

## Study of Patient Safety in a Nursing Department of a Tertiary Care Hospital in Utter Pradesh

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### Abstract

**Background:** According to WHO patient safety is the prevention of mistakes, errors and harmful effects to patients associated with health care. Also health care has become more effective yet more complex because of the more use of new technologies, medicines and advanced treatments.

**Materials and Methods:** To evaluate and conduct the study a cross-sectional analysis was conducted in Teerthanker Mahaveer Medical College, Hospital & Research Centre, Moradabad, Uttar Pradesh (India) for a period of 15 months. The 600 bedded hospital in the urban area of our state was taken into consideration. The medical and paramedical staff which was involved in providing patient care and working in inpatient facility were included in the study as subjects.

**Results:** The mean age was taken as  $37.2 \pm 8.7$  years. Out of the total subjects, 47.7% were male and 52.3% female. While 134 (54%) out of them were working in medical or diagnostic units and 112 (46%) were working in Surgical units. The subjects who responded were reported to have more than 10 years of experience at the hospital.

**Conclusion:** The results were suggestive that hospital management, assuming a non-punitive approach to those who make and report medical errors and considering communication and teamwork as the primary step in improvement of the patient safety.

**Keywords:** Communication, Medical, Surgical.

### Introduction

According to WHO patient safety is the prevention of mistakes, errors and harmful effects to patients associated with health care. Also health care has become more effective yet more complex because of the more use of new technologies, medicines and advanced treatments. For Creating and maintaining a positive patient safety culture it becomes necessary to reduce the errors associated and enhancing results for patients.<sup>1,2</sup> To achieve such results can be very challenging at times because the attitude towards patient safety varies quite a lot in our population.<sup>3,4</sup> Considering developing economies like ours, patient safety is now considered as a priority in their healthcare systems. The aim is to protect patients from care-associated adverse events.<sup>5</sup> These are the unintentional injuries and complications caused by the

health care management. They are not resultant of the underlying condition of the patient which lead to death or disability at the time of discharge or a prolonged hospital stay for the patient.<sup>6</sup> Around 35% - 70% of AEs have been accounted to be completely preventable.<sup>7-9</sup> The condition is alarming in our country as a large number of patients are harmed because of the limited resources loop holes in the infrastructure.<sup>10</sup> A positive and decent patient safety culture guides the healthcare professionals considering patient safety as their highest priorities.<sup>11</sup> A regular and through safety culture assessment surveys allow hospitals and health providers to identify the strengths and work upon their weaknesses of their safety culture.<sup>12</sup> The present study was conducted with the aim to determine the level of patient safety amongst a nursing hospital.

### Materials And Methods

In our present study, to evaluate and conduct the study a cross-sectional analysis was conducted in Teerthanker Mahaveer Medical College, Hospital & Research Centre, Moradabad, Uttar Pradesh (India) for a period of 15 months. The 600 bedded hospital in the urban area of our state was taken into consideration. The medical and paramedical staff which was involved in providing patient care and working in inpatient facility were included in the study as subjects. These included senior physicians, senior surgeons, assistant physicians, residents (senior and junior), nurses, technicians and nurse handling anaesthesia and O.T. A total of 242 nurses were selected as subjects. For the

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purpose of data collection the French version of HSOPSC was made to use. The HSOPSC method has been tested on a large sample of United States based studies, and has good and reliable documentation. Another reason for choosing HSOPSC was, it has good psychometric based testing which includes analysis, confrmatory factor analysis, exploratory factor analysis and reliability analysis. HSOPSC method has also been used and approved in various countries. The French version of HSOPSC shows the idea of patient safety climate in 10 different factors or dimensions (Table 1). The patient safety factors contain three to six items each, making a total of 40 items. All factors are measured on a Likert scale, which has a score ranging from 1 to 5 on level of consensus, which is as follows; strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). For collection of data a paper based questionnaire was circulated among subjects which they could anonymously fill up and return to the investigator. A prior verbal consent was obtained from the participants in an effort to make the study ethical. All the data was analysed using SPSS software and expressed as percentage.

**Results**

The response rate to HSOPSC was 86% (344 out of 400) questionnaires. The mean age was taken as 37.2 ± 8.7 years. The subjects who responded were reported to have more than 10 years of experience at the hospital. (Table 1) showing the lists the sample’s characteristics. The positive responses (agree, strongly agree) showed a variation between 43.3% and 59.4% along the ten patient safety dimensions stated by the HSOPSC (graph 1). The maximum positive responses were from the Frequency of events reported. Whereas, items in the teamwork across units dimension reported the lowest number of positive responses. The potential area for improvement were the overall perception of security, the team work within the unit, organizational learning and improvement, frequency of events reported and open communication. In this study, there were 52.3% females and 47.70% males. (Table 2) There were 46% subjects from surgical unit and 54% from the medical unit. (Graph 2)

**Table 1: Table showing patient safety dimension of the HSOPSC**

Patient Safety Dimension of the HSOPSC	Items
Overall Perception Of Safety	4
Frequency Of Events Reported	3
Supervisor Or Manager Expectations	4
Teamwork Within Units	
Teamwork Across Hospital Units	6
Staffing	3
Communication	3
Non Punitive Response To Error	3
Hospital Management Support For Patient Safety	4
Organizational Learning	6

**Graph 1: Table showing patient safety dimension of the HSOPSC**

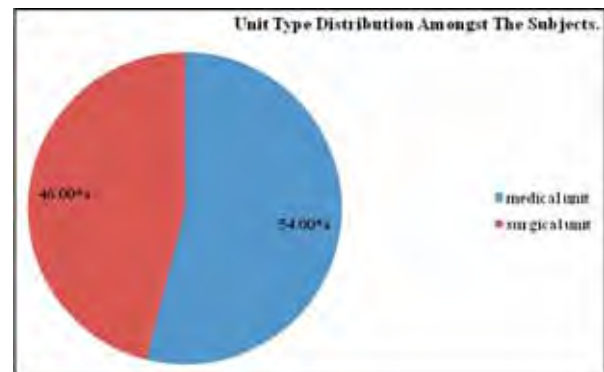


A: Overall perception of safety; B: Frequency of events reported; C: Supervisor or manager expectations and actions promoting patient safety; D: Teamwork within units; E: Teamwork across hospital units; F: Staffing; G: Communication; H: Non-punitive response to error; I: Hospital management support for patient safety; J: Organizational learning - continuous improvement

**Table 2: Percentage of males and females in the study**

Gender	Percentage
Female	52.30%
Male	47.70%

**Graph 2: Unit Type Distribution Amongst The Subjects.**



**Discussion**

The term safety culture was presented after the nuclear accident happened in Chernobyl in the year 1986,<sup>13</sup> well-defined as the support and arrangement of attitude and practices of the administrative members towards the learning and detection from errors.<sup>14</sup>The correct evaluation of safety culture in healthcare profession is still largely at an immature stage of development when compared to other domains). Evaluating the patient safety aspect is the primary step of a long process in order to change and improve the quality of care. The safety culture environment is considered as an important barrier in improving patient care and safety. The initial step for developing a safety culture should be the evaluation of the current culture with the use of an appropriate instrument. In the study conducted in our hospital we had observed low patient safety scores. The results were suggestive

of the ten dimensions. The unit level dimension teamwork across hospital units had received the least positive response in our study. The subjects were more likely to not-cooperate and coordinate with their co-workers. This attitude does not allow the promotion of patient safety in our hospital. Teamwork is stands to be the most crucial part in the development of patient safety. The care providing personnel should be encouraged and supported in their efforts to achieve good professional relationships with people working in other unit capacities also. Here communication, handoffs and transitions play an essential role in the care process to ensure quality care to the patients. Constant and healthy communication within and across hospital units is important in a healthcare environment as the patient might be treated by several healthcare practitioners and specialists in multispecialty setups. The results are suggestive that communication problems are major contributors for the poor event rate. Moreover, the number of events reported were considerably linked with the feedback and communication about errors, non-punitive response to mistakes, and teamwork across hospital units' hospital handoffs and transitions. Also the respondents were seen unsatisfied regarding the staff recruitment policy. The overload of the work was also observed. The lack of staff or rather well qualified staff had led to more working hours leading to chances of depression and other symptoms among the subjects. In our hospital, about 77% of professionals responded positively towards the need to take action, in an effort to improve patient safety. This might be regarded as the initiation point for the promotion of safety culture. So, may suggestions emerged in an effort to improve the quality and safety of care namely; (a) to improve the safety culture as a priority, (b) the patient interest should be the centre of the concerns for the public health professionals (c) to develop and design a non-punitive culture and encourage reporting of AEs to the concerned authorities, (d) the team leaders play their role ideally so as to promote the culture of safety,(e) teamwork and open communication should be promoted and practiced (f) to elaborate and simplify protocols and procedures (g) to enhance and execute a training program annually for the betterment of the staff and the patient.

### Conclusion

In conclusion, our study gave an opportunity to introduce health professionals with the idea of patient safety and to reflect on the current level of safety culture and its gradual and positive improvement. The results were suggestive that hospital management, assuming a non-punitive approach to those who make and report medical errors and considering communication and teamwork as the primary step in improvement of the patient safety.

### References

1. E.T. Deilkås, D. Hofoss Psychometric properties of the Norwegian version of the Safety Attitudes Questionnaire (SAQ), generic version (short form 2006) BMC Health Serv Res, 8 (2008), pp. 1-191.
2. Agency for Healthcare Research and Quality Safety culture (2016).
3. T. Famolaro, N. Yount, W. Burns, E. Flashner, H. Liu, J. Sorra Hospital survey on patient safety culture 2016 user comparative database report U.S. Department of Health and Human Services 5600 Fishers Lane: Agency for Healthcare and Quality.(2016)
4. World Health Organization Patient safety. (2016)
5. Aspden P, Corrigan J, Wolcott J, Patient Safety (2004) Achieving a New Standard for Care. Washington, DC: The National Academies Press.
6. Wilson RM, Runciman WB, Gibberd RW, Harrison BT, Newby L, et al. (1995) the quality in Australian health care study. Med J Aus 163: 458-471.
7. Michel P, Quenon JL, Djihoud A, Tricaud-Vialle S, de Sarasqueta AM (2007) French national survey of inpatient adverse events prospectively assessed with ward staff. Qual Saf Health Care 16: 369-377.
8. Hendrie J, Sammartino L, Silvapulle MJ, braitberg G (2007) Experience in adverse events detection in an emergency department: Incidence and outcome of events. Emerg Med Australas 19: 16-24.
9. Von Laue NC, Schwappach DL, Koeck CM (2003) The epidemiology of medical errors: a review of the literature. Wien Klin Wochenschr 30: 318-325.
10. WHO (2008) WHO Patient Safety Research. Geneva: World Health Organization.
11. Nieva VF, Sorra J (2003) Safety culture assessment: a tool for improving patient safety in healthcare organizations. Qual Saf Health Care 12: 17-23.
12. Smits M, Wagner C, Spreeuwenberg P (2009) Measuring patient safety culture: an assessment of the clustering of responses at unit level and hospital level. Qual Saf Health Care 18: 292-296.
13. Cooper MD. Towards a model of safety culture. safety Science. 2000; (36):111-36.
14. Health and Safety Commission. Organizing for Safety: Third Report of the Human Factors Study Group of ACSNI. London (UK): HSE Books; 1993.