite scores.

Patient safety culture composite	Saudi/ GCC	Non-Saudi/ GCC	*p*-value
Teamwork within units	4.1 ± 0.4	3.7 ± 0.5	0.779
Supervisor/manager expectations and actions promoting patient safety	3.2 ± 0.7	2.5 ± 0.5	0.116
Organizational learning/continuous improvement	3.8 ± 0.4	3.5 ± 0.4	0.893
Management support for patient safety	3.1 ± 0.7	2.5 ± 0.6	0.779
Overall perception of patient safety	3.1 ± 0.6	3.2 ± 0.5	0.256
Feedback and communications about errors	3.5 ± 0.6	3.4 ± 0.5	0.238
Communication openness	2.7 ± 0.8	2.2 ± 0.8	0.554
Frequency of events reported	3.3 ± 0.9	3.6 ± 0.9	0.431
Teamwork across hospital units	2.2 ± 0.5	2.3 ± 0.4	0.913
Staffing	2.8 ± 0.5	2.6 ± 0.5	0.186
Hospital handoffs and transitions	2.5 ± 0.8	2.3 ± 0.7	0.365
Non-punitive response to errors	2.3 ± 0.9	2.2 ± 0.6	0.713

Table 5: Linear regression model*.

Patient safety culture composites	Frequency of events reported		Perception of patient safety	
	β (standard error)	*p*-value*	β (standard error)	*p*-value
Teamwork across units	0.44 (0.19)	0.027	0.02 (0.11)	0.014
Non-punitive response to errors	-0.07 (0.14)	0.608	0.13 (0.08)	0.106
Handoffs and transitions	-0.24 (0.14)	0.098	-0.03 (0.08)	0.673
Communication openness	-0.03 (0.13)	0.772	0.04 (0.07)	0.562
Staffing	0.32 (0.16)	0.054	0.03 (0.09)	0.737
Supervisor/manager expectations and actions promoting patient safety	-0.24 (0.14)	0.090	-0.04 (0.08)	0.567
Management support for patient safety	0.03 (0.14)	0.833	-0.04 (0.08)	0.559
Feedback and communication about error	0.72 (0.14)	< 0.001	0.01 (0.08)	0.884
Organizational learning/continuous improvement	0.06 (0.19)	0.756	0.16 (0.11)	0.139
Teamwork within units	0.01 (0.15)	0.970	0.13 (0.09)	0.131
Male	0.01 (0.23)	0.958	-0.15 (0.14)	0.280
Medical doctors	-0.37 (0.32)	0.248	-0.14 (0.17)	0.392
Pharmacists	-0.51 (0.37)	0.167	-0.84 (0.20)	< 0.001
Saudi nationality	0.10 (0.28)	0.723	0.19 (0.15)	0.214

**Nurses, female, and non-Saudi nationality were used as references groups.*

openness, teamwork across hospital units, non-punitive response to errors, and hospital handoffs and transitions. Nurses and pharmacists also differed with nurses having significantly less positive views of teamwork within the unit, supervisor/manager expectations, communication openness, staffing, handoffs, and non-punitive responses to errors than pharmacists. The three professional groups did not differ significantly on the composite of 'feedback and communications about errors'.

There was no significant difference between Saudi/GCC and non-Saudi/GCC respondents in patient safety culture composite scores [Table 4].

Respondents with a higher perception of feedback and communication about errors and teamwork across hospital units had a higher frequency of reporting events ($\beta = 0.72$, $p < 0.001$ and $\beta = 0.44$, $p = 0.027$, respectively). Respondents with a higher perception of teamwork across hospital units had a better overall perception of patient safety ($\beta = 0.02$, $p = 0.014$). On the other hand, pharmacists had a lower overall perception of patient safety compared to nurses ($\beta = -0.84$, $p < 0.001$) [Table 5].

DISCUSSION

We used the HSOPSC to examine perceptions of patient safety culture in the 'microsystem' of a single clinical department,[25] specifically an adult oncology department in a tertiary care setting in Saudi Arabia. The HSOPSC outcomes were compared across different professional groups and by origin. The perceptions of many different composites of patient safety culture differ significantly between doctors, pharmacists, and nurses. However, there was no significant difference in perceptions of patient safety culture between Saudi/GCC staff and non-Saudi/GCC staff.

The identification of different perceptions of patient safety across different groups of healthcare staff who are primarily responsible for many aspects of patient care is a major contribution to the literature as it illustrates the need to promote a shared understanding of patient safety among multidisciplinary teams, particularly in settings where delivery of care is reliant upon a range of healthcare professionals. This variation in patient safety culture among different healthcare professional groups reflects findings from other contexts,[26] and can be used to inform the development of targets and strategies for each professional group to improve the patient safety culture in the department under study.

The fact that no significant difference was found in the mean scores achieved in the 12 HSOPSC composites between Saudi/GCC staff and non-Saudi/GCC staff is encouraging, as it may indicate similar perceptions in staff groups from different cultural origins. We tentatively suggest

that these findings indicate that professional group membership may be a more cohesive characteristic than participant country of origin in terms of perceptions of patient safety culture – an important finding, given the global migration of healthcare professionals. However, our sample size was relatively small, and this finding requires further investigation with larger samples and in other similarly diverse workplaces.

The second possible limitation of this study is related to the nature of data collection. A well-validated and popular survey tool was utilized and administered by a neutral third party (rather than, for example, a hospital management committee). However, the survey questions may have been interpreted differently by the respondents depending on their different ethnic, cultural, and educational backgrounds. Moreover, those who have difficulties reading written English may have struggled with the survey.[27]

The study findings indicate a number of areas for improvement, most particularly teamwork across units, handover, communication openness, and non-punitive response to errors. The areas with potential for improvement in the department in the current study broadly reflect those identified in previous studies conducted in different Arabian settings.[8–10] The 'non-punitive response to error' score is particularly concerning and merits further exploration, as this is an important barrier to service improvement and suggests issues with transparency of practice and good governance.

Another important area that achieved low positivity score is 'hospital handoff and transition'. The presence of a handover process between the different professional groups is vital in this department, which deals with critically ill cancer patients in need of frequent chemotherapy and radiation therapy. Any mistake occurring during medication management can lead to severe clinical consequences.[28] Hospital handoff and transition is a challenging topic, not only in Saudi Arabia but also in other contexts.[29]

Interestingly, although many areas for improvement were identified in the study, approximately two-thirds of respondents (66.9%) considered patient safety overall as excellent or very good, and that systems and procedures are good at preventing error. Again, this reflects patterns seen in other studies conducted in Arabian Gulf countries.[9,30] This suggests that staff like to think that, overall, they have a good patient safety culture but are less convinced when they are asked more specific questions.

These findings have implications for research, policy, and practice. As mentioned earlier, further research comparing professional groups and those working in healthcare outside of their country of origin is necessary to determine whether the patterns of responses seen in this context are generalizable. It is also important to use qualitative research methods to explore the different perceptions of patient safety culture across doctors, pharmacists, and nurses in more depth, to gain an understanding of why these differences exist.[31] In terms of practice, it is suggested that "one size will not fit all" in terms of interventions to address patient safety culture. For example, the perception of patient safety culture may be enhanced by strategies to improve teamwork across hospital units for all staff groups,[32] but interventions to address communication openness may be more welcomed by nurses. Conversely, there is much evidence of the effectiveness of both simulation and classroom-based team training interventions in improving teamwork processes (e.g., communication, coordination, and cooperation), leading to improvements in patient safety outcomes.[33] Thus, once staff perceptions of patient safety culture are well-understood and used to inform the development of an intervention,[34] the resulting intervention should include multidisciplinary team training. Finally, regarding policy, the results suggest that it is important for hospitals to transform their efforts 'to improve patient safety from rhetoric to reality'.[35] Implementation strategies that embed effective teamwork and systems change as a foundation for other improvement efforts may offer the greatest impact on patient outcomes.[33] The use of tools such as the HSOPSC can be a useful way of assessing the impact of improvement efforts.

CONCLUSION

This study brought to the fore the assumption that all healthcare professionals have a shared understanding of patient safety and the ways such a culture manifests in a hospital department. Healthcare leaders and policy makers are urged to look at patient safety culture at this microscopic level in other contexts.

Disclosure
The authors declared no conflicts of interest. No funding was received for this study.

Acknowledgements
Thanks go to Dr. Gordon Prescott, Medical Statistician, for his advice on the analysis. Thanks also go to those who gave their permission for their data to be used in this study and who completed the questionnaire.

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