A comparison of patient safety culture at two campuses of Riyadh based dental college

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Abstract

Objectives: To identify potential shortcoming(s) in relevance to patient safety culture at dental clinics.

Methods: The cross-sectional study was conducted from March to June 2016 at two clinics of a dental teaching college in Riyadh, Saudi Arabia, and comprised subjects who had either direct or indirect contact with patients in the dental clinics. The subjects were handed over a questionnaire based on the Patient Safety Culture Hospital Questionnaire. SPSS 21 was used for data analysis.

Results: Of the 149 subjects, 96(64.4%) were male, and 130(87%) were in direct contact with patients, while 19(13%) were in indirect contact. Overall, 52(35%) subjects stated that their unit did not have enough staff to handle the workload, and 71(47.7%) said that not encountering serious errors in their unit was pure luck. An encouraging finding was that 104(69.8%) subjects said their managers appreciated them when they followed the established patient safety protocol.

Conclusion: There was a variation in the perception of patient safety culture among professionals.

Keywords: Patient, Safety, Culture. (JPMA 69: 72; 2019)

Introduction

The quality of health services provided by a healthcare organisation is largely dependent on the level of patient safety provided by the staff and the overall patient safety culture provided by the administration of that organisation. Focussing on patient safety increases the quality of healthcare services and inevitably results in a successful clinical practice.[1]

Patient safety is measured by the rate of adverse events. The term 'adverse event' denotes event which involves harm to a patient due to medical service management but which excludes disease-related complications. Adverse events in medical practice have been the highlight of research from the early 1960s.[1] A report stated that approximately 44,000-98,000 people die annually due to adverse errors occurring in the United States (US) hospitals only.[2] Another US-based study stated that around 4483 children suffered from such events due to harm caused by unsafe medical care during hospital stay. Furthermore, the total cost of preventable adverse events is estimated to be $17-29 billion annually, which is more than half of US national health cost.[3]

The book Human Error states that "error is not the cause of an event; it is the result of an event. Therefore, when an error occurs, instead of asking who was at fault, it should be asked how and why the system became ineffective".[1] Accusing individuals for errors in healthcare services is a common practice but emphasis should also be made on the quality of patient safety protocols within the system and the promotion or discouragement of patient safety culture within a healthcare organisation. Thus, it is cardinal to analyse and improve the overall system of a healthcare organisation.[1]

A recent study conducted in three US hospitals concluded that although most doctors are inclined to report harm-causing hypothetical errors, only a few have actually reported an error.[4] It is therefore necessary to identify the reasons why such errors are not reported. A study conducted in Turkey emphasised the importance of reporting errors and recommended that patient safety protocols at the healthcare centres must be updated accordingly.[5]

A recent British review article concluded that despite most hospitals having strict patient safety protocols and strategies, there is limited evidence to show any positive outcomes. Organisations are therefore advised to revisit their strategy and goals for patient safety so that the shortcomings mentioned above are adequately addressed.[6]

The current study was planned to assess the perception of respondents in relevance to patient safety culture and to identify any association(s) between the working site and

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respondent's perception.

Subjects and Methods

The cross-sectional knowledge, attitude and practice (KAP) study was conducted from March to June 2016 at two clinics of a dental teaching college in Riyadh, Saudi Arabia, and comprised subjects who had either direct or indirect contact with patients in the dental clinics. The two campuses were Munisiyah (Mu) and An-Namuthijiyah (An) of the Riyadh College of Dentistry and Pharmacy. Approval was obtained from institutional review board. Purposive (total population) sampling technique was utilised to enroll subjects. Faculty members who either did not supervise students or treat patients in the clinics and administrative staff who did not work in the clinics were excluded from the study. The respondents included dentists, dental assistants, X-ray technicians, lab technicians, medical physicians and administrative officers. The respondents were handed over a questionnaire which was based on the Patient Safety Culture Hospital Questionnaire.[7] Name of the respondent was not asked in order to maintain confidentiality and to ensure a non-biased response. The questionnaire comprised seven sections; staff members personal, professional and practice characteristics, your work area / unit, your supervisor / manager, communications, frequency of events reported, overall patient safety grade, and "your hospital" section.

The questionnaire had a 5-point Likert-type scale and items in the 'your work area / unit', 'your supervisor / manager', 'communications'and'your hospital section' were evaluated on the basis of values ranging from "strongly agree" to "strongly disagree". While, the 'frequency of events reported' section had values ranging from "never" to "always".

The data was analyzed using SPSS 21.

Results

Of the 149 subjects, 96(64.4%) were male, and 130(87%) were in direct contact with patients, while 19(13%) were in indirect contact. Overall, 73(49%) were posted in the Mu clinic and 76(51%) were at the An clinic. Further,104(69.8%) were dentists, 29(19.5%) were dental assistants, 7(4.7%) X-ray technicians, 5(3.4%) lab technicians, and the rest were support staff in dental clinics. Also, 75(50.3%) respondents were working at the respective dental institution for the past 1-5 years, and 34(23%) were working for more than 6 years (Table-1).

Cronbach's alpha was performed to measure the internal consistency reliability of the questions in the questionnaire. Some questions were omitted based on the cumulative Cronbach's alpha value of the relevant sections of the questionnaire. In section C, omitting the question "our supervisor/manager may ignore repetitive problems of patient safety" resulted in increase in the Cronbach's alpha score from 0.038 to 0.375. In section D, omitting the question "employees can comfortably mention something they saw which can negatively affect patient care" resulted in increase in the Cronbach's alpha score from 0.632 to 0.708. In section G, omitting the question "it is thought that the management seems to be interested in patient safety only when an unwanted event occurs" resulted in increase in the Cronbach's alpha score from 0.619 to 0.676.

Of the total 130(%)subjects agreed that members of their unit supported each other; 70(%)said they had enough staff in their unit to handle the workload; 113(%) said that when a lot of task needed to be completed quickly, members of their unit worked as a team; 109(%) stated

Table-1: Socio-demographic and professional characteristics of respondents.

General Characteristics	Frequency	Percent
What is your job designation		
Dentist	104	69.8
Nurse - dental clinic assistant	29	19.5
Dental hygienist	1	0.7
Lab technician	5	3.4
X-ray technician	7	4.7
Medical doctor	1	0.7
Secretary - administrative officer	2	1.3
Total	149	100.0
Education level		
High School	3	2.0
Bachelor's degree	101	67.8
Master's degree	33	22.1
Fellowship/Diploma	1	0.7
PhD degree	11	7.4
Total	149	100.0
For how many years have you been working in Riyadh Colleges of Dentistry & Pharmacy		
Less than 1 year	40	26.8
1 - 5 years	75	50.3
6 years or more	34	22.8
Total	149	100.0
Which unit do you work in		
Clinic	113	75.8
Surgery room	3	2.0
Sterilization area	8	5.4
Emergency room	2	1.3
X-ray room	9	6.0
Laboratory	9	6.0
Office	5	3.4
Total	149	100.0

Table-2: Distribution of responses for survey items.

		Frequency	Percent
When a lot of work needs to be done quickly, we work as a team			
Valid	Strongly agree	34	22.8
	Agree	79	53.0
	Neither agree or disagree	13	8.7
	Disagree	20	13.4
	Strongly disagree	3	2.0
In this unit people treat each other with respect			
Valid	Strongly agree	24	16.1
	Agree	96	64.4
	Neither agree or disagree	18	12.1
	Disagree	9	6.0
	Strongly disagree	2	1.3
It is thought that not encountering more serious errors here is linked to pure luck or chance			
Valid	Strongly agree	15	10.1
	Agree	56	37.6
	Neither agree or disagree	34	22.8
	Disagree	39	26.2
	Strongly disagree	5	3.4
Patient safety is a more prioritized principle than doing more work			
Valid	Strongly agree	41	27.5
	Agree	79	53.0
	Neither agree or disagree	13	8.7
	Disagree	12	8.1
	Strongly disagree	4	2.7
Supervisor/manager appreciates us when he/she sees a job done according to established patient safety procedures			
Valid	Strongly agree	33	22.1
	Agree	71	47.7
	Neither agree or disagree	23	15.4
	Disagree	15	10.1
	Strongly disagree	7	4.7
When an error is made that carries the potential of harming a patient but eventually does not cause harm, then, it is reported			
Valid	Never	16	10.7
	Rarely	33	22.1
	Sometimes	41	27.5
	Most of the time	32	21.5
	Always	27	18.1

that their manager(s) took their suggestions seriously to improve patient safety culture within the unit; 104 said their manager(s) appreciated them when they performed a task according to patient safety protocols; and 119 thought that patient safety was a priority for their management. When asked if they were informed about errors made within their unit, 92(61%) stated 'yes'. When asked if they faced problem(s) in information flow among different units, 99(67%) stated 'yes' (Table-2). Lastly, 45(30.2%) respondents graded their unit as 'excellent' with respect to patient safety culture, while 53(35.6%) graded 'very good', 49(32.9%) graded 'acceptable', and 2(1.3%) graded 'poor'.

A statistically significant relationship was found between the type of campus and subject's opinion on whether they worked as a team when a lot of work needed to be done quickly (p=0.037). On comparing the two campuses, An was the campus where more subjects stated that staff was enough to handle the workload (p=0.003), staff participated in activities focussing on patient safety (p=0.002) and managers took employees suggestions seriously in order to enhance patient safety (p=0.029). Interestingly, Mu was the campus where more subjects stated that errors which could harm the patient were usually reported (p=0.013). As both the campuses had male and female respondents, therefore, comparison was not based on gender.

Discussion

Research on patient safety is a relatively new phenomenon in Arab countries.[8] Now, accreditation organisations assess patient safety culture in healthcare organisations by evaluating the perception and behaviour of healthcare workers on issues such as teamwork, management's role, level of staffing, incident reporting, and other patient safety issues to promote the culture.[9] Thus, efforts are being made by healthcare organizations in the Kingdom of Saudi Arabia (KSA) to improve the quality of patient care and to provide an exceptional patient safety culture.[8] As part of this effort, we utilised a validated questionnaire to assess patient safety culture in the dental clinics of our institution. This questionnaire was utilised to assess patient safety culture at numerous US-based national and international medical hospitals[7,8] but the originality and novelty of our research lies in the fact that till date this questionnaire has not been utilised to assess patient safety culture in a dental hospital solely.

Teamwork is cardinal in ensuring a methodical approach to patient care. One unit increase in the score on teamwork within a hospital improves the patient safety culture score of that hospital.[10] Thus, teamwork within a department has a positive effect on the patient safety culture.[11] In an Ethiopian study, 82%of the respondents stated that they worked as a team within their unit.[10] Similarly, a KSA study showed a positive response in relevance to teamwork.[12] Findings of our study are inline with these studies as most of our respondents (75.8%) stated that members of their unit worked as a team. Interestingly, a study showed that physicians tend to emphasise on teamwork more when adverse incidents occur, and consider the issue to be resolved as a team compared to other healthcare professional groups.[13]

A factor which ensures a well-coordinated teamwork is the number of members within a unit. In hospitals where the number of healthcare workers is lower than optimum to provide patient care, most staff are overworked and exhausted, which may decrease the performance, leading to poor patient care.[14] According to the Ethiopian study, the patient safety culture score increases by 1.32 for every unit increase in the score on the level of staffing.[10] Similarly, studies conducted in Lebanon[11] and Riyadh[8] showed an improved patient safety culture due to a higher score on staffing. In our study, 35% respondents stated that they did not have enough staff within their unit to handle the workload. In comparison, 22% respondents in another KSA-based study stated that they did not have enough staff within their unit.[15]

Another factor crucial for efficient teamwork is respect between members of a unit. As many as 64% of our respondents stated that in their unit people treated each other with respect. In comparison, 68% respondents in an earlier study stated that in their unit people treated each other with respect.[15] Literature has shown that fear of humiliation can negatively affect patient safety culture by being the reason behind not reporting errors.[16] This signifies the importance of respect between peers and managers.

Poor communication among members of a healthcare team undermines the patient safety culture of that organisation.[17] Subjects of our study were asked whether they were informed about the errors made within their unit. Around 62% subjects stated that they were informed. For every unit increase in the score of communication between the staff members of an organisation, the patient safety culture score of jumps up.[10] However, an unhindered and straightforward communication is not always easily achievable. A study showed that 58% nurses had been in situations where they felt insecure to speak up to colleagues or that nobody responded to what they had to say.[18] Another study observed that junior staff, such as trainees and nurses, feel discouraged to challenge decisions made by senior staff such as physicians for fear of being criticised. Communication problems within an organisation should be addressed, at individual, unit and organisational levels, and steps should be taken by the administration to improve communication among team members.[19] Some actions recommended to limit communication barriers are, teaching effective communication skills, training units together, promoting teamwork with protocols and procedures, and creating an organisational culture that supports cross-disciplinary impartiality among healthcare team members.[20]

Crucially, 33% subjects in our study stated that when an error was made that carried the potential of harming a patient but eventually did not cause harm, then it is either rarely or never reported. Around 40% stated that such an incident was mostly or always reported. In comparison, 63% subjects in a study stated that such an incident was mostly or always reported.[15] Meanwhile, in our study only 29% respondents stated that when an error was made that did not carry the potential of harming a patient, then it was mostly (12.8%) or always (16.1%) reported. Almost 44% respondents stated that it was rarely or never (11.4%) reported. In comparison, 54% subjects in a study stated that such an error was mostly or always reported.[15] These findings point to the fact that not all the errors were reported. Multiple factors might play a role in these finding. For instance, 'teaching status' of a hospital might be a reason of a gap in patient safety.[21] It might be plausible that in teaching hospitals, occasionally, incidents are not conveyed to the supervisors by the students. 'Fear of blame' might be another reason behind decline in error reporting, as shown by a study in which nurses felt that they would be punished for making an error, thus, were afraid of reporting an error.[22] These findings were validated by an Ethiopian study in which 'non-punitive response to error' and 'frequency of event reporting' had the least positive response rate. And, subjects who reported an error either orally or in written format improved the patient safety culture score three-fold compared to those who did not report.[10] This finding is also in harmony with the result reported in Lebanon[11] and Sweden.[23]

In our study, most of the subjects (80.5%) stated that patient safety was a more prioritised principle in their unit compared to doing excessive work. In a study, 56% subjects said so.[15] Importantly, 48% of our respondents stated that not encountering serious errors in their unit was linked to pure luck. In comparison, 23% subjects in the other study said so.[15] We request the managers of our dental clinics to ponder onto this finding. In line with literature, we highly recommend the establishment of a 'never event' list at dental institutions, whereby a 'never event' is defined as "a serious, largely preventable, patient safety incident that should not occur if the available preventable measures were implemented by healthcare workers".[24] Commitment from management is considered one of the predictors for a strong and positive patient safety culture.[14]

An encouraging point in the current study was that 17% respondents strongly agreed and 56% agreed with the statement that their managers took their patient safety suggestions seriously, and around 70% respondents stated

that their managers appreciated them when they performed a procedure according to the safety protocols. Lastly, a statistically significant difference was found between the two campuses in terms of subjects' perception and implementation of patient safety culture. We believe that this difference might be because of different management and dental supporting staff at the two campuses.

The limitations of this study were plausible bias in response because of the subject-based nature of the study, limited sample size, lack of comparison between general characteristics of the respondents such as gender with respondents' perception, and, finally, inability to perform a multi-centre study.

Conclusion

There was variation in the patient safety culture's perception of employees of different campuses of the same organisation. These findings should be taken seriously by decision makers so that they could enhance the quality of healthcare services provided by their respective organisations.

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