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Research Article

A STUDY ON PATIENT SAFETY CULTURE AMONG NURSES IN A TERTIARY CARE HOSPITAL OF PUDUCHERRY

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ABSTRACT
Patient safety culture is an important measure in assessing the quality of health care. There is a growing recognition of the need to establish a culture of hospital focused on patient safety. The current study aimed to assess the Nurses Perception of Safety culture in their respective working units. The study was conducted in a tertiary care hospital of Puducherry among 141 randomly chosen nurses. Hospital Survey on Patient Safety culture Questionnaire was used to collect data regarding safety culture among nurses. Collected data were analysed using SPSS using appropriate descriptive and inferential statistics. The mean age of the subjects was 30.2 years. Of the total 9 dimension assessed to measure the safety culture; team work within units was rated positively by 80.2% of the subjects followed by supervisors action prompting patient safety i.e. 74.7%, the least positively rated dimension was non punitive response to Errors i.e.42.7%. Overall only 12.7 % of the nurses reported excellent level of safety culture in their units, whereas majority reported only acceptable level of safety culture i.e. 31.9%. Examining the safety culture of our hospitals can help to identify the existing gap in the system. The current study explored the areas that should be fixed to improve the safety culture of our hospitals. Future studies focused on patient safety events along with patient safety culture may yield more findings.

Keyword: *Patient Safety Culture; Nurse; Hospitals*

INTRODUCTION
Patient safety is an important component of health care quality. Patient safety, including the measurement of patient safety culture is a top priority in developed countries today (Aspden *et al.,* 2004). Research shows that safety and efficient care requires all the various elements of a health care system be well integrated and coordinated (Reid *et al.,* 2005 & Hughes *et al.,* 2005). Patient safety in the context of health care organizations was highlighted following the Institute of Medicine (IOM) report "To Error is Human: Building a Safer Health System" (Kohn *et al.,* 1999). This report argued for a safety culture in which adverse events can be reported without people being blamed and that when mistakes occur that lessons are learned. Therefore, if hospitals want to improve patient safety, it is important to know more about the views of their staff in relation to the culture of patient safety. Patient safety culture, also referred to patient safety climate, is the overall behaviour of individuals and organizations, based on a common set of beliefs and values that are aimed at reducing the opportunities for patient harm (Schein, 1985& Ronald, 2005). Related research shows that when a positive patient safety culture exists, it will promote patient safety and help to improve patient safety standards, including the capacity and willingness to report minor errors, self-reporting errors, safety behaviours and safety audit rating (Clarke, 1999, Zohar, 1980 & Zohar, 2000). To date, many developed countries have initiated the research into the role played by patient safety culture. But in a developing country like India research in this vital area is still limited. India has faced several high-profile incidents in which the safety of patients was grossly neglected. These include the deaths of 14 patients in the J.J. Group of Hospitals following the administration of contaminated glycerol, an incident that was probed by the 1997 Lentin Commission (Visvanthan, 1999), the report of which held the physicians liable; the Hepatitis B epidemic in the district of Sabarkantha, Gujarat in which 94 persons died (Gandhi, 2009) the deaths of 18 pregnant women at Umaid Hospital in Jodhpur; (Gupta and Srinivasan, 2012) and most recently, the fire at the AMRI hospital and Administration of Hepatitis Vaccine instead of Polio Vaccine in West Bengal (Nagral, 2012). Investigating these incidents alone may not help in reducing these adverse events in future. It is very

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important to know the attitudes and belief of the health works in relation to patient's safety first. A strong patient-safety culture has been shown to be a successful predictor of medication errors and falls injuries outcomes for AHRQ-patient-safety indicators treatment errors, and accidents and injuries in the work place. It is very important to assess the safety culture of our hospital to plan intervention programme to curtail adverse events related to patient safety. Nurses being the front line care provider, spend most of their time in direct patient care activities than any other professionals. Hence it's in important to understand the safety culture behavior prevailing among our nurses to ensure patient safety. Hence the current study tried to explore the safety culture prevailing among nurses working in Indian setting.

MATERIALS AND METHODS

The present study was conducted in a Tertiary care hospital of Puducherry U.T between January to March, 2013. 141 Subjects were chosen randomly from the nurse's attendance register who fulfilled the following inclusion criteria a) Nurses who were working in the current setting at least for the past 6 months.b) Nurses with grade II and Grade I designation and c) Nurses who consented to participate in the study. Every subject was explained about the study purpose and informed consent was obtained before actual data collection. Formal Ethical clearance to conduct the study was obtained before the subject's recruitment.

Tools and Techniques

To collect data regarding patient safety culture, Hospital Survey on Patient Safety Culture (HSOPSC) tool was used. It was developed by Agency for Healthcare Research and Quality (AHRQ) in 2004. It is a 32 items questionnaire with 10 dimension that measure the different aspect of patients safety culture. Those were as detailed in Table 1

Table 1: Dimension of Safety culture

Dimension of Safety culture	Items
Teamwork Within Units	4
Supervisor/Manager Expectations & Actions Promoting Patient Safety	4
Organizational Learning—Continuous Improvement	3
Management Support for Patient Safety	3
Feedback & Communication About Error	3
Communication Openness	3
Teamwork Across Units	4
Staffing	4
Non punitive Response to Errors	3
Overall patient safety Grade	1

Items were scored using a five-point scale reflecting the agreement rate on a five-point frequency scale. The percentage of positive responses for each item was calculated; negatively worded items were reversed when computing percent positive response. The reliability and validity of the tool was well established and reported elsewhere (Sorra and Nieva, 2004)

Data Analysis

The data collected were abstracted in the spread sheet and analyzed using SPSS for windows version 14. Descriptive statistics like frequency, Mean, Standard deviation and percentage were used to express demographic data and dimension of safety culture. Pearson correlation coefficient was used to find out the relation within different dimension of safety culture and Independent t test was used to find out association of safety culture with demographic variables.

RESULTS

The mean age of the subjects was 30.2 years. Majority of the subjects i.e. 50.3% of the subjects were working in medical units with professional experience less than 1 year but more than 6 months (48.2%).

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Most of the subjects were with Sister Grade II designation (65.2) involved in direct patient care with a diploma degree in nursing (72.3%).More details regarding demographic characteristic can be found in Table 2

Table 2: Demographic characteristics of the subjects n=141

Demographic Variable	Frequency	Percentage
Working Area		
• Medical Unit	71	50.3
• Surgical Units	56	39.7
• Others (Diagnostics, Administrative)	14	10
Professional Experience		
• <1 year	68	48.2
• 1-5 year	62	43.9
• More than 5 years	11	7.9
Position		
• Sister grade II	92	65.2
• Sister Grade I	49	34.8
Education		
• Diploma Holder	102	72.3
• Degree Holder	39	27.7
Professional experience in the same unit		
• <1 year	65	46
• 1-5 year	56	39.7
• More than 5 years	20	14.3
Working Hours per week		
• ≤ 40 hours	69	48.9
• >40 hours	72	51.1

Dimensions of Patient Safety Culture

Of the different dimension assessed Teamwork within Units (80.2%) were the highest positively rated dimension followed by Supervisor Actions Prompting patient safety (74.7%) organizational learning continuous improvement (72.1%), communication openness (71.2%), Teamwork Across units(68.3%), Feedback and communication about error (68.2%), management support for patient safety (53.1%), Staffing(52.1%), and non punitive response to Errors (42.7%). More details can be found in **Table 3.**

Table 3: Response rate on Different Dimension off Safety Culture n=141

Dimensions of safety Culture	Mean	Standard deviation	Positive response rate (%)
Teamwork Within Units	10	2.3	80.2
Supervisor/Manager Expectations & Actions Promoting Patient Safety	8	1.7	74.7
Organizational Learning—Continuous Improvement	6.5	3.2	72.1
Management Support for Patient Safety	4.5	1.6	53.1
Feedback & Communication About Error	5.7	1.2	68.2
Communication Openness	6.1	2.7	71.2
Teamwork Across Units	5.8	1.4	68.3
Staffing	4.6	1.7	52.1
Non punitive Response to Errors	3.2	0.7	42.7

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Overall Patient Safety Grade

While asked to rate the overall all patient safety grade in their respective units only 12.7% of the subjects reported that the patients safety action were excellent, whereas majority reported the patient safety action to be only acceptable (31.9%) More details can be found in Figure 1

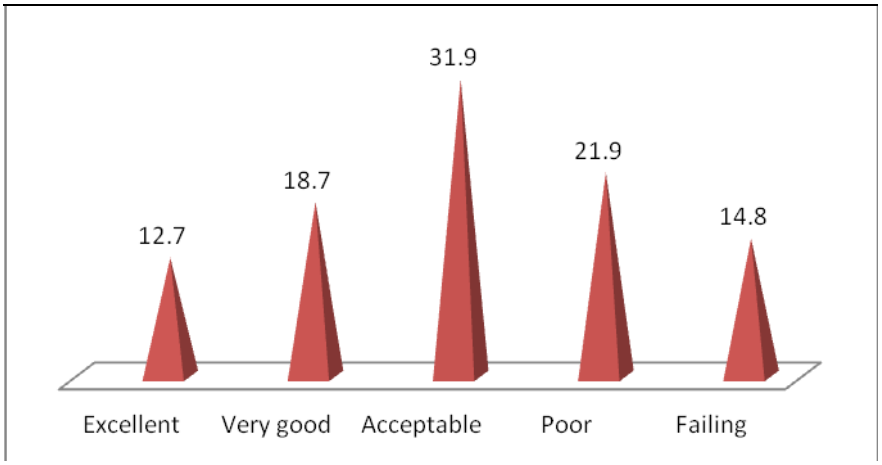

Figure 1: Grading of Patient safety Action

Relationship between Patient Safety Actions with Different Dimension of Safety Culture

While assessing the correlation between different dimensions of safety culture with Overall all patient safety grade done by the subjects, every dimension was found to have a positive correlation with the overall patient safety grade. Details can be found in Table 4.

Table 4: Correlation between patient safety culture dimensions n=141

Dimension of Patient safety culture	Pearson's Correlation Value	P value
Teamwork Within Units	0.725	0.001
Supervisor/Manager Expectations & Actions Promoting Patient Safety	0.426	0.05
Organizational Learning—Continuous Improvement	0.612	0.003
Management Support for Patient Safety	0.428	0.01
Feedback & Communication About Error	0.529	0.003
Communication Openness	0.553	0.04
Teamwork Across Units	0.473	0.02
Staffing	0.328	0.001
Non punitive Response to Errors	0.324	0.04

Association between Demographic Characteristics and Patient Safety Grade

While trying to associate the different safety culture dimension with the overall all patients safety grade no association was found between the variables.

DISCUSSION

The current study explored the prevailing safety culture in relation to patient in a tertiary care hospital of pudhucherry U.T. This the first of its kind conducted exclusively among nurses. This adds its strength. The study found team work within the units to be rated highly by the subjects, which signifies the importance of team work contributing to patient safety. The least reported response in relation to patient safety was Non punitive response to errors, this finding demand the creation of a blame free environment for reporting errors in relation to patient care. These findings were similar to the findings of Hala *et al.*,

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2011. Unless a blame free environment is created the root cause of the incidents related to patient safety cannot be explored. Overall rating of patient safety grade in our study was in contrast to the findings of western studies but more similar to results of Asian studies. (Yanli, 2013) The positive correlation which existed between the dimensions of safety culture with the overall patient safety grading denotes the direct relation between the two concepts. It can be comparable with the finding of a western study (Fitzpatrick, 2010 & Neal, 2000) which indicated a strong patient-safety culture to predict medication errors, falls injuries, outcomes for AHRQ-patient-safety indicators, treatment errors and accidents and injuries in the work place. Previous studies have reported association between demographic characteristics and patient safety dimensions. But in contrast in the present study no such association was found, it may be due to lesser sample size.

Conclusion

Examining the safety culture of our hospitals can help to identify the existing gap in the system. The current study explored the areas that should be fixed to improve the safety culture of our hospitals.

Future studies are recommended in this area with a longitudinal design to indentify the effect of time in reporting safety culture. And further studies may also be conducted to assess the relation between safety cultures with actual patient safety errors. While culture can be easily defined as "the way we do things around here," understanding culture and creating a given type of culture within a healthcare organization can be elusive, baffling, and challenging. Yet, the success of providing patients with the safest and highest quality of care is becoming recognized as being dependent upon a strong cultural foundation at the unit level. Policy makers and leaders should develop acceptable standards for patient safety system. This can be achieved through initiated and supported an effective safety culture assessment among all working nurses while providing patient care.

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