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Towards promoting patient safety practices: Baseline assessment of patient safety culture in three private hospitals

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ABSTRACT

The study aimed to: assess patient safety culture in three private hospitals, define strengths and weaknesses in patient safety culture, and examine the socio-demographic determinants of patient safety culture. A cross-sectional study was conducted among 1193 healthcare providers and administrators with 68.4% response rate. A locally customized hospital version of the Patient Safety Culture Survey (HSOPSC) developed by the Agency for Healthcare Research and Quality (AHRQ) was used. The mean score of overall perception of safety and frequency of event reporting were 3.4/5.0 and 4.0/5.0, respectively. 'Excellent' and 'very good' overall grade on patient safety was reported by 28.9 and 55.3% of participants, respectively. About half of participants reported no events in the last 12 months, while 31.4% reported 1–2 events. The strength areas were teamwork within units, organizational learning, and continuous improvement composite dimensions. However, the areas that required improvement were supervisor expectations, actions promoting patient safety, and hospital handoffs and transitions. Higher level of education, nursing career, training on patient safety, having direct communication with patients and working in small hospitals were the determinants of better patient safety culture practice. Hospital managers and policy makers ought to heighten the performance and practices within a non-punitive reporting atmosphere.

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Patient safety; safety culture; private hospitals; Kuwait

Introduction

The patient safety culture is a vital area, which affects the quality of healthcare provided by health professionals. There is no information about such area in private or public health sectors in Kuwait. This research aimed to fill the gap in knowledge regarding this topic in Kuwait.

In 2000, the healthcare industry noticed that it was a high hazard industry after the publishing of the first report on patient safety 'To Err is Human' [1]. Medical errors resulted in high costs up to $17–$19 billion per year. Therefore, patient safety became the main critical issue facing the healthcare industry and the core value of many accreditation bodies such as The Joint Commission and Accreditation Canada [2–4].

An essential component of a successful patient safety system is patient safety culture [5]. The latter is defined as the shared values, attitudes, norms, beliefs, practices, policies, and behaviors about safety issues in daily practices [6]. A positive patient safety culture contributes to making patient safety a real challenge for the healthcare organizations and essential priority of healthcare providers [7]. High level of patient safety culture is associated with low numbers of medical errors [8], low patient mortality rates [9], high percentages of medical errors reporting [10], and positive patient care assessments [11].

Patient safety culture is categorized into four components namely; just culture, reporting culture, flexible culture, and learning culture [12]. These components play an important role in identifying the beliefs and practices of the healthcare organizations. Just culture, is a culture of trust where the healthcare providers believe that they can report medical errors without being treated punitively. Reporting culture refers to the healthcare providers' will to report medical errors due to their healthcare organization encouragement, and standardization of the reporting system. Flexible culture is enabling healthcare providers to report medical errors as a respected behavior by the healthcare organizations. However, learning the culture increases the willingness of healthcare providers to report medical errors to be analyzed targeting appropriate change. The interaction of these components results in an informed, reliable, and safe healthcare organization.

Patient safety culture is a multidimensional culture [13]. The healthcare organization can achieve maximal benefit from conducting a patient safety culture assessment and implementing action planning to initiating change [7]. Understanding the source of culture variation – such as healthcare providers' characteristics, the patient care area, the unit, the department, and/or the hospital – is necessary to achieve maximum benefit [14].

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The association between socio-demographic factors and patient safety culture has been evidenced in previous studies. Tapan et al. [15] reported that patient safety culture scores were higher among females and among healthcare providers with higher educational levels. Moreover, they added that the level of patient safety culture was better in private hospitals compared to public ones. Furthermore, Luiz et al. [16] reported that the perception of patient safety culture differs according to the health profession.

Kuwait is Gulf country with a population of 4.1 million [17]. One-third of this population is Kuwaiti nationals, while non-nationals are residing in the country for work purpose. Health services are provided to nationals and non-nationals through governmental and private sectors. The latter is represented through 12 hospitals of different bed capacities. The private sector serves 41.8% of outpatient visits, 42.5% of operations through possessing 13.4% of total national bed capacity which covers 28.5% of inpatient health care. Moreover, 16.7% of physicians and 13.7% of total healthcare manpower are working in the private sector [18]. These figures reflect the importance of the private sector in providing health services in Kuwait. According to our knowledge, this is the first study of its kind in Kuwait – in private or public hospitals-to consider assessment of patient safety culture. The main objectives of this study were to: (1) assess the patient safety culture in three private hospitals in Kuwait, (2) define strengths and weaknesses in patient safety culture, and (3) examine the socio-demographic determinants of the patient safety culture.

Study design and methods

Setting and sampling

This cross-sectional study targeted three randomly selected private hospitals out of the 12 private hospitals in Kuwait. Stratification of the hospitals according to the bed size was conducted as follows: small (50–60 beds), medium (61–100 beds), and large (>100 beds), then a hospital was randomly selected from each group.

During a prearranged meeting with directors as well as the heads of all departments in each hospital, a prepared presentation was provided explaining the idea of the research and how the findings of this research can help them in improving the quality of service in the hospitals. Every head of a department expressed his responsibility about filling the questionnaire from his corresponding team of work. The hospital director together with Human Resources department had a great role in facilitating distribution and following the self-administered questionnaire. The data collection was performed during the period September–November, 2015.

All the physicians, pharmacists, nurses, technicians, managers and administrators in three hospitals were invited to participate in the study. A total of 1744 – representing all staff in the three hospitals where porters were excluded – were approached and 1193 completed the self-administered anonymous voluntary questionnaires. The response rate in three hospitals according to the hospital size was 70.0, 91.0, and 55.3%, respectively. The overall response rate was 68.4%.

Ethical approval

The study was approved by the Standing Committee for Coordination of Health and Medical Research in the Ministry of Health in Kuwait. Signed consent forms were attained from participants before filling the questionnaires.

The study tool

An updated and locally customized hospital version of the Patient Safety Culture Survey (HSOPSC) developed by the Agency for Healthcare Research and Quality (AHRQ) was considered. The study adopted the Arabic version of the HSOPSC used in a similar study in Lebanon [19,20] beside the English version due to the presence of multi-nationalities in Kuwait. Both Arabic and English versions were piloted in a different hospital (twenty questionnaires for each version). No changes were done after the pilot study reflecting clarity of the meaning of the questions and the absence of any language barriers.

Alongside participants' personal characteristics, the HSOPSC enclosed a total of 40 items related to patient safety culture. Each item had a 5-point Likert scale that ranged from 'Strongly Disagree' to 'Strongly Agree' or frequency that ranged from 'Never' to 'Always'. These items measured 10 dimensions of patient safety culture (multiple item scales) namely: supervisor/manager's actions promoting patient safety, organizational learning, teamwork within units, communication openness, feedback and communication about error, non-punitive response to error, staffing, hospital management support for patient safety, teamwork across hospital units, and hospital handoffs and transitions. Another two dimensions were assessed by two questions: one about the overall perceptions of safety with a 5-point Likert scale ranging from 'Excellent' to 'Failing', and the other about the frequency of event reporting in the last 12 months ranging from 'No events' to '21 events or more'.

Outcome measures

The study had four outcome measures: frequency of event reporting (multiple item scale), overall perception of safety (multiple item scale), patient safety grade, and number of events reported. A fifth outcome

was the overall safety culture dimensions (mean of sum of all dimensions) which was created for regression analysis model.

Data analysis

The raw data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 23. Descriptive analysis was used to refer to socio-demographic and background findings. Cronbach's α was calculated to examine the internal consistency for each of the generated 12 dimensions. A Cronbach's α value of 0.5 was considered satisfactory [20,21].

Separately from the two multiple scale dimensions of the outcome measures, ten other composite dimensions mean score were calculated. ANOVA test was considered to examine significant differences in the mean score of each dimension according to the size of hospitals, and the *post hoc* test was calculated to detect the in-between group differences. Multiple linear regression models were performed to examine the association between the dependent variable – overall safety culture dimensions (mean of sum of all dimensions) – and participants socio-demographic as well as background independent variables. Dependent variable was examined for normality before employing the linear regression model. A P value of <0.05 and Confidence Interval [CI] of 95% were considered significant.

Results

The patient safety culture study was implemented among 1193 participants working in three private hospitals in Kuwait. The majority of them were females (73.8%), ever married (73.0%), had a monthly income of <500 Kuwaiti Dinar (KD) (78.0%) and more than half (54.1%) lied in the age group 30–45 years. On the other hand, about 60% of participants hold university degrees and the majority had up to 5 years of experience (69.4%). More than half of the participants were nurses (54.3%), and majority of participants reported having a direct contact with patients (80.0%) and had a course/lecture about patient safety (73.2%) as illustrated in Table 1.

The internal consistency of the 12 composite dimensions was assessed as illustrated in Table 2. Cronbach's α ranged from 0.44 to 0.85 which reflected an acceptable degree of internal consistency in the studied multiple item composites. Two dimensions only showed the lowest values for Cronbach's α at 0.44 (overall perception of safety and staffing), and another two dimensions showed slightly higher Cronbach's α value of 0.51 which were organizational learning and communication openness. The other eight dimensions showed high Cronbach's α 0.62–0.85.

Table 1. Socio-demographic characteristics of the safety culture survey respondents in three private hospitals in Kuwait ($n = 1193$).

Characteristics	*n*	(%)
Age (years)		
<30	394	34.6
30–45	616	54.1
46+	129	11.6
Gender		
Male	304	26.2
Female	856	73.8
Marital status		
Single	314	27.0
Ever married	847	73.0
Monthly income (KD)		
<500	859	78.0
500–1500	135	12.3
>1500	107	9.7
Level of education		
Less than university	146	12.8
University	677	59.5
Above university	197	17.3
Nursing diploma	117	10.3
Number of years of experience (years)		
<1	245	21.0
1–5	564	48.4
6–10	290	24.9
11+	67	5.7
Job in the hospital		
Physician/pharmacist	194	16.5
Nurse	637	54.3
Technician	90	7.7
Administrative	67	5.7
Others	185	15.8
Your rank in the hospital		
Administrative	75	6.7
Physician	152	13.5
Nurse	605	53.9
Technician	116	10.3
Others	174	15.5
In your job, you have a direct interaction with patients		
Yes	874	80.0
No	218	20.0
Ever passed a course/lecture about patient safety		
Yes	710	73.2
No	260	26.8
The facility of work arranged training/awareness/workshops about patient safety		
Yes	777	78.5
No	121	12.2
Don't know	92	9.3
Hospital size		
Small (<50 beds)	360	30.2
Medium (50–100 beds)	394	33.0
Large (>100 beds)	439	36.8

The 12 composite dimensions mean scores of patient safety were illustrated in Table 3. The two outcome composite dimensions: (1) the overall perception of safety showed a mean score of 3.4 with significant increase directly with hospital size; and (2) frequency of event reporting showed a mean score of almost 4.0. The table also presented that within each hospital and on the unit level, the teamwork within units composite dimension scored the highest mean score (4.24) and significantly indirect to the hospital size ($P < 0.0001$). The *post hoc* test showed a significant difference between small and large; and between small and medium size only. Organizational learning and continuous improvement composite dimension ranked the second best mean score (4.13) and also showed a significant indirect

Table 2. Cronbach's α of safety culture dimensions (multiple item scales) according to the size of hospital in three private hospitals in Kuwait ($n = 1193$).

Dimensions	Total $n = 1193$	Small $n = 360$	Medium $n = 394$	Large $n = 439$
Outcome measures				
Frequency of event reporting	0.850	0.867	0.845	0.837
Overall perception of safety	0.436	0.418	0.413	0.480
Safety culture dimensions (unit level)				
Supervisor/manager expectations and actions promoting patient safety	0.617	0.631	0.472	0.638
Organizational learning and continuous improvement	0.512	0.460	0.512	0.522
Teamwork within units	0.719	0.688	0.745	0.707
Communication openness	0.516	0.351	0.499	0.646
Feedback and communication about error	0.664	0.680	0.651	0.635
Non-punitive response to error	0.596	0.662	0.424	0.573
Staffing	0.438	0.533	0.428	0.406
Hospital management support for patient safety	0.568	0.516	0.427	0.620
Safety culture dimensions (hospital wide)				
Teamwork across hospital units	0.565	0.485	0.656	0.496
Hospital handoffs and transitions	0.725	0.788	0.761	0.611

relation with the hospital size ($P < 0.0001$). The *post hoc* test showed the significant difference in-betweens the three hospitals. The supervisor expectations and actions promoting patient safety showed the least mean score on the unit level (3.2) with significant difference between small and medium, and medium and large size hospitals ($P = 0.001$). Regarding safety culture dimensions hospital wide, the table revealed that hospital handoffs and transitions dimension scored the least of all dimensions (2.35) with significant direct association with hospital size ($P < 0.0001$). The other hospital wide dimension (teamwork across hospital units) showed moderate mean score (3.3) significantly indirect with hospital size ($P < 0.0001$).

Concerning the overall grade on patient safety, 28.9% of participants reported 'excellent' and 55.3% reported 'very good'. The hospital size showed indirect association with reporting 'excellent' and 'acceptable' overall grade on patient safety as illustrated in Figure 1. For example, 21.7% of participants working in the large hospital significantly reported an acceptable level of patient safety compared to only 5.5% of those working in the small hospital ($P < 0.0001$).

No event reporting in the last 12 months was reported by 49.5% of all participants and reporting 1–2 events in the same period was mentioned by 31.4% of them, while reporting 11 and more events was conveyed by 1.7%. Figure 2 illustrated that almost 50% of participants working in medium and big hospitals and 40% of those working in small hospital did not report any event in the past 12 months. However, 1–2 events were reported by about one-third of participants in each hospital; and 3–5 events were reported significantly the highest by participants in the small hospital (20.0%, $P < 0.0001$).

Table 3. Difference between means of safety culture dimensions (multiple item scales) according to the size of hospital in three private hospitals in Kuwait ($n = 1193$).

	Total $n = 1193$		Small (S) $n = 360$		Medium (M) $n = 394$		Large (L) $n = 439$		
Dimensions	Mean	(±SD)	Mean	(±SD)	Mean	(±SD)	Mean	(±SD)	*P* value
Outcome measures									
Frequency of event reporting	3.99	(±0.9)	3.98	(±1.0)	3.97	(±0.9)	3.95	(±0.9)	0.908
Sub-group (n)	1030		299		323		408		–
Overall perception of safety	3.41	(±0.5)	3.37	(±0.6)	3.39	(±0.5)	3.46	(±0.5)	0.049
Sub-group (n)	1012		299		339		374		S,L[a]
Safety culture dimensions (unit level)									
Supervisor/manager expectations and actions promoting patient safety	3.20	(±0.5)	3.19	(±0.4)	3.27	(±0.5)	3.14	(±0.5)	0.001
Sub-group (n)	1077		300		362		415		S,M & M,L[a]
Organizational learning and continuous improvement	4.13	(±0.5)	4.26	(±0.5)	4.11	(±0.4)	4.04	(±0.5)	<0.0001
Sub-group (n)	1085		318		352		415		S,L & S,M & M,L[a]
Teamwork within units	4.24	(±0.5)	4.35	(±0.5)	4.29	(±0.4)	4.09	(0.6)	<0.0001
Sub-group (n)	1120		343		373		404		S,L & S,M[a]
Communication openness	3.24	(±0.6)	3.19	(±0.6)	3.28	(±0.6)	3.25	(±0.5)	0.111
Sub-group (n)	1088		321		360		407		–
Feedback and communication about error	4.08	(±0.6)	4.28	(±0.7)	3.98	(±0.6)	4.03	(±0.7)	<0.0001
Sub-group (n)	1103		330		361		412		S,L & S,M[a]
Non-punitive response to error	3.36	(±0.8)	3.21	(±0.9)	3.21	(±0.7)	3.61	(±0.7)	<0.0001
Sub-group (n)	1065		323		336		406		S,L & M,L[a]
Staffing	3.39	(±0.6)	3.34	(±0.7)	3.50	(±0.6)	3.33	(±0.6)	0.001
Sub-group (n)	893		250		296		347		S,L & M,L[a]
Hospital management support for patient safety	3.63	(±0.4)	3.60	(±0.4)	3.67	(±0.4)	3.62	(±0.4)	0.059
Sub-group (n)	1118		331		367		420		S,M[a]
Safety culture dimensions (Hospital wide)									
Teamwork across hospital units	3.33	(±0.4)	3.41	(±0.5)	3.26	(±0.4)	3.32	(±0.4)	<0.0001
Sub-group (n)	1054		320		347		387		S,L & S,M[a]
Hospital handoffs and transitions	2.35	(±0.7)	2.17	(±0.8)	2.35	(±0.7)	2.48	(±0.7)	<0.0001
Sub-group (n)	954		282		301		371		S,L & S,M & M,L[a]

[a]S,L means that there is a significant difference between small and large sized hospitals. S, M means that there is a significant difference between small and medium sized hospitals. M, L means that there is a significant difference between medium and large sized hospitals.

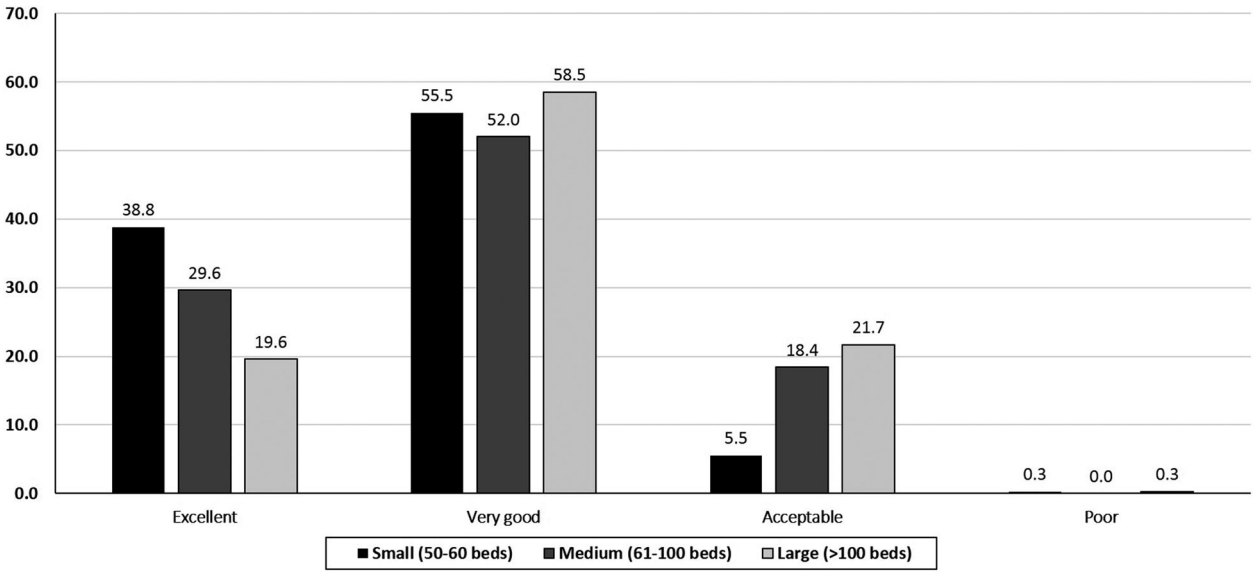

Figure 1. Overall grade on patient safety in general in the work area/unit/department according to hospital size.

Table 4 shows the significant determinants of overall patient safety culture. The table revealed that the higher the level of education, the better the overall perception of safety among the participants. Those who held university and above university degrees showed better mean scoring compared to less than university (mean scores ± SD: 3.29 ± 0.61, $P = 0.001$, and 3.45 ± 0.77, $P = 0.018$, respectively). The table also showed that nurses reported significantly highest mean score of overall patient safety culture followed by those in administrative hospital rank then came the physician rank (mean score= 3.48 ± 0.76, 3.37 ± 0.53, and 3.46 ± 0.59, respectively) compared to other hospital ranks. Moreover, those who had direct contact with patients in their jobs scored better overall patient safety culture than those who had not (mean score: 3.38 ± 0.63 vs. 2.93 ± 0.86, respectively). Additionally, those who did not pass a course/lecture about patient safety scored less overall patient safety culture compared to those who passed these courses (mean score= 3.13 ± 0.81 vs. 3.37 ± 0.63, respectively). The study also revealed that the hospital size was a significant determinant to overall patient safety culture mean scores. Participants working in large hospitals scored less than their counterparts working in small hospitals (3.22 ± 0.68 vs. 3.31 ± 0.85, respectively).

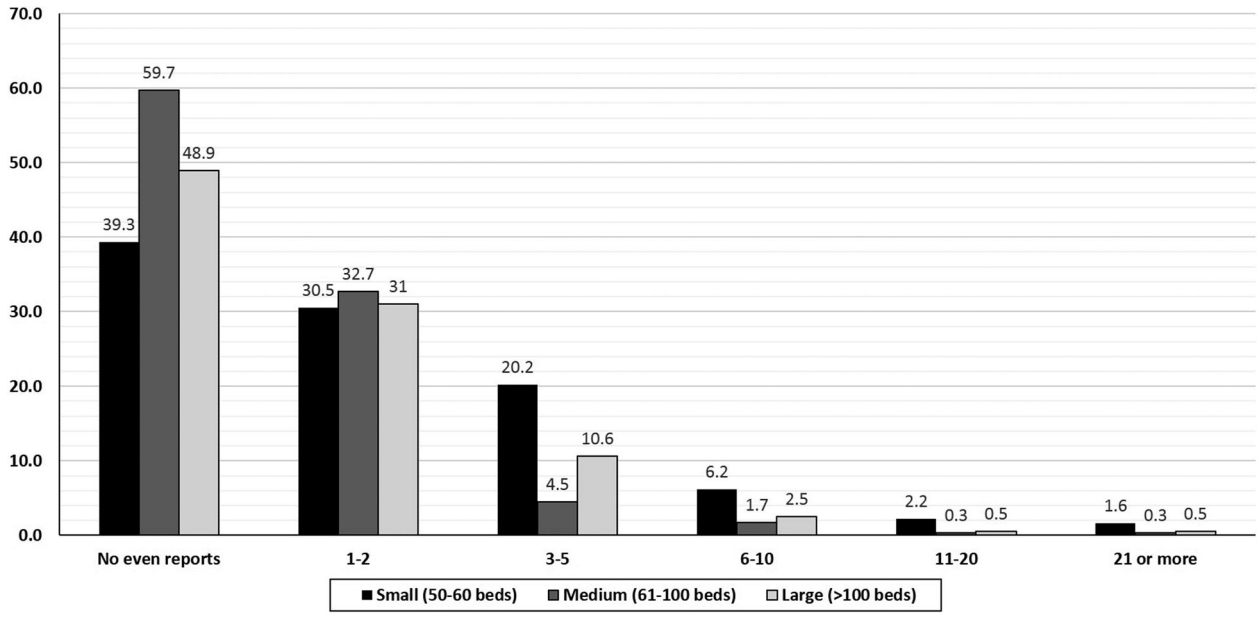

Figure 2. Number of filled and submitted event reports in the last 12 months according to hospital size.

Table 4. Multiple linear regression of significant determinants of overall patient safety culture in three private hospitals in Kuwait ($n = 892$[a]).

Item	β	SE	95% CI	P value
Level of education				
Less than university	–	–	[Reference]	–
University	0.221	0.066	[0.09–0.35]	0.001
Above university	0.247	0.104	[0.043–0.451]	0.018
Nursing diploma	0.152	0.093	[−0.03–0.33]	0.102
Your rank in the hospital				
Administrative	0.782	0.135	[0.52–1.05]	<0.0001
Physician	0.555	0.155	[0.25–0.86]	<0.0001
Nurse	0.816	0.169	[0.49–1.15]	<0.0001
Technician	0.357	0.115	[0.13–0.58]	0.002
Others	–	–	[Reference]	–
Ever passed a course/lecture about patient safety				
Yes	–	–	[Reference]	–
No	−0.124	0.052	[−0.23 to −0.02]	0.017
In your job, you have a direct interaction with patients				
Yes	–	–	[Reference]	–
No	−0.155	0.064	[−0.28 to −0.03]	0.016
Hospital size				
Small (<50 beds)	–	–	[Reference]	–
Medium (50–100 beds)	−0.066	0.057	[−0.18to 0.05]	0.252
Large (>100 beds)	−0.214	0.055	[−0.32 to −0.11]	<0.0001

[a]The number of observations remained in the multiple linear regression model (74.8%).

Discussion

The study was conducted among the healthcare providers and administrators in three private hospitals in Kuwait. The study revealed that there was an average overall level of patient safety culture in the three hospitals. On the unit level, the study found that organizational learning and continuous improvement, teamwork within units, and feedback and communication about error were strengths areas in the hospitals; however, supervisor/manager expectations and actions promoting patient safety was the area requiring improvement on that level. On the hospital wide level, hospital handoffs and transitions were the weakest area regarding safety culture dimensions. Moreover, the study divulged that educational level of university and above, having a direct interaction with patients, being a health provider particularly nurses, having previous awareness about patient safety and working in a small sized hospital were significant determinants of having a better perception about patient safety culture in the studied hospitals.

Patient safety culture

The study found an average level of overall patient safety culture in the studied hospitals although all three hospitals were accredited ones. This raises an important point about the accreditation process and the length of time that hospitals should be accredited. Considering policy of re-accreditation might be a necessary approach to keeping hospitals racing high level of performance all the time. Changing workers' perception and maintaining it towards better patient safety culture is not an easy or at end process that terminates by pursuing accreditation. It necessitates continuous enhancement, training, and evaluation, should sustainability of better patient safety culture is the goal of healthcare providers, administrators and policymakers. Promoting patient health in the hospitals dictates professional level of healthcare from the providers which will never be pertained without proving high patient safety culture in the hospitals [22].

Patient safety culture on the unit level

An important strength area in the studied hospitals was organizational learning and continuous improvement. This finding is in concordance with the results of several similar studies conducted in the Gulf region. It was identified as the most positive aspect on the unit level in Kingdom of Saudi Arabia [23,24], and recently in Oman [25].

Moreover, teamwork within units was another strength area in our study. This reflects an appropriate level of collaboration between the staff members in the studied hospitals. This finding is coherent with the results of a similar study conducted in Lebanon in 2010, among 6807 hospital employees in 68 hospitals. Areas of strength as reported by sampled respondents included teamwork within units and organizational learning and continuous improvement [20]. Additionally, these two findings were similar to those found in another recent study performed in Egypt in 2012 among 510 healthcare providers of teaching hospital who reported that the highest mean composite positive score of patient safety culture dimensions was for organizational learning for continuous improvement, followed by teamwork within units [26]. Furthermore, these two areas were also reported lately (2013) in Palestine among 1460 clinical and non-clinical hospital staff in 11 public hospitals [27]. Despite the different countries and the different methods of assessments done, we can conclude that the majority of these studies showed that organizational learning for continuous improvement was the common shared most positive aspect regarding patient safety culture dimensions.

Furthermore, communication openness was a strength area in this study. This reflects the transparent atmosphere the health providers and administrators were working in. Such atmosphere – patient centered – encourages reporting of medical errors and discussing suitable policies and regulations that prevent such occurrence. This finding is opposing the findings of the Saudi Arabia study [28]. This might be due to the difference in the nature of the studied teaching hospital in Saudi Arabia vs. private hospitals in this study.

Nonetheless, supervisor/manager expectations and actions promoting patient safety was the area requiring improvement on the unit level. This was an unexpected result and not in agreement with the 2014 comparative report [29]. This might be explained by the nature of

private hospitals which expect much from their health providers and avoiding highlighting weak areas in their hospitals for fear of negative reputation particularly in a small country like Kuwait. This also might be emphasized by the weak reporting of events in the three hospitals. The later finding is matching with the results of a previous study [27].

Patient safety culture on the hospital level

On the other hand, hospital handoffs and transitions were the weakest area in our study. The patient information during his/her transition from the hospital is a very critical area that can affect the health outcome of the patient negatively if not handled in a proper way. Missing patient information may also delay or alter the whole line of patient's management which can have a definite lower level of healthcare that can affect both the patient's health status and consequently the reputation of the hospital particularly private hospitals. This weak area was also found in the Lebanon study [20].

Socio-demographic determinants of patient safety culture

The study revealed that nurses ranked the premier among the staff working in the three studied hospitals. This was an expected outcome as nurses are the most people communicating with the patients during their stay period in the hospitals. This finding is matching with previous studies that found that registered nurses – particularly older nurses with longer experience – scored higher than frontline healthcare providers and physicians [19,30–32]. Physicians ranked next to nurses which was another expected outcome related to their nature of work in interacting with patients relatively more than other working staff.

An additional finding of this study was the significant association between previous training or education about patient safety culture and scoring higher in the patient safety culture score. This was a sensible result which matched with a previous study [33].

The last interesting finding was the hospital bed size. Participants working in smallest hospitals scored highest mean patient safety culture score compared to their correspondents in larger hospitals. This finding is matching with the benchmark results in 2014 report [29].

Conclusion and directions for future research

In conclusion, patient safety culture practices in the studied hospitals were of average level. A significant work is required to strengthen such practices. The findings of this study were of outmost importance for private hospitals to realize the current level of patient safety culture in their hospitals, which was a baseline towards improving the level of patient care. Hospital managers and policy makers ought to consider regular training courses and workshops about improving patient safety culture. Special emphasis on the weak areas in the hospitals and strategic plans for its improvement and enhancement of the strong areas should be well-thought-out. Motivational plan for hospital manpower is suggested to heighten their performance and practices regarding patient safety culture. Regular reporting and assessment of patient safety culture is recommended by national and international programs. Considering re-accreditation of hospitals on regular time span might be pondered by policy makers for sustainability of high performance. As the first study implemented in Kuwait about patient safety culture, a similar assessment of larger sets of governmental hospitals should be seriously considered.

Limitations

The nature of the study design as cross-sectional necessitated further research to examine the causal relationship between patient safety culture and promoting patient clinical outcomes. Moreover, having the study conducted in private hospitals only made the generalizability of the study findings to be thoughtful.

Disclosure statement

No potential conflict of interest was reported by the authors.

Geolocation information

This study was conducted in Kuwait, one country of the Gulf region.

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