Safety Attitudes of Nurses and their Demographics: A basis for Continuous Quality Improvement

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Abstract. This study sought to determine the specific domains of patient safety culture that require improvement in order to provide specific recommendations as part of quality assurance interventions. The researchers employed quantitative-descriptive research. There were 251 nurse respondents obtained from snowball sampling from a tertiary government hospital in Hail City. Descriptive statistics such as frequency and percentage was used. Data gathering commenced from July 09, 2020 to August 20, 2020. There is a variation on nurses' perceptions of patient safety culture in the different domains. Of note, the safety climate (69.52 ± 14.63) garnered the highest, followed by teamwork (67.85 ± 14.86); job satisfaction (66.83 ± 16.40); work conditions (64.34 ± 15.46); (5) management perception (62.87 ±16.51); and (6) stress recognition (57.35 ± 20.09). In terms of positive response rates, the highest rating was obtained in the domain of safety culture (71.43) while the lowest rating was observed in the domain of stress recognition (49.42). None of the domains obtained a rating of 80 percent and above while two domains – management perception (57.61) and stress recognition (49.42) obtained ratings below 60 percent.

Findings indicate the need to consider the implementation of specific quality assurance-related interventions in the areas of leadership, teamwork, communication, learning, creating a trusting, non-punitive, blame-free error-reporting environment and the use of standardized processes and guidelines geared toward the continuous improvement of patient safety culture.

Keywords: Demographics, nurses, safety Attitudes, continuous Quality Improvement

Introduction

The World Health Organization defines patient safety as, "the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum." (WHO, 2020). Patient safety is best delivered through a concept of patient safety culture characterized by: the recognition of the delicate and uncertainty-laden nature of an organization's operations coupled with the dedication to regularly carry them out in a safe manner; a working atmosphere that discourages finger-pointing and encourages reporting of errors sans the dread of rebuke and sanctions; boosting of harmonious teamwork across the board in the pursuit of interventions geared toward resolution of patient safety concerns; and, the consistent earmarking of resources to cover issues related to patient safety (Culture of Safety, 2019).

The provision of unsafe patient care in complex healthcare institutions in various continents all over the globe has resulted into a plethora of dire consequences. A staggering figure of 42.7 million adverse events have been recorded in the estimated 421 million hospitalizations that occur on an annual basis accounting for 23 million daily-adjusted-life-years (DALYs) diminished per annum (Jha et al., 2013). Within the European Union's health systems, roughly 4 – 17 percent of clients suffered from adverse events which amounted to an economic burden of approximately 21 billion euros in direct costs for the public health sector (Zsifkovits, Zuba, Geibler et al., 2016). Across 273 hospitals in England, the occurrence of six preventable patient safety incidents (i.e., deaths in low-mortality condition, pressure ulcers,

central line infections, inpatient hip fractures, venous thromboembolism and sepsis) have accounted for the yearly loss of 68 healthy life-years and 934 additional bed-days per 100,000 individuals (Hauck et al., 2017). More than 8 percent of 15,548 records reviewed among 26 hospitals in Egypt, Jordan, Kenya, Morocco, Tunisia, Sudan, South Africa and Yemen was associated with adverse events, 30 percent of which resulted into patient demise (Wilson, Michel, Owen et al., 2012). Lastly, data gathered from January 2005 to December 2010 from 82 hospitals in 30 countries across America, Asia, Africa and Europe revealed the occurrence of 7,523 surgical site infections from 260,973 surgical procedures (Rosenthal, Richtmann, Singh, et al., 2013).

In healthcare institutions, attitudes, values and behaviors are the latent components of organizational culture that determine the delivery of quality healthcare services and patient safety (Kaufman & McCaughan, 2013). Moreover, the pool of mutually shared attitudes, beliefs and values among healthcare professionals relevant to patient safety culture exerts an effect on outcomes (Weaver, Lubomski, Wilson et al., 2013). Conversely, organizational patient safety culture echoes healthcare workers' viewpoints on mechanisms, benchmarks and attitudes pertaining to a culture of avoidable errors commonly shared in the process of caring for clients (Zohar, Livne, Tenne-Gazit, et al.,2007). As such, patient safety is variably perceived by healthcare workers from diverse nationalities and by those belonging to distinct professional groups and age ranges (Alqattan, Cleland & Morrison, 2018). Hospitals that have embraced and exhibited a positive patient safety culture have likewise displayed favorable outcomes in terms of lower incidence of adverse events (Mardon, Khanna, Sorra, Dyer, & Famolaro, 2010), more positive assessments of care from clients (Sorra, Khanna, Dyer, Mardon, & Famolaro, 2012), higher consumer reports of patient safety scores (Smith, Yount, & Sorra, 2017). On the contrary, individual and organizational characteristics have repercussions on actions, demeanor, and cues that reflect unsafe delivery of care that subsequently result into personal and professional costs (Blair, Kable, Courtney-Pratt, & Doran, 2015). Such characteristics contribute to the substandard level of overall patient safety culture among hospitals in Asia (Damayanti & Bachtiar, 2019), in developing countries like Ethiopia (Kumbi, Hussen, Lette, et al., 2020) and to deficiencies or weaknesses in several domains of patient safety culture among Middle East hospitals (Khoshakhlagh, Khatooni, Akbarzadeh et al., 2019).

In recognition of the vital role inherent to nurses, their awareness of and actual immersion in daily challenges pertinent to safety culture can promote the formulation of improved strategies (Farokhzadian, Nayeri, & Borhani, 2018). Coupled with challenges currently plaguing Saudi healthcare settings characterized by a shortage in a diversified workforce, less than half of which are nationals, divergence in skill, gender discrepancies and concerns related to access (Albejaidi & Nair, 2019), it behooved the investigators to assess the attitudes of nurses towards patient safety culture in a public tertiary hospital in Hail City. This study bears significance in heeding the recommendation of the Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) for hospitals to conduct a yearly assessment of patient safety culture (National Hospital Standards, 2015) and in contributing to the under-investigated field of patient safety culture research in Hail City. Moreover, it sought to determine specific domains of patient safety culture that require improvement in order to provide specific recommendations as part of quality assurance interventions.

Methods

Study Design

This study utilized a quantitative-descriptive research design. More specifically, it described the demographic profile of the study respondents and the attitude of respondents toward patient safety culture. The study was likewise normative in nature as it identified

specific strategies toward enhancing patient safety culture in a tertiary government hospital in Hail City.

Participants

The current study involved the participation of 251 nurses generated through snowball sampling conducted in a selected tertiary government hospital in Hail City. Male and female nurses currently employed in this hospital composed the population of the study. The inclusion criteria for the study respondents to be part of the sampling frame were: (1) Saudi and non-Saudi nursing personnel; (2) with a minimum of three (3) months' experience in the hospital; and (3) a willingness to participate in the study.

Research Instrument

The study made use of a two-part questionnaire. The first part is a questionnaire which obtained information on the demographic profile of the study respondents. The second part is the Safety Attitudes Questionnaire (SAQ) which was adopted from Sexton, Helmreich, Neilands, Rowan, Vella, Boyden, Roberts, & Thomas (2006) with their permission. The distribution of indicators into the different domains of patient safety culture are as follows: (1) teamwork (indicator numbers 1 – 6); (2) safety climate (indicator numbers 7 – 13); (3) job satisfaction (indicator numbers 15 – 19); (4) stress recognition (indicator numbers 20 – 23); (5) management perception (indicator numbers 24 – 28); and (6) work conditions (indicator numbers 29 – 32). The indicators were rated by the respondents through a five-point Likert scale as follows: 5 with a verbal interpretation of "strongly agree"; 4 with a verbal interpretation of "agree"; 3 with a verbal interpretation of "neutral"; 2 with a verbal interpretation of "disagree"; and 1 with a verbal interpretation of "strongly disagree". Indicator numbers 2 and 11 were negatively worded items and were thus reverse scored. To determine the attitude of study respondents for each indicator in terms of percentages, each indicator was scored by converting the five-point Likert scale to a 100-point scale such that 1 = 0%, 2 = 25%, 3 = 50%, 4 = 75% and 5 = 100%. Accordingly, a mean score of 75 and above indicates a positive attitude in a given domain.

A positive response signifies that a respondent chose either "strongly agree" or "agree" for a given indicator, producing a score of 75 and above. Therefore, the positive response rate of a patient safety attitude domain/indicator would be equal to the number of scores greater than or equal to 75 in the domain/indicator divided by the total number of respondents. Domains/items that obtained a positive response rate of 80% and above were classified as advantageous areas, while positive response rates less than 60% were classified as improvement areas (Nguyen, Gambashidze, Ilyas, & Pascu, 2015).

Data Collection

Online data gathering was facilitated through the use of a questionnaire in Google Forms. The opening or cover section of the questionnaire served as an informed consent form that detailed the study, its procedure, aim, risks and benefits as well as voluntary participation. The research investigators coordinated with the deputy chief nurse of the selected hospital in the process of gathering the data. The online link to the questionnaire was sent to head nurses in the different units of the selected hospital and was subsequently referred to the staff nurses. Progress in the number of respondents was reported to the deputy chief nurse of the selected hospital on a daily basis. Data gathering commenced from July 09, 2020 to August 20, 2020.

Statistical Analysis

Data was coded for analysis through the use of SPSS version 22. The study respondents' demographic characteristics, safety attitudes based on perceptions of safety culture and positive response rates to patient safety culture domains/indicators were analyzed and presented using descriptive statistics in the form of frequencies, percentages, means and standard deviations.

Results and Discussion

Table 1. Characteristics of participants (n = 251)

Demographic Variable	Frequency (Percentage)
Age Range	
20 – 29	105 (41.8)
30 and above	146 (58.2)
Gender	
Male	25 (10.0)
Female	226(90.0)
Civil Status	
Single	93 (37.1)
Married/Widowed/Separated	158 (62.9)
Nationality	
Filipino	78 (31.1)
Saudi	99 (39.4)
Indian	62 (24.7)
Indonesian	1 (0.4)
Sudanese	11 (4.4)
Religion	
Christian	108 (43.0)
Muslim	134 (53.4)
Roman Catholic	1 (0.4)
Hindu	7 (2.8)
Jehovah's Witnesses	1 (0.4)
Years of Working Experience in the Institution	
Less than one (1) year	25 (9.9)
One (1) to three (3) years	58 (23.1)
Four (4) to six (6) years	76 (30.3)
Seven (7) years and above	92 (36.7)

The predominant portion of the respondents were in the age range of 30 and above (58.2%), were females (90%), and were married/widowed/separated (62.9%). Non-Saudis (60.6%) composed the majority of the respondents, with 31.1 percent and 24.7 percent representation from Filipino and Indian nationals, respectively. In terms of religion, the respondents were mostly Muslim (53.4%). With reference to years of working experience within the institution, the vast majority of respondents belonged to seven (7) years and above (36.7%).

Table 2. Respondents' Perceptions of Patient Safety Culture and Positive Response Rates per Domain/Indicator

Domain/Indicator	**Perceptions of Patient Safety Culture (%) ± SD**	**Positive Response Rate (%)**
Teamwork	***67.85 ± 14.86***	***67.07***
Nurse views and suggestions are well received in this clinical area.	68.63 ± 22.57	68.13
In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	57.37 ± 29.84	45.42**
Disagreements related to patient care in this clinical area are appropriately resolved.	67.73 ± 22.90	63.74
I have the support I need from other personnel to care for patients.	73.11 ± 17.86	79.68
It is easy for personnel in this clinical area to ask questions when there is something that they do not understand.	69.62 ± 21.12	74.10
The physicians and nurses here work together as a well-coordinated team.	70.62 ± 25.31	71.31
Safety Climate	***69.52 ± 14.63***	***71.43***
I would feel safe being treated here as a patient.	69.62 ± 22.60	71.31
Medical errors are handled appropriately in this clinical area.	72.31 ± 22.81	72.91
I know the proper channels to direct questions regarding patient safety in this clinical area.	73.71 ± 20.76	83.27*
I receive appropriate feedback about my performance	68.73 ± 20.20	71.71
In this clinical area, it is difficult to discuss errors.	58.47 ± 27.85	49.40**
I am encouraged by my colleagues to report any patient safety concerns I may have.	74.10 ± 17.94	79.28
The culture (shared beliefs and values within the organization) in this clinical area makes it easy to learn from the errors of others.	69.72 ± 18.96	72.11
Job Satisfaction	***66.83 ± 16.40***	***63.75***
I like my job.	69.22 ± 23.16	64.54
Working here is like being part of a large family	68.92 ± 23.88	68.13
This is a good place to work.	70.02 ± 22.02	70.52
I am proud to work in this clinical area.	66.73 ± 23.32	64.14
Morale in this clinical area is high.	59.26 ± 27.68	51.39**
Stress Recognition	***57.35 ± 20.09***	***49.42****
When my workload becomes excessive, my performance is impaired.	58.76 ± 28.77	53.78**
I am less effective at work when fatigued.	56.17 ± 29.01	46.61**
I am more likely to make errors in tense or hostile situations.	51.39 ± 28.42	39.84**
Fatigue impairs my performance during emergency situations (e.g., resuscitation, seizure).	63.05 ± 23.27	57.37**
Management Perception	***62.87 ± 16.51***	***57.61****
Management supports my daily efforts.	56.87 ± 27.93	44.62**
Management does not knowingly compromise patient safety.	67.13 ± 22.59	65.34

Management is doing a good job.	63.05 ± 20.65	56.57**
Problem personnel are dealt with constructively by our unit/hospital manager.	67.73 ± 20.11	69.72
I get adequate, timely information about events that my affect my work from unit/hospital manager	59.56 ± 27.44	51.79**
Work Conditions	***64.34 ± 15.46***	***61.45***
The levels of staffing in this clinical area are sufficient to handle the number of patients.	63.54 ± 25.21	59.36**
This hospital does a good job of training new personnel.	67.93 ± 21.73	66.93
All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	67.43 ± 22.08	69.72
Trainees in my discipline are adequately supervised	58.47 ± 26.09	49.80**

* Advantageous area

** Needs improvement area

The respondents' mean perceptions of patient safety culture in the different domains from highest to lowest were: (1) safety climate (69.52 ± 14.63); (2) teamwork (67.85 ± 14.86); (3) job satisfaction (66.83 ± 16.40); (4) work conditions (64.34 ± 15.46); (5) management perception (62.87 ±16.51); and (6) stress recognition (57.35 ± 20.09).

With respect to the individual indicators, the sixth indicator in the domain of safety climate garnered the highest score for perception of patient safety culture among the respondents (74.10 ± 17.94) while the lowest mark (51.39 ± 28.42) was recorded in the third indicator in the domain of stress recognition.

In terms of positive response rates, the highest rating was obtained in the domain of safety culture (71.43) while the lowest rating was observed in the domain of stress recognition (49.42). None of the domains obtained a rating of 80 percent and above while two domains – management perception (57.61) and stress recognition (49.42) obtained ratings below 60 percent.

Relative to individual indicators, the third indicator in the domain of safety climate obtained the highest positive response rate at 83.27 percent and was the lone indicator rated above 80 percent. Twelve (12) indicators obtained positive response rates less than 60 percent. These are the second indicator in the domain of teamwork, the fifth indicator in the domain of safety climate, the fifth indicator in the domain of job satisfaction, all four indicators in the domain of stress recognition, the first, third, and fifth indicators in the domain of management perception, and the first and fourth indicators in the domain of work conditions.

Discussion

The nurses' perceptions of patient safety culture in the study hospital revealed that they had less than positive attitudes toward patient safety in all six domains of the SAQ. This result was consistent with patient safety culture studies conducted locally and internationally (Alzahrani, Jones, & Abdel-Latif, 2019; Cui, Xi, Zhang et al.,2017) and were at par with international benchmark data obtained from the United States, United Kingdom and New Zealand (Sexton, et al., 2006) and China (Cui et al., 2017). However, this finding was contrary to results of a previous study among nurses in Hail City Saudi Arabia who displayed positive attitudes toward patient safety (Alshammari, Pasay-an, Alboliteeh et al, 2019).

The deficit to the cut-off score of 75 was most noticeable in the domain of stress recognition (57.35 ± 20.09). This result was similar to related previous studies (Aljadhey, Al-Babtai, Mahmoud et al., 2016). On the other hand, this finding was contrary to the results of earlier study where the mean perception of patient safety culture for the domain of stress recognition was highest (Nguyen, Gambashidze, Ilyas, &Pascu, 2015). This signifies that, in

the current study, among the different domains of the SAQ, it is in the subscale of stress recognition where improvement is most needed.

With respect to the safety attitude questionnaire's (SAQ) domain of teamwork, the mean of the respondents' perceptions of safety culture was 67.85 ± 14.86. This domain is concerned with the nature of cooperation among healthcare personnel (Sexton et al., 2006). The results showed that the second indicator "*In this clinical area, it is difficult to speak up if I perceive a problem with patient care*" obtained a positive response rate of 45.42 percent. This may be attributed to the high premium given toward accepting differences in positions of authority as well as professions and genders in Saudi Arabia (Hofstede, 2001). Deficits in communication among members of the health care team may result in fragmented delivery of care and inadequate or even futile interventions bringing about potential harm to clients (Santos, Grilo, Andrade, et al., 2010). Since members of the healthcare team require time to acclimatize themselves with each other in order to operate as a cohesive team, gain experience and build trust, team building workshops and activities geared toward enhancing interpersonal relationships and teamwork should be carried out. Programs that foster open communication as well as strategies geared toward recognition of informal networks and social structures within the workplace should likewise be implemented (Marquez-Sanchez, Perez, Agra, & Nunez, 2013). To further address teamwork and communication concerns within units, interventions patterned after the Triad for Optimal Patient Safety (TOPS) project that combines multi-disciplinary team training, a unit-based safety team to pursue safety-oriented teamwork and a mechanism for involving clients within the interdisciplinary team should be considered (Blegen, Sehgal, Alldredge et al., 2010).

The SAQ's domain of safety climate pertains to impressions of a robust, spirited and energetic commitment of the healthcare organization to safety (Sexton et al., 2006). The mean of the respondents' perceptions of safety culture for this SAQ domain was 69.52 ± 14.63. The main area of concern which states, "*In this clinical area, it is difficult to discuss errors"*, revealed a positive response (agreement) rate of 49.40 percent. This result runs contrary to the fact that 71.31 percent of the respondents perceive that they feel safe when treated as a client within their hospital. Direct training of staff that focuses on negotiation, reciprocal learning, provision of accurate feedback toward elimination of errors, group discussions as well as role-playing in scenarios where the potential for errors is high (Managheb & Mosalanejad, 2011) and the implementation of the bottom-up approach to consider solutions tendered by frontline staff (Sammer et al., 2010) are plausible interventions. Implementation of the Just Culture wherein nurses are given the green light to convey their opinions in a blame-free environment that encourages non-punitive reporting coupled by management effort to put in place systems to avert adverse events (Solomon, 2014) should be considered. Moreover, there is evidence that conducting executive walk rounds with a view toward diagnosing hazards improves safety attitudes of healthcare workers (Thomas, et al., 2005).

For the job satisfaction domain of the SAQ, the mean of the respondents' perceptions of safety culture was 66.83 ± 16.40. This domain refers to perceptions of zeal and alacrity related to work experience (Sexton et al., 2006). The study revealed that the specific area of weakness requiring rectification was related to "*Morale in this clinical area is high*" which recorded a positive response rate of 51.39 percent. Evidence has shown that healthcare professionals develop high morale and verbalized love for their work when immersed in a hospital environment that exudes family warmth (Zhao, Chang, Zhang, et al., 2019). Managers should safeguard the implementation of a system of timely and justified promotions, encourage the assignment of reasonable workloads and promote the sharing of responsibilities within a multidisciplinary team to foster job satisfaction (Buljac-Samardzic, van Wijngaarden, & Dekker-van Doorn, 2016). Accumulating evidence has revealed that job satisfaction is positively associated with organizational commitment (Alsaqri, Pasay-an, Villacorte et al.,

2020) and support geared toward nurses (Al-Hussaimi, 2008) and with teamwork (Feng, Bobay, Krejci, & McCormick, 2012).

The current investigation revealed that the mean of the respondents' perceptions of safety culture for the stress recognition domain was lowest at 57.35 ± 20.09. Concerns calling for change and improvement were specified by the following indicators with positive response rates below 60 percent: "*When my workload becomes excessive, my performance is impaired"* (53.78%); "*I am less effective at work when fatigued"* (46.61%); "*I am more likely to make errors in tense or hostile situations"* (39.84%); and "*Fatigue impairs my performance during emergency situations"* (57.37%). Work overload, stress and fatigue are recognized as factors that may affect attitudes of healthcare workers, causing them to make mistakes that jeopardize client safety (Costa & Martins, 2011). High workload and the hospital's approach to stress management have been identified as risk factors to stress among nurses (Widodo, 2018) while an improvement in patient-to-nurse ratios has been shown to decrease the risk of burnout (Aiken, Clarke, Sloane et al., 2002). It is in this context that the need to foster work-life balance to these nurses must be considered by the management (Pasay-an et al, 2014). In balancing workplace assignments, aside from effective and timely recruitment to bring on board additional workforce, management should be keen to arrange equitable distribution of workloads and sharing of responsibilities among members of a multidisciplinary team (Buljac-Samardzic et al., 2016). Support and wellness programs that have a positive effect on reducing burnout among nurses such as gratitude and thankful events, professional identity development programs, communication skills training, online programs and internet-based interventions, psychosocial training interventions, mindfulness training, yoga, meditation, relaxation, touch therapy, energy healing and a combination of the abovementioned interventions should be considered (Aryankhesal, Mohammadibakhsh, Hamidi, et al.,2019).

In terms of the SAQ's domain of management perception, the mean of the respondents' perceptions of safety culture was 62.87 ± 16.51. This domain denotes recognition and confirmation of managerial support and action (Sexton et al., 2006). The identified weakness points were highlighted by the following indicators with positive response rates less than 60 percent: "*Management supports my daily efforts"* (44.62%); "*Management is doing a good job"* (56.57%), and; "*I get adequate, timely information about events that affect my work from the unit/hospital manager"* (51.79%). These deficient scores may be attributed to a top-down hierarchical structure that may hinder frontline staff from expressing and discussing safety concerns with management (Nguyen, Gambashidze, Ilyas, & Pascu, 2015). Furthermore, although managers are recognized as having better perceptions of safety in hospitals relative to subordinates (Singer, Gaba, Geppert et al.,2003), working distantly to unit staff serves as a barrier to valuable frontline staff feedback on fostering safety (Nguyen et al., 2015) and prevents management strategies on patient safety to be effectively filtered down to unit staff. A flattened hierarchy (Sammer et al., 2010) that encourages unit staff involvement particularly during the implementation of leadership walk rounds (Thomas, et al., 2005) are measures recognized to boost perception of management. A strong hospital safety culture requires effective leadership at every level of management, from top-level managers to middle managers down to team leaders, that steers the entire organization's knowledge, awareness and adaptations in behavior toward acceptance of safety practices (Sammer et al., 2010). Management should set and reinforce standards for safe practices (Feng et al.,2015), ensure the consistent and sustained flow of two-way communication (Thomas et al., 2005), emphasize improvement and learning through continuous education and training and monitor on-going progress (Buljac-Samardzic et al., 2016) as part of interventions to strengthen nurses' perception of management.

The current investigation revealed that the mean of the respondents' perceptions of safety culture was 64.34 ± 15.46. Targeted improvement points were identified through the following

indicators with positive response rates lower than 60 percent: "*The levels of staffing in this clinical area are sufficient to handle the number of patients"* (59.36%); and, "*Trainees in my discipline are adequately supervised"* (49.80%). These below-par positive response rates may have been influenced by the rising number of COVID-19 cases being handled in the hospital during the period the study was conducted. Literature has shown that sufficient staffing that give rise to adequate nurse-to-patient ratios, close supervision of newly hired staff, routine access and availability of vital information for diagnostic and therapeutic decisions and provision of relevant training programs are interventions that augment work conditions in hospitals (Samsuri, Lin, & Fahrni, 2015). The use of cutting-edge methodologies such as simulation for teaching principles and online resources in combination with conventional quality circles for brainstorming on management of hazardous events should be considered (Azimi, Tabibi, Maleki et al., 2012). Furthermore, programs modeled after the Comprehensive Unit-based Safety program (CUSP), a multidimensional intervention that incorporates components of the science of safety training, recognition of safety hazards, involvement of top-level management, learning from deficiencies, harmonious teamwork and communication (Paine, Rosenstein, Sexton et al., 2010) should be developed, implemented and monitored.

The current study delved on quantitative measurements of the perceptions of safety culture in all six domains of the Safety Attitudes Questionnaire among nurses working in a public tertiary hospital in Hail City, Kingdom of Saudi Arabia. The inclusion of healthcare workers belonging to different professions from both public and private hospitals will generate a comprehensive multidisciplinary assessment of safety culture within various healthcare institutions in Hail and provide valuable benchmark data for comparison. Moreover, a follow-up investigation with a qualitative component that identifies healthcare workers' challenges in relation to patient safety culture may be suggested to validate the quantitative results.

Conclusion

Assessment of the nurses' perceptions of patient safety culture in the study hospital revealed that they had less than positive attitudes toward patient safety in all six domains of the SAQ. Positive response rates for the various indicators of the SAQ showed that the third indicator in the domain of safety climate was the lone indicator classified as an advantageous area while twelve indicators were classified as needs improvement areas. Findings indicate the need to consider the implementation of specific quality assurance-related interventions in the areas of leadership, teamwork, communication, learning, creating a trusting, non-punitive, blame-free error-reporting environment and the use of standardized processes and guidelines geared toward the continuous improvement of patient safety culture.

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