ORIGINAL RESEARCH

Evaluating the Impact of Hospital Accreditation on Patient Safety Culture in Saudi Arabia Healthcare Facilities

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Background: The impact of hospital accreditation on the organizational safety culture among healthcare workers, an essential indicator of patient safety, has yet to be directly quantified in Saudi Arabia's healthcare system. This study aims to investigate this impact to sustain and maintain a positive safety culture in Saudi Arabia's healthcare institutions.

Methods: A cross-sectional assessment was conducted in five public hospitals in Makkah. Three hundred forty healthcare workers participated using a self-administered questionnaire. Data were analyzed using descriptive statistics, ANOVA, one-sample *t*-test, and multiple regression for a comprehensive understanding.

Results and Discussion: Regression analysis revealed significant gender differences in patient safety ratings (B = 0.480, p < 0.001). Age positively influenced scores, with higher ages resulting in higher scores (B = 0.127, p = 0.041). The ratings were also associated with respondents' nationality (B = 0.169, p < 0.001) and education levels (B = −0.186, p < 0.001). Respondents rated disasters and training as the highest in patient safety culture, followed by facility safety and security, hazards and hazardous materials safety, utility and building safety, fire safety, and quality improvement. At the same time, leadership, commitment, and support received the lowest score.

Conclusion: This study illustrates a strong connection between accreditation and improved patient safety, emphasizing the importance of quality improvement and leadership commitment. These insights can guide policymakers and healthcare executives in Saudi Arabia and similar countries toward developing a robust patient safety culture. It stresses the importance of considering human factors and organizational culture when developing patient safety models.

Keywords: healthcare professionals, quality of healthcare, accreditation, facility management and safety, CBAHI

Introduction

Safety culture has been identified by the World Health Organization (WHO) as one of the ten human factors topics that are pertinent to patient safety.[1] In 2005, the European Union (EU) extended a framework to facilitate discussions and enhance the promotion of patient safety as a vital component of healthcare services. Patient safety culture refers to the collective behaviors and attitudes of individuals within an organization, centered upon shared ideas and values, with the aim of consistently enhancing the quality of healthcare provided to patients. It is a complex and abstract concept and a vital determinant of the healthcare organization.[2] An unwavering commitment to safety is essential for minimizing harm to patients and creating a secure working environment for healthcare personnel. Evaluating the current safety culture implemented by the management is the initial step towards enhancing a safety culture. Establishing a safety culture in the healthcare sector is crucial for ensuring a long-term commitment to enhancing patient safety. However, positive safety culture in healthcare facilities can be challenging, as attitudes and perceptions toward patient safety and

the factors influencing it differ by country.[3] The factors affecting the patient safety culture must be addressed across Arab hospital settings, and these studies need to be tailored to their unique cultural backgrounds. There is also a need to evaluate and measure against standards of operations and the status of healthcare facilities in healthcare institutions to mitigate errors that could emanate due to procedures and facilities, this enhances assurance of safety to the patients by the healthcare provider. Considering the growing need for care in healthcare institutions and the associated exposures of the patients, there is need for continuous improvement in the processes used in the healthcare institutions to meet the increasing demands of care as required by the patients to meet their expectations in line with global healthcare safety culture, and the physical environment of the hospitals.

In the past, several studies have embarked on establishing the critical areas to improve the quality of healthcare services,[4,5] to identify the associations between several organizational factors,[6,7] and to design a measurement framework by identifying performance indicators.[8] However, the results from these studies showed that quality improvement is governed by a set of complex factors, making it lengthy and costly. One way to overcome these hindrances is by certification, where organizational change in healthcare industries is much preferred through a validated accreditation framework.[9,10]

Accreditation of a hospital is the key element and priority for the improvement of either the government or private hospitals around the globe, which will increase patient safety and healthcare providers and improve the quality of service. Accreditation improves risk management, cost control, patient safety, and administrative efficiency in hospitals. Currently, international accreditation bodies assess patient safety culture by evaluating its strengths and weaknesses. They also assess the level of cooperation, organization, and management that support patient safety, as well as the frequency of incident reporting. Additionally, they identify any existing problems related to patient safety culture.[11] Accreditation is considered a necessary tool for furthering efforts to protect the safety of the health staff and maintain a high quality of care.[12] This is because it may foster higher quality management practices and enhance satisfaction with health facility services.[13]

With the establishment of the Central Board for Accreditation of Healthcare Institutions (CBAHI) in 2005, Saudi Arabia has implemented an accreditation procedure to enhance the quality of healthcare services available to patients.[14] The facility management and safety (FMS) standards are among the most notable standards of the organization. The criteria cover a variety of factors, including facility safety, fire safety, utilities, medical equipment, hazardous materials, emergency planning and plans, and security. The impact of certification on the patient safety culture in Saudi Arabia has been the subject of numerous studies.[15–20] However, neither study analyzed the impact of the accrediting program specifically using FMS indicators. Healthcare professionals sometimes overlook the quality of FMS because they assume that the engineering department is responsible for its performance.

Saudi Arabia was among the pioneering nations in the eastern Mediterranean region to adopt healthcare accreditation standards. Nevertheless, there was limited knowledge regarding the influence it exerts on the quality of patient care and the culture of patient safety. Comparing the outcomes of this process in other nations is challenging because there are differences in accreditation systems, local/regional legislation, and cultural considerations. This study was the first to conduct a comprehensive examination of the current patient safety culture in Saudi Arabia using FMS criteria.

This study aims to evaluate the quality indicators of the FMS that influence the patient safety culture in healthcare institutions in Saudi Arabia. The objective is to ascertain the factors that impact these indicators, analyze their correlations, and establish any notable disparities in their average values. The study will modify the seven components specified in the FMS portion of the CBAHI criteria in order to guarantee and improve the delivery of high-quality service. Furthermore, it revealed a correlation between the demographic characteristics of respondents and their capacity to accurately predict positive opinions of dimensions related to patient safety culture. Moreover, it raised concerns about the applicability of patient safety culture in different healthcare institutions due to accreditation and the effectiveness of safety interventions in implementing patient safety management methods more effectively.

Materials and Methods
Respondents and Procedures
A cross-sectional study was conducted in five prominent public hospitals in Saudi Arabia. The study involved a systematic random sampling of healthcare workers, including nurses, physicians, scientific and non-clinical

pharmacists, laboratory staff, and medical institution managers from different departments and units of the hospitals. All healthcare providers and managers meeting the eligibility criteria were requested to participate in this research regardless of nationality, gender, age, position, educational level, or cultural background. The following inclusion criteria for respondents and organizations were applied to this study: respondents must have completed at least one year of experience in their job in the Makkah region hospitals before they participated in this study, and all hospitals should be government hospitals, managed by the Ministry of Health (MOH), and located in Makkah, a region of Saudi Arabia. Based on the salary name and list from the MOH administration, the potential population was 7895 healthcare professionals. The sample size of 340 samples was calculated by using a 95% confidence level and the proportion of the outcome factor in the population (p) set at 50%.

Ethical approval was obtained through Makkah's Local Committee for Research Ethics for the Ministry of Health, Saudi Arabia (IRB Number: H-02-K-076-0519-120). After approval of this study, the respondents were contacted and explained regarding the study objectives. Then, written consent was collected from all respondents. Every respondent was given the chance to inquire about any aspects of the investigation, and they possessed the prerogative to discontinue their involvement in the research at any point without providing an explanation. The survey was administered to a total of 366 respondents, with a response rate of 89.6% and a confidence level of 95%.

Research Instruments

The research instrument was a self-administered questionnaire, in which its structure was adopted and adapted from the CBAHI standards, focusing on the FMS standards, and it consisted of eight sections. Using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), 48 items have been represented to establish seven first-order dimensions. The first section covers the demographic information of the respondents, while the other sections are the dimensions related to the FMS standards, namely quality improvement, leadership, commitment and support, fire safety, facility safety and security, utility and building safety, hazards and hazardous materials safety and disasters, and training.

Given that most of the respondents are Arabic speakers, the questionnaire was initially modified in English and was later converted into Arabic by a certified translator using the back-translation technique. This technique describes the translation of the translated text back into the language of the original text, come with no changes to the original text. Ultimately, a designated committee was responsible for assessing the translated measurements and confirming the most suitable version to be utilized for the current research.

A pilot test was done to assess the dependability of the instruments through the utilization of the internal consistency and reliability test. A hospital was chosen at random to conduct the pilot trial. The current study omitted this facility in order to preserve the validity of the results. The study included 40 healthcare workers occupying various professions. Both versions of the questionnaire (Arabic and English) were answered by respondents in an administration interlude of one week to evade any practicable partiality from remembering solutions based on the exposure from the first survey.

Every respondent promptly submitted their questionnaires within a week, resulting in a response rate of 100%. The Cronbach's α coefficient was computed for each item to assess internal consistency. Each sub-question demonstrated satisfactory reliability. (Refer to Table 1). Therefore, based on the recognized threshold of 0.70, all variables have internal consistent reliability, and consequently, there was no necessity to remove any items. In terms of questionnaire validation, three CBAHI surveyors specializing in the accreditation section evaluated the questionnaire and validated the software used. According to the pilot partakers, the items that needed alterations fell into the following categories: patient safety traditions, hazard assessment know-how, and movements merchandising patient safety. Changes were made according to the feedback and suggestions from respondents and committee members.

Data were collected by distributing the questionnaires, in the form of Google Forms, to 366 eligible respondents. The researchers received 340 filled questionnaires, which led to an 89.6% response rate for the study. All submitted questionnaires were checked for completeness before the data analysis. The questionnaire consisted of positive and negative worded sentences on a five-point Likert scale. The positive replies for every item are calculated, and the positive responses of the negatively worded items were inverted during the analysis. Descriptive and inferential statistics were used to analyse the data using SPSS version 25.0. Data were described using percentages and frequency tables.

Table 1 FMS Quality Dimensions and Cronbach's Alpha Value

FMS Quality Dimensions	Number of Items	Cronbach's Alpha Value
Quality Improvement	6	0.916
Leadership, Commitment And Support	10	0.995
Fire Safety	7	0.945
Facility Safety And Security	10	0.889
Utility And Building Safety	7	0.954
Hazards And Hazardous Materials Safety	4	0.917
Disasters And Training	4	0.922

Data Analysis

The demographic characteristics and responses of the respondents were analyzed using several descriptive kinds of methods: mean, standard deviation, and rates, the common measurement used in the responses to the questionnaire. A basic descriptive analysis was conducted, followed by the application of inferential statistics using the Chi-square test. The test was utilized to establish a correlation between the demographic features of the respondent and seven parameters of the study, and the resulting 95% confidence intervals (CIs) were documented. A p-value less than 0.05 was deemed to be statistically significant.

In addition, multiple linear regression statistical analyses were employed to investigate the associations between the overall score of patient safety culture characteristics and respondents' demographic data, such as gender, age, experience, position, and educational degree. Prior data analysis and statistical assumptions, including collinearity, were employed to assess the appropriateness of the regression. The data were analyzed using a significance level of 0.05. The T-Distribution test was employed to evaluate the relationship between the dependent and independent variables in the suggested hypothesis. The F-Test was used to assess the appropriateness of the model.

Results

Profile of the Respondent

Around 340 respondents, consisting of various healthcare workers with at least one year of experience, had taken part in the study. The respondents were comprised of 52.9% female, and a majority (n=183, 53.8%) were between 30 and 45 years of age, of which 48.6% held a bachelor's degree, 38.3% held PhD degrees, and the remaining had either diploma or high school qualifications. More than half of the respondents (52%) had ten years or more years of work experience, while 22% had 4–6 years of experience. Around 87% of respondents were Saudi, 18.6% were Egyptian, and the remaining were Filipino, Indian, Pakistani, and Sudan.

Distribution of Positive Responses for Seven Dimensions of FMS Quality Dimensions

By summing up the items representing agree and strongly agree, the study identified the areas of strengths and areas that require improvement. (Refer to Figure 1).

Employees Perception of Patient Safety Culture

The healthcare workers' perception of the patient safety culture scale is presented in Table 2, depicting the mean scores level of agreement of the respondents with the statements of the scales. All dimensions showed a positive means indicating that most healthcare workers in this study hospitals agreed that all FMS quality dimensions are important parts of the patient safety culture.

Figure 1 Percentage distribution of positive responses across seven dimensions of patient safety culture for survey composites.

Associations Between Patient Safety Culture and Demographic Characteristics of Respondents

The association between patient safety and demographic variables was examined using an independent sample t-test and an analysis of variance. While the FMS quality dimensions were deemed the dependent variable, other aspects were regarded as independent. A statistically significant link was seen between the respondents' perception of a positive patient safety culture and their gender. (Refer to Table 3). The mean scores on this dimension differed significantly ($p < 0.001$) between the sexes. Male respondents were more likely to indicate a good attitude toward the patient safety culture. The study indicated a significant ($p = 0.002$) correlation between respondents' ages and their perceptions of the organization's culture toward patient safety, with older participants more likely to show a more positive perception towards the patient safety culture. It also showed there is a direct correlation between years of experience in the present specialization and ratings of patient safety ($p = 0.002$). Similarly, a substantial correlation was found between respondents' nationality and their overall assessment of the patient safety culture. There was a statistically significant difference ($p < 0.001$) in the mean scores of individuals from different nations. The variation of five percent in the assessment of patient safety culture within different countries can be related to nationality. Moreover, there were statistically significant disparities seen between the groups in relation to their

Table 2 Employee's Perception of Patient Safety Culture

Patient Safety Culture Dimensions	Mean	SD	Ci (95%) For Mean	Chi-Square Test	Df	P-value
Quality Improvement	3.85	0.84	3.76–3.94	159.41	17	< 0.001
Leadership, Commitment and Support	3.80	0.83	3.71–3.89	118.18	26	< 0.001
Fire Safety	4.00	0.81	3.91–4.08	216.96	17	< 0.001
Facility Safety and Security	4.12	0.62	4.05–4.19	178.32	27	< 0.001
Utility And Building Safety	4.02	0.84	3.93–4.11	203.79	20	< 0.001
Hazards And Hazardous Materials Safety	4.03	0.83	3.94–4.12	200.49	13	< 0.001
Disasters And Training	4.23	0.76	4.15–4.31	388.35	12	< 0.001

Notes: P-value<0.05, Statistically Significant.
Abbreviations: Sd, Standard Deviation; Df, Degree Freedom; Ci, 95%-Confidence Interval.

Table 3 Associations Between Patient Safety Grade and Demographic Characteristics of Respondents (N=329)

Respondents' Demographic Characteristics	Categories	Mean	SD	T/F-Value	P-value
1.Gender	Female	3.63	0.84	−5.13	<0.001
	Male	4.09	0.76		
2.Age Groups	< 30 Years	3.55	0.78	6.37	0.002
	30–45 Years	3.92	0.80		
	>45 Years	3.96	0.91		
3. Years of Experience (Years)	0–3 Years	3.80	0.65	2.96	0.032
	4–6 Years	3.60	0.79		
	7–9 Years	3.90	0.80		
	10 Years And More	3.95	0.89		
4.Nationality	Saudi	3.77	0.85	−4.36	< 0.001
	Other	4.36	0.47		
5.Job Position	Administrative	3.56	0.94	2.88	0.015
	Doctor	4.00	0.85		
	Engineer	3.95	0.75		
	Nurse	3.76	0.74		
	Pharmacies	4.17	0.00		
	Technician	3.75	0.75		
6.Education Level (Degree)	PhD or Equivalent	4.21	0.81	8.094	<0.001
	Master's Degree or Equivalent	3.69	0.74		
	Bachelor Degree or Equivalent	3.81	0.85		
	Diploma Degree	3.77	0.68		
	High School	2.75	0.27		

Notes: P-value<0.05, Statistically Significant.
Abbreviations: SD, Standard Deviation; T/F-Value, *T*-Test/F-ANOVA.

employment position (p = 0.015). The administrative employees reported a much lower mean score compared to the health professional personnel. Furthermore, there was a significant correlation between greater levels of education and a positive perception of the organization's patient safety culture (p < 0.001).

Association Between the Dependent Variable and Independent Variables

In order to analyze the relationship between FMS quality dimensions, a matrix of Pearson's (r) correlation coefficients was computed. The findings in Table 4 showed a substantial correlation between variables of varying strengths. The magnitude of the correlation coefficient showed the significance and direction of the association between variables. Utility and building safety, as well as hazard and hazardous materials safety dimensions, were shown to have the most significant positive connection (r = 0.82, p 0.001). Three additional highly significant correlations were found by the researchers between quality improvement and leadership, commitment, and support; hazards and hazardous materials safety and disasters and training; and utility and building safety and disasters and training.

Table 4 Correlation Between Patient Safety Culture Dimensions

Safety Dimensions		1	2	3	4	5	6	7
		QI	CLS	FS	FSS	UBS	HHMS	DT
1	QI	1.00						
2	CLS	0.79**	1.00					
3	FS	0.67**	0.72**	1.00				
4	FSS	0.53**	0.55**	0.62**	1.00			
5	UBS	0.32**	0.32**	0.29**	0.71**	1.00		
6	HHMS	0.23**	0.26**	0.26**	0.65**	0.82**	1.00	
7	DT	0.29**	0.31**	0.28**	0.73**	0.75**	0.76**	1.00

Notes: **. Correlation is significant at the 0.01 level (2-tailed).
Abbreviations: QI, Quality improvement; LCS, Leadership, Commitment and Support (LCS); FS, Fire Safety; FSS, Facility safety and security; UBS, Utility and building safety; HHMS, Hazards and hazardous materials safety; DT, Disasters and training.

Table 5 Multiple Regression Analysis to Test the Impact of Independent Variables on the Dependent Variable

Independent Variables	Dependent Variable (Safety Culture Practices)			
	β (Beta)	SD	t-value	Sig.
Constant	0.372	0.835	1.985	0.048
Patient safety practices perception	0.175	0.616	3.211	< 0.001
Hospital leadership, commitment and support	0.727	0.828	17.885	< 0.001

Notes: R2 = 0.493, F= 158,379, p< 0.001. β, Coefficient; SD- SD*, Standard deviation, t-value; Sig, significant level of p < 0.05.

Multiple Regression Dependent Variable and Independent Variables

This section provides the findings of a multiple regression analysis that examines the influence of independent factors on the dependent variable. Table 5 reveals that patient safety practices perception (includes all items) (t = 3.211; p < 0.006) and leadership, commitment, and support (includes all items of this dimension) (t = 17.885; p < 0.001) were accounted for safety culture results. Furthermore, the study found the regression model was linear and statistically significant (F = 291.768, p < 0.001).

Multiple Regression Analysis of Patient Safety Culture Measures on Overall Patient Safety

The outcomes of multiple regression with independent factors and dependent variables are shown in Table 6. Quality improvement (= 0.358, p 0.001), leadership, commitment, and support (= 0.629, p 0.001), and fire safety (= 0.169, p = 0.002) were shown to be substantially linked with respondents' overall assessment of patient safety.

Multiple Regression Between the Total Score of Patient Safety Cultures and Respondents' Demographic Variables

Multiple regression analyses of the patient safety culture total score with demographic factors are shown in Table 7. All but the outcome components (safety patient culture findings) were added to determine the overall patient safety score. Patient safety culture ratings were also affected by respondents' ages, with higher ages resulting in higher scores (B = 0.127, p = 0.041). Similarly, a higher opinion of a culture of patient safety was associated with respondents' nationality (B = 0.169, p < 0.001). Low ratings in patient safety culture were also reported by individuals with lower levels of education (B = −0.186, p < 0.001).

Table 6 Analyze the Relationship Between Patient Safety Culture Measures and Total Patient Safety Using Multiple Regression Analysis

Independent Variables	Dependent Variable (Safety Culture Practices)		
	β (Beta)	t-value	p-value
Quality improvement	0.358	1.89	<0.001
Leadership, commitment and support (Hospital management support for patient safety)	0.629	13.077	<0.001
Fire safety	0.169	3.118	0.002
Facility safety and security	0.121	1.373	0.171
Utility and building safety	0.121	1.925	0.055
Hazards and hazardous materials safety	−0.128	−2.083	0.038
Disasters and training	−0.011	−0.171	0.864

Notes: R^2 = 0.660, F= 104,379, p< 0.001. β, Coefficient; t, value; p-value, significant level of p < 0.05.

Table 7 Multiple Regression Between Total Score of Patient Safety Cultures

Safety Culture	B (Beta)	T-Value	Sig.
(Constant)	3.719	34.199	0.000
Gender	0.480	5.746	< 0.001
Age (Years)	0.127	2.047	0.041
Nationality	0.169	4.421	< 0.001
Educational Level	−0.186	−4.512	< 0.001

Notes: R^2 = 0.195, F= 19.683, p< 0.001. B, Coefficient; T, Value; Sig, Significant Level of p< 0.05.

Discussions
Statement of Principal Findings

In this study, researchers examined items that were rated positively by at least 75% of respondents to determine which items signify strengths and which items indicate factors that needed development. The respondents reported the highest average score for their opinion of patient safety culture in the areas of disasters and training, followed by facility safety and security, hazards and hazardous materials safety, utility and building safety, fire safety, and quality improvement, and the lowest was leadership, commitment and support. This statistical data supports the findings that quality improvement and leadership, commitment and support are the two dimensions that need improvement in order to develop and sustain a positive patient safety culture in healthcare facilities.

The characteristics that received the highest positive score were identified as areas of strength, specifically in the domains of disasters and training. (80.5%), facility safety and security (76.6%), utility and building safety (71.8), fire safety (71.5%), and hazards and hazardous materials safety (71.3%). Moreover, the dimensions scoring the lowest were considered as areas requiring improvement were quality improvement (64.7%) and leadership, commitment and support (64.2%).

Areas of Improvement
Hospital Leadership, Commitment and Support

It was revealed that the leadership, commitment, and support dimension has the lowest score of positive response in terms of the allocation of available hospital resources to improve safety. This supports the notion that strong leadership is required for the successful implementation of a patient safety program.[21] Building the necessary culture and dedication to address the root problems that compromise patient safety is essential, and healthcare professionals may need assistance from management to improve and sustain a favorable image of the region's patient safety culture. Respondents in the current study claimed that they did not feel comfortable working in their hospitals and that they were not properly managed by management. According to the vast majority of respondents, hospital administration typically does not act until after a patient safety issue has already happened.

Wong and Hasmik[22] found that when hospital administrators express their commitment to patient safety, staff members are more likely to report adverse occurrences and have a more positive view of patient safety overall. Furthermore, deliberate strategies should be implemented to foster a blame-free culture where employees feel comfortable enough to report harmful actions without fear of retaliation. A well-defined set of harmful acts and an easily accessible and anonymous reporting system should be part of these regulations. In order to begin the process of altering the regional norm on patient safety, there is a need to change the management system from secrecy to transparency, It is crucial to transition from a culture of punishment to a culture of fairness.[23] Furthermore, it is necessary to shift the healthcare models away from relying solely on independence and individuality towards a more interdependent, collaborative, and teamwork-oriented approach.

Quality Improvement

The present study found that the patient safety culture dimension of quality improvement was the second lowest positive response in terms of the aspect of encouraging the staff to report all unsafe activity and safety issues, indicating that the health professionals felt threatened if they reported errors and due to frustration with hospital regulations.

Furthermore, it was found that top-level management must have a solid grasp of the best practices for bolstering security. The findings revealed that respondents thought their management personnel did not appropriately manage patient risk and that the healthcare facilities lacked adequate security measures. The vast majority of respondents to the survey stated that hospital administration usually waited until a patient safety issue had already happened before taking any action. The same management issues whereby the healthcare system is administered through a crisis strategy rather than a risk management method have also been observed in other Arab nations.[24,25]

Correlations Between the Dimensions of Patient Safety Culture and the Effect of the Independent Variables on the Overall Perception of Patient Safety

The study found a substantial correlation between patient safety culture practices and nearly all safety parameters. Nevertheless, the magnitude of the connections varied among dimensions. The strongest positive linear association was found between utilities and building safety, as well as dangers and hazardous materials safety. This finding indicates that enhancing the safety standards during maintenance procedures at the hospital, as well as boosting awareness about hazardous items, contributes to a favorable opinion of patient safety. In addition, there were highly significant relationships discovered between quality improvement and leadership, commitment, and support. Favorable impressions of patient safety have the potential to positively influence the attitudes of personnel towards reporting adverse events, foster a culture that avoids assigning blame, and strengthen the overall patient safety culture within the healthcare system.

Statistically significant connections were discovered between the overall perception of patient safety and three characteristics of patient safety culture: quality improvement, leadership, dedication and support, and fire safety. Therefore, it is crucial to take into account these three dimensions while aiming to enhance the patient safety culture at healthcare facilities.

Patient Safety Predictors

Six independent variables (gender, age, nationality, years of experience, staff position and education) were regressed against the overall perception of accreditation benefit, and it was revealed that all independent variables were a significant predictor of a better overall perception of accreditation benefit. Male respondents have a more favorable view of the benefits of accreditation than females, and a similar trend was observed in older respondents. According to this study, non-Saudi healthcare providers held more favorable attitudes compared to their Saudi counterparts. This could be due to their experience in a healthcare system with lower quality standards. Thus, interventions are needed to improve the perceptions of Saudi healthcare professionals and their understanding of accreditation benefits. The survey revealed that physicians had a more favorable response towards accrediting programs compared to nurses and other professional positions, however administrative workers obtained the lowest average score. The overall perception of accreditation advantages was positively correlated with the education level, direct patient contact, and tenure at the same institution. This could be attributed to healthcare personnel' strong sense of duty towards their role in caring for ill patients.

Recommendations

Based on the results of this study, the researchers have suggested the following recommendations that can be implemented at both the macro and micro levels. At a large-scale level, the majority of the measurements were generated from decisions made by management and policy. Policymakers within Saudi Arabia's national healthcare system should prioritize the utmost importance of ensuring patient safety. The responsibility for healthcare institutions is jointly with both professional and managerial staff. To do this, healthcare officials and professional staff should participate in brief training programs focused on enhancing their understanding of safety culture. This will help bridge the knowledge gap that exists between management and clinicians.

Furthermore, the inadequate allocation of personnel poses a significant risk to the well-being of patients inside the Saudi Arabian national healthcare system. Management should enhance personnel recruitment and retention by implementing additional incentives, allowances, and compensation. Leadership and commitment support pose a significant risk to patient safety. Therefore, it is imperative for healthcare officials to implement uniform patient safety protocols throughout all public hospitals in Saudi Arabia. By utilizing electronic patient records and employing the SBAR (Situation, Background Assessment, Recommendation) method, the aim is to enhance communication among healthcare practitioners and reduce errors caused by misunderstandings among healthcare staff. It is important to standardize management rules to guarantee that reporting systems, methods, and actions are uniform throughout the country.

At the micro level of healthcare facilities, measures would include the organizational practices of safety cultures. Hospital administrators should promote a culture that avoids assigning blame and instead encourages workers to report adverse events (AEs) without fear of consequences or vulnerability. Furthermore, it is recommended to create a role for patient safety officers within the senior administration of every public hospital. Incorporating patient safety officers into safety culture enhancement initiatives is essential.

The hospital culture should incorporate a comprehensive educational program for all management and clinicians, with a special focus on new staff. It is advisable for healthcare institutions to create and execute orientation programs for newly hired staff and recent graduates. All staff members should get training on AEs reporting techniques, systems, and policies during their orientation. It is important to provide comprehensive and ongoing education and training policies and programs for all staff members in order to ensure that they have the most current information and skills. This can be achieved through workshops, seminars, and conferences.

Healthcare businesses must ensure a safe working environment for staff and patients in order to enhance the quality of periodic preventive maintenance (PPM), such as providing an isolation room for medical equipment. Crucially, it must incorporate acknowledging the accomplishments of the personnel in relation to patient safety measures by means of a very effective incentive structure. Examples of rewards include promotion, certification, financial incentives, or recognition for taking initiative. Another strategy is to establish protocols for regularly assessing the patient safety culture, thereby enhancing the prompt identification and remediation of any deficiencies in the safety culture.

Healthcare facilities should prioritize improving the workplace environment by focusing on infrastructure, building safety, equipment, supplies, and security. Moreover, it is highly recommended to engage patients in discussions concerning patient safety, and if needed, they should be incorporated in the decision-making procedure at every level of organizational administration.

Given the diverse nationalities and backgrounds of healthcare personnel in Saudi Arabia, it is imperative to enhance staff cohesion. Therefore, fostering fair and inclusive environments will contribute to resolving the disharmony among the workers and enhancing teamwork. Furthermore, it is imperative for staff members, especially those who are new to the organization and come from non-Arabic backgrounds, to undergo a brief training program on patient safety conducted in the Arabic language. This will improve their engagement with patients and mitigate any misinterpretations arising from communication difficulties.

Implications for Policy, Practice and Research

An imperative aspect for any hospital is the cultivation of a positive patient safety culture, which is crucial for ensuring the provision of safe patient care through the prevention of any harm to patients. The study has ramifications for the implementation of strategies, formulation of policies, management of organizations, conduct of research, and dissemination of knowledge.

Implementing a positive patient safety culture can enhance the quality of care and reduce adverse events. Furthermore, it enhances the pleasure of patients and healthcare professionals, reduces the burnout experienced by these professionals due to feelings of shame and blame resulting from errors, and promotes a greater understanding of patient safety protocols.

Demonstrating leadership both at the individual unit level and at the broader hospital level can be crucial in recognizing and addressing potential concerns that may impact patient safety. Enhancing patients' safety in Saudi hospitals necessitates the implementation of novel tactics and regulations. It is necessary to allocate time to identify the strengths and weaknesses of patients' safety culture in order to prioritize the areas that require attention. The study emphasized the need for improvement in leadership, dedication, support, and quality improvement. Therefore, training is necessary to enhance these areas. Moreover, the findings suggested that healthcare professionals experienced apprehension in seeking clarification when uncertain, indicating a necessity for empowering healthcare workers.

Enhancing patient safety culture necessitates a profound overhaul of the work environment for healthcare personnel. The study findings suggested the necessity of implementing staffing standards that establish a maximum patient load for healthcare providers. Policymakers and administrators must establish a culture that replaces the conventional culture of shame and blame with a non-punitive and equitable culture. Implementing new protocols to enhance coordination and collaboration across different departments inside hospitals would enhance the safety of patients. Enhancing patients' safety was prioritized by focusing on the development of a structured communication system for patient hand-off and transition, improving communication between managers and staff, and ensuring proper placement of patients.Promoting the adoption of evidence-based practices in hospitals through the provision of easily accessible resources, like as databases, to ensure that nurses have access to the most current information regarding new policies and standardized, evidence-based guidelines. Based on the findings of this study, it is evident that the safety of healthcare professionals requires improvement. Therefore, it is imperative to implement strategies that guarantee the presence of sufficient safety measures for workers in order to enhance the overall safety culture for patients.

Regarding research, to the best of the researcher's knowledge, this study is likely the first of its kind in Saudi hospitals that examines the relationship between accreditations based on FMS criteria and the culture of patient safety. Given the global significance of patient safety, its implementation should be universal. Moreover, it is necessary to conduct additional studies in the future to investigate the patient safety culture and other outcome composites in various scenarios. Additionally, it is necessary to analyze the impact of implementing new methods and training programs on the culture of patient safety.

Incorporating patient safety culture into the curriculum of healthcare professionals is essential for enhancing their understanding and consciousness of patients' safety. Healthcare training programs, particularly those focused on nursing faculties, must to incorporate safety and quality enhancement skills at both the undergraduate and graduate levels.

Limitations and Future Research Recommendations

As with any research, several limitations were identified for the study. Firstly, the data was collected using a self-reporting survey leaving the interpretation to the respondent. The use of self-reporting tools may decrease the reliability of responses due to the misinterpretation of some of the items. Secondly, the current research results would have been more comprehensive if it had included multiple regions of Saudi Arabia. However, due to the lack of time and human and financial resources available to the project, the data were collected from the Makkah region, with a large population account of 6,927,477 inhabitants, which is characterized by urban and remote areas.

In addition, there was a possibility of cultural and social desirability bias, where participants may have knowingly tried to give a favorable impression of themselves and their workplaces. This could occur when respondents want to safeguard their jobs.

Lastly, there was a possibility of acquiescence bias, which is a category of response and refers to any peculiar cultural communication styles between participants to agree with all the questions to indicate a positive connotation. Acquiescence bias is more common in Middle Eastern countries, and the tendency to provide consistently agreeable or polarized answers is very high. Despite these potential limitations, this study has provided important results and contributed to the body of research on patient safety culture in public hospitals in Saudi Arabia.

In hindsight, it is important for future research to determine the significance and scope of the current study in various regions of Saudi Arabia. Additionally, it would be valuable to replicate the study in a different cultural context and background.

Conclusion

The outcomes of this work showed that accreditation leads to a constructive influence on patient safety. All dimensions of patient safety practices were considered important for enhancement, especially for quality improvement and leadership, commitment and support dimensions. As such, these findings may help to guide and lead policymakers and health facility executives in Saudi Arabia, as well as other countries with similar cultural backgrounds, in improving patient safety culture in the context of healthcare facilities. Furthermore, this study also suggests that it is essential to support healthcare professionals and integrate personnel into the developing patient safety culture as required by the standards, as it demands dedication and commitment from all leaders and staff of the hospital. Ongoing and continuous assessment of the execution of the standards must be conducted to increase the quality of essential services and patient satisfaction. Furthermore, the study indicates that there is an immediate need for intervention in the safety culture regarding patient safety at public hospitals in Saudi Arabia. The study highlighted the importance of considering human reaction and organizational culture elements when designing patient safety models for the Saudi healthcare sector. Moreover, these studies have also uncovered implications for the transferability of patient safety culture due to healthcare facilities certification and the nature of safety interventions in effectively executing patient safety management methods.

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Disclosure

The author(s) report no conflicts of interest in this work.

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