Original Article

The perception of safety culture among nurses in a tertiary hospital in Central Saudi Arabia

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ABSTRACT

Developing a patient safety culture was one of the recommendations made by the Institute of Medicine (IOM) to assist hospitals in improving patient safety. Nurses are the key to safety improvements in hospitals. It is necessary to know their awareness and perception regarding institutional safety climate.

The aim of this study is to explore perceptions of patient safety among nursing staff in a tertiary hospital in Central Saudi Arabia in different discipline units.

The current study was conducted at Prince Sultan Military Medical City (PSMMC), a tertiary center in Riyadh, Central Saudi Arabia. In November 2014, five hundred nurses were randomly selected to participate in this study. A survey questionnaire with Likert scale was adopted covering characteristics of participants together with their views on patient safety issues.

Two hundred and twenty-four participants filled the questionnaire with a response rate of 44.8%. The overall perception of patient safety among participants was (57.9%). The majority (74.1%) thought that the existing system is good at preventing errors and only one third indicated that they have patient safety problems. Most of the participants were happy with the existing patient safety culture including organizational learning/continuous improvement (95.5%), and errors feedback and communication (76.64%).

In conclusion, this study showed that perception of patient safety was sub-optimal among nurses and there are several areas for improvement regarding safety culture.

Keywords:

Adverse events; Patient safety; Perception; Work environment.

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INTRODUCTION

Patient's safety is thought to be a major health concern worldwide that needs a systematic and continuous effort on its evaluation and improvement. In order to assist hospitals in improving patient safety, the Institute of Medicine (IOM) recommended measures to adopt a patient safety culture. In 1999, the report To Err is Human by Linda Kohn was published [1]. This report showed that between 44 000 and 98000 patients die each year due to medical errors that could have been prevented under better and careful conditions. Millions of patients worldwide suffer injuries or death every year due to unsafe medical care [1]. Unfortunately, avoidable medical errors are responsible for killing many people in hospital [2]. Patient safety is a crucial issue in medicine aiming at reducing deaths and health adverse effects caused by preventable medical errors [3]. Research efforts in various countries have focused on assessing safety culture [4- 9].

To have a strong safety culture a leadership committed to learning from errors, document and improve patient safety, and encourage teamwork is essential. Also, identification of potential hazards and involving staff as stakeholders improves safety and prevent errors. [10-13].

The generation of a safety culture in institutes includes an evaluation of the current nurses and doctor's perception of safety. Otherwise, safety precautions implemented without a prior assessment may increase costs and cause unpredicted new risks [14].

Here, we determined to examine quality and culture of patient safety in the Saudi healthcare context and to identify areas for improvement.

MATERIALS AND METHODS

This study was conducted at various units (medical, surgical, adult and pediatric intensive care, pediatrics, accident and emergency, and orthopedics) at Prince Sultan Military Medical City (PSMMC). In November 2014, a sample of 500 nurses was recruited. A Questionnaire with Likert scale was adopted. In this scale, the response for items was on 5- point ranging from strongly disagree (1) to strongly agree (5). The hospital survey of patient safety (HSPS) [15] was modified for this study. It consists of 14 dimensions, 10 were safety culture dimensions and 4 were outcome variables. The questionnaire is divided into six parts covering the socio-demographic background of the participants, work unit dynamic and culture, supervisor attitudes and perception, communication, hospital safety culture, and events reported and their frequency.

All participants were selected randomly from the targeted services. Participants were selected from the nurse's list in different units using a computer-generated table.

Statistical analysis was done using Statistical Package for Social Science (SPSS, Version 20). Quantitative data were expressed as the mean and standard deviation. Qualitative data were expressed as number and percentage. A p-value less than 0.05 was used to determine the level of significance. Approval was obtained from PSMMC research center. All participants were asked to sign consent and were given a cover letter explaining the purpose of the study and direction for completing the survey.

RESULTS

Total of 224 nurses responded with a response rate of 44.8%. Table 1 shows that most participants were females 188(84%), non- Saudi 187(97%), staff nurses 200 (90%), and with bachelor level of education191 (93.2%). Most of the participants were working in surgery, pediatrics and accident and emergency units (Table1). The Overall perceptions of safety amongst nurses are shown in (Table 2). Seventy four percent of the participants thought that patient safety is never sacrificed to get more work done and that the hospital systems are supporting to prevent errors from happening (62.9%). Thirty percent of the respondents indicated that they have patient safety problems in their units. Table 3 shows patient safety culture composites which ranges from (43.5 % to 73 %), with 73 % of the Participants strongly agree that the team work in their unit is an area of strength for supporting the patient's safety. However, 43.5% believe that their Supervisor and manager expectations and action promoting patient safety is an area for improvement

to maximize the patient safety. Overall 59.9% had a positive response regarding the perception of safety. Most participants thought that their work units were good in preventing errors by implementing measures to improve patient safety (Table 4). The overall frequency of reporting events was high in the participants work units (Table 5). Regression analysis (Table 6) shows that staffing and non-punitive response was the main two variables contributed to the overall patient safety.

Table 1 - Demographic Characteristics of the participants

No	Variable	Category	frequency	%
1-	Gender	Male Female	34 188	16 84
2-	Nationality	Saudi Non-Saudi	7 187	3 97
4-	Age	20-30 year 30-40 years 40-50 years More than 50 years	128 64 12 14	59 29 5.5 6.5
5-	position	Head nurse Charge nurse Staff nurse PCA	4 15 200 3	1.8 6.8 90 1.4
6-	Qualification	Bachelor Diploma	191 14	93.2 6.8
7-	Hospital experience	Less than 1 year 1-5 year 5-10 year More than 10 year	34 122 34 33	15.2 54.7 15.2 14.9
8-	Duration of working in the unit	Less than 1 year 1-5 year 5-10 year More than 10 year	46 126 31 20	20.6 56.5 13.9 9
9-	Do you have direct contact with patients?	Yes No	214 9	96 4
10-	Numbers of working hours per week	40-59 hour /week 60-79 hours /week 80-90 hour /week More than 90 hours /week	184 32 3 1	83.6 14.5 1.4 0.5
11-	Primary work area/ unit	Medical Surgical Pediatrics A&E Orthopedics Urology Others	29 50 65 41 10 7 20	13 22.5 29.3 18.5 4.5 3.2 9

Table 2 - Overall perceptions of safety among participants

variables	Strongly disagree/ disagree	Neither	Strongly agree/ agree	Average positive response
Patient safety is never scarified to get more work done	38	16	166	166(74.1%)
we are good in preventing error before happing by applying the policies and procedures	28	48	141	141(62.9%)
It is just a luck that more serious incidents do not happen here	37	57	117	37(16.5%)
We have patient safety issues in our unit	68	57	92	68 (30.3%)
Total score	19.6	20.5	59.9	59.9(26.74%)

Note: Items in this table were adapted from (HSPS) [15, 16].

Table 3 - The constituent of patient safety culture

Patient safety culture composites	Strongly disagree/ disagree	Neither	Strongly agree/agree	Average % positive response
Non-punitive response to error	11.5	20.5	68	68%
Staffing	11.5	15.75	72.75	72.75%
Overall perception of safety	19.6	20.5	59.9	59.9%
Frequency of reported events	18	20	62	62%
Supervisor and manager expectations and action promoting patient safety	44	12.5	43.5	43.5%
Communication and Feedback about errors	12.75	41.50	45.75	45.75%
Team work with in units	15	12	73	73%

Note: Items in this table were adapted from (HSPS) [15, 16].

Table 4 - Participant's response to various survey items

No	Item	Strongly disagree/ disagree Never/ rarely	Neither Some times	Strongly agree/agree Most of the time/always	Average Positive response
1-	Staff support each other's in our unit	8	12	199	199 (88.8%)
2-	Staff handling work is enough in our unit	111	53	55	55 (24.5%)
3-	We work as a team in our unit	5	18	196	196 (87.5%)
4-	Staff respect each other in the unit.	8	23	191	191 (85.2%)
5-	We work longer hours that may affect patient's care	16	25	174	16 (7.1%)
6-	We work hard to improve patient safety	4	5	214	214 (95.5%)
7-	Staff feel that mistakes can be held against them	38	51	132	38 (16.9%)
8-	Mistakes in our unit led to positive changes.	26	26	168	168 (75%)
9-	It is just by luck that more serious mistakes don›t happen in our unit	37	57	117	37 (16.5%)
10	When one area becomes busy, others help	7	30	187	187 (83.4%)
11	When an incident is reported, one feels that the person is being written up, not the event.	34	48	135	34 (15.1%)
12	we evaluate the effectiveness of changes we made	7	23	193	193 (86.1%)
13	Sometime we do too much work, too quickly.	34	44	140	34 (15.1%)
14	Patient safety is never sacrificed to get more work done	38	16	166	166 (74.1%)
15	staff worry that mistakes are kept in their records	13	39	167	13 (5.8%)
16	We have patient safety problems in our unit	68	57	92	68 (30.3%)
17	Our rules and procedures are good in preventing errors	28	48	141	141 (62.9%)
18	supervisor ignores patient safety issues that recurs	195	16	12	195 (87%)
19	when we have work pressure, our supervisor pushes us to work faster, even if it threatens patient safety	164	27	31	164 (73.2%)
20	Our supervisor takes suggestions seriously for improving patient safety	20	28	174	174 (77.6%)
21	Our supervisor acknowledges us when a job is done according to our policy and procedures for patient safety	17	38	167	167 (74.5%)
22	Feedback is given about any changes resulted from incident report.	33	107	75	75 (33.4%)
23	Staff speak up freely when patient safety is affected	24	79	120	120 (53.5%)
24	In our unit, we are informed about errors that happen	11	34	177	177 (79%)
25	We feel free to discuss decisions taken in our unit	30	90	102	102 (45.5%)
26	We discuss ways to prevent errors recurring	3	40	179	179 (79.9%)
27	Staff are afraid asking questions about wrong things	78	116	29	78 (34.8%)
28	How often is a mistake reported when it did not affect patient?	14	38	172	172 (76.7%)
29	How often is a mistake reported when it did harm patient?	17	37	180	180 (80.3%)
30	How often is a mistake reported when it could harm patient but does not?	19	45	151	151 67.4%)
31	Hospital management provides a work climate that promotes patient safety	23	52	147	147 (65.6%)
32	Hospital units do not coordinate well with each other	90	59	73	90 (40.1%)
33	Things "fall between the cracks" transferring patients from one unit to another.	53	83	77	53 (23.6%)
34	There is good cooperation between hospital units that required to work together.	32	46	144	144 (64.2%)
35	Important patient care information is often lost during shifts changes	126	54	42	126 (56.2%)
36	The action of hospital management indicates that patient safety is a top priority.	18	35	165	165 (73.6%)
37	Hospital management seems interested in patient safety only after an adverse event happens.	89	46	87	89 (39.7%)
38	Hospital units work well together to provide patients with the best care.	18	33	171	171 (76.3%)
39	Shift changes usually causes problems for patients in this hospital	132	57	32	132 (58.9%)
40	Problems often occur in exchange of information across hospital units.	70	72	73	70 (31.2%)

Note: Items in this table were adapted from (HSPS) [15, 16].

Table 5 - Frequency of events reported by nurses

Frequency of events reported	Never/rarely	sometimes	Most of the time/always	Average positive response (%)
When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	14	38	172	172 (76.7%)
When a mistake is made, which did not harm the patient, how often is this reported	17	37	180	180 (80.3%)
When a mistake is made that could harm the patient, but does not, how often this is reported.	19	45	151	151 (67.4%)
Total score	18	20	62	62 (27.6%)

Note: Items in this table were adapted from (HSPS) [15, 16].

Table 6 - Regression analysis of the determinants of overall patient safety score

variable	SE	Standardized coefficient B	t-test	Statistical significance
Constant	5.555	1.976	2.811	0.005
Non-punitive response to error	.394	.091	4.322	0.000
Staffing	.234	.106	2.209	0.028
Frequency of events reported	.076	.076	.998	0.319
Supervisor and manager expectations and action in promoting patient safety	.044	.112	.398	0.691
Communication and feedback regarding errors	.027	.055	.494	0.622
Team work in units	.028	.082	.336	0.737

Adjusted R2 =.113 R=0.370, F=5.696, p=.000
Note: Items in this table were adapted from (HSPS) [15, 16].

DISCUSSION

This study examined the patient safety culture among nurses working in a tertiary center in Saudi Arabia trying to identify areas for improvement. Patient safety is the most important component of health care quality. Although patient safety is the responsibility of all health care workers, it is generally believed that nurses are the cornerstone in the implementation of the patient safety initiatives [14,16-17]. This study showed that the perception of most of the patient safety by participants was sub-optimal. However, most of the nurses thought that the existing policy and procedures in their institute are good at preventing errors from happenings. This contradiction could be explained by the fact that the policies and procedures have been revised extensively in the last few years to improve the quality of the delivered services. This has been boosted by the preparation for an international accreditation of the institute. These positive changes may need some time to be translated into a better patient safety environment. Our findings agreed with the previous research that showed the nurses perception of patient safety is low [14,16-17].

In this study, most of the participants have positive views regarding patient safety. Also, participants have a positive response regarding errors reporting. However, when it comes to feedback and communication regarding event reporting, the participant's response was equivocal. Therefore, we think that feedback and communication is an area for improvement in this institute as learning from mistakes augments patient safety in the future. Interestingly, most of the participants in this survey indicated that errors reporting was high among nurses especially when the event did not cause harm. This disagrees with the findings of other studies which showed under reporting of errors especially when harm occurs for different reasons including blame and fear [17,19-22].

Leadership plays a major role in promoting safety and encouraging team work which has a positive impact on the quality of service delivered by the institute [14-16]. Participants in this study had a positive response regarding their leadership support, reaction to error reporting and promotion of safety culture at large.

In conclusion, this study showed that perception of patient safety was sub-optimal among nurses and there are several areas for improvement regarding safety culture.

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