A Cross-Sectional Comparative Study to Measure Patient Safety Culture Dimensions amongst Nurses, Doctors, Technicians and Administrative Staff

Internship Training
At
VPS Healthcare, Abu Dhabi

By
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Under the guidance of
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Post Graduate Diploma in Hospital & Health Management
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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Sehr Durrani student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone dissertation at VPS Healthcare, Abu Dhabi from 11th February 2014 to 15th May 2014.

The candidate has successfully carried out the study designated to her during dissertation and her approach to the study has been sincere, scientific and analytical.

The internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

Dr. Ashok Kaushik
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The certificate is awarded to

Dr. Sehr Durrani

In recognition of having successfully completed her

Internship in the department of

Corporate Quality

and has successfully completed her Project on

A cross-sectional comparative study to measure patient safety culture dimensions

Amongst nurses, doctors, technicians and administrative staff of the hospital

February 11th- May 15th, 2014

VPS Healthcare

She comes across as a committed, sincere and diligent person who has a

strong drive and zeal for learning

We wish her all the best for future endeavors

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled 'A cross-sectional comparative study to identify gaps and measure patient safety culture dimensions amongst nurses, doctors, technicians and administrative staff of a hospital ' submitted by Dr. Sehr Durrani Enrolment No. 17- 1372 under the guidance of Professor Barun Kanjilal for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 11th February 2014 to 15th May 2014 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Sehr Durrani
Signature:

Abstract

A cross- sectional comparative study to identify gaps in knowledge and measure patient safety culture dimensions amongst nurses, doctors, technicians and administrative staff at a hospital.

Sehr Durrani

Guide: Professor Barun Kanjilal

Keyword*:* Comparative, Knowledge gaps, patient safety culture dimensions

Aim: The study identifies gaps in knowledge and also explores the attitudes and overall perceptions of patient safety culture for healthcare professionals in a hospital setting by using a hospital survey on patient safety culture questionnaire. The patient safety culture tool is provided by Agency for Healthcare Research and Quality for improving patient safety.

Methodology: The study was a cross-sectional survey comprising of a total of 100 respondents (45 nurses, 22 doctors,19 technicians and 14 administration). A set of six pages questionnaire was prepared for the study. The approval was taken from the Ethical Committee of the hospital. The study was carried out for one month. The method of collection was paper based.

Findings: The overall result showed a few significant knowledge gaps amongst the healthcare staff and strong areas of patient safety culture dimensions such as team work, organizational learning and hospital management support for patient safety.

The study showed that the nurses were more knowledgeable regarding patient safety than the doctors. This was supported by the fact that 84% of the nurses knew about the international patient safety goals as compared to only 41 % of the doctors. In addition the questions related to the safe recapping procedures of used needles and early signs of pressure ulcers got the lowest correct responses. The overall perception of the professionals in the hospital towards patient safety culture is significantly high as evident by a higher number of average positive responses for the positive-worded items in the study and lower number of average positive responses for the negatively-worded items

Recommendations: Patient safety culture is an important measure in assessing the quality of healthcare organizations. It is gaining momentum and there is a worldwide growing recognition of the need to establish a culture of hospitals focused on patient safety. The study seems to evoke the need for more awareness related to patient safety knowledge and skills amongst the doctors and to address the high positive responses for the negatively worded dimensions so as to enhance the overall patient safety initiatives and culture of the hospital.

Acknowledgement

I would like to extend my sincere gratitude and admiration to Dr. S.D Gupta and Dr. Ashok Kaushik for the unwavering support and guidance throughout my research.

I would like to express my sincere gratitude and appreciation to Prof. Barun Kanjilal for the constant help, guidance, support and encouragement for my study.

I am greatly indebted to my teachers, Prof. Santosh Kumar, Prof. Seema Mehta and Prof. Nutan P. Jain at the Institute of Health Management Research, Jaipur for inspiring me to this work.

It is my duty to record my thankfulness to Dr. Charles Stanford for the constant support, guidance and helping me in undertaking this project.

To my mother for the unwavering love, faith and continued support and reassurance over the years.

By extension I'd like to offer my thanks to all my colleagues at my organization. Special thanks to Mr. Sriram for the constant support and guidance.

And finally thanks to all my friends who have offered tremendous support and encouragement throughout my project.

With warm regards,

Dr. Sehr Durrani

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1. Introduction

1.1 Aim

The aim of the study was to do a cross- sectional comparative survey to measure patient safety culture dimensions amongst nurses, doctors, technicians and administrative staff of the hospital.

1.2 Objectives

- To identify gaps in knowledge amongst nurses, doctors, technicians and administrative staff.
- Diagnose and assess the current status of patient safety culture.
- Identify strengths and areas for patient safety culture improvement.

1.3 Outline of the research

Patient safety is one of most important attributes of health care systems. It minimizes the incidence and impact of adverse events. Recently, patient safety concern is gaining a momentum and has become a discipline, complete with an integrated body of knowledge and expertise. It has the potential to revolutionize health care, perhaps as radically as molecular biology once dramatically increased the therapeutic power in medicine.

Also, patient safety is now recognized in many countries, with global awareness fostered by International Healthcare Organizations. And yet there continue to be significant challenges to implementing patient safety policies and practices. The first objective of the study was to identify the gaps in knowledge related to patient safety amongst clinicians, non-clinicians and administrative staff .This can help develop specific policies, training,

and workshops for the topics where the maximum gap exists. This would also lead to better patient safety initiatives which would eventually lead to better patient outcomes.

The second objective of the study was to measure and assess the overall patient safety culture of the organization. The AHRQ Patient Safety Culture tool was used for the study.

The Agency for Healthcare Research and Quality (AHRQ) is a US based organization which firmly believes that involving all stakeholders in research enterprise improves the end product and facilitates the diffusion and implementation of the research findings by ensuring that they reflect the various needs of all diverse users, are relevant to their unique challenges, and are applicable in real-world situations. Further to that, in 2004, the agency released the patient safety culture tool for the hospitals worldwide to assess their patient safety culture.

The tool known as "The Hospital Survey on Patient Safety Culture" was originally developed, pilot-tested and revised by Westat in the USA and then released by the Agency of Healthcare Research and Quality (AHRQ).The survey was designed to assess opinions of hospital staff about patient safety issues, event reporting, and medical error. It included 42 items measuring 12 dimensions of patient safety culture (Table A1). Respondents were asked to rate each item of a dimension on a five-point Likert scale of agreement (strongly disagree, disagree, neutral, agree and strongly agree) or frequency (never, rarely, sometimes, most of the time, always). The survey also included questions asking respondents to provide an overall grade on patient safety for their work area/unit. Also, the respondents were asked to provide limited background information about themselves.

2. Background

Recently a lot of initiatives have been taken by the hospitals worldwide especially in the United States to assess the patient safety culture at the hospitals. More than 200 hospitals have submitted their data to the Agency for Healthcare Research and Quality AHRQ for the feedback. Some of the results have got published and are used as benchmarks for other hospitals.

Interestingly, the safety of healthcare has been shown to be influenced by its organizational culture, which is the pattern of assumptions, values and norms within an organization and is the primary driver of safety. If the organizational culture does not support patient safety, unsafe care will continue to occur.

Organizational culture is a broad construct composed of many subsets of culture, one of which is safety. The focus on safety culture began in the nuclear power and aviation industries and is now recognized as an important component in the delivery of healthcare. [1]

2.1 Definitions of Patient Safety Culture

- The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management.

  Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventative measures. [2].

- The National Patient Safety Agency (NPSA),a special health authority of the National Health Service in England defines safety culture as one in which "both the individuals and the organization are able to acknowledge mistakes, learn from them, and take action to put things right. It is open and fair, and one that encourages people to speak up about mistakes. It also has been suggested that safety culture is a critical element necessary to achieve reductions in medical errors and adverse events. In order to improve patient safety culture, it is necessary to be able to interpret and measure it.

2.2 Definitions of Patient Safety

- Patient safety as defined by the Institute of Medicine (IOM) is “the prevention of harm to patients.” Emphasis is placed on the system of care delivery that (1) prevents errors; (2) learns from the errors that do occur; and (3) is built on a culture of safety that involves health care professionals, organizations, and patients.
- Patient safety as defined by the AHRQ Patient Safety Network is “freedom from accidental or preventable injuries produced by medical care.

2.3 One Single Definition of Patient Safety from the multiple definitions

The National Quality Forum attempted to bring clarity and concreteness to the multiple definitions of patient safety with its report, standardizing a Patient Safety Taxonomy. This framework and taxonomy defines harm as the impact and severity of a process of care failure: “temporary or permanent impairment of physical or psychological body functions or structure.” [3]

Patient safety practices have been defined as those that reduce the risk of adverse events related to exposure to medical care across a range of conditions. This definition is concrete but quite incomplete, because so many practices have not been well studied with respect to their effectiveness in ameliorating harm. Practices considered to have sufficient evidence to include in the category of patient safety practices are as follows:

- Appropriate use of prophylaxis to prevent venous thromboembolism in patients who are at risk.
- Use of preoperative beta-blockers in appropriate patients to prevent preoperative mortality and morbidity.
- Use of maximum sterile barriers while placing central intravenous catheters to prevent complications.
- Appropriate use of antibiotic prophylaxis in surgical patients to prevent postoperative complications.
- Asking that patients recall and restate what they have been told during the informed-consent process to verify their understanding.
- Continuous aspiration of subglottic secretions to prevent ventilator-associated pneumonia.
- Use of pressure-relieving bedding materials to prevent decubitus ulcers.
- Use of real-time ultrasound guidance during central line insertion to prevent complications.
- Patient self-management for warfarin to achieve appropriate outpatient anticoagulation and prevent complications.
- Appropriate provision of nutrition, with a particular emphasis on early enteral nutrition for critically ill and surgical patients to prevent complications.

- Use of central venous catheters which are antibiotic-impregnated to prevent catheter-related infections.

Contemporary patient safety practices, such as use of bar coding, simulators, computerized physician order entry, and staff resource management, have been considered as possible strategies to avoid patient safety errors and improve health care processes; research has been exploring these areas, but their remains innumerable opportunities for further research.

2.4 The Origins of Patient Safety Problem

The origins of the patient safety problem are classified in terms of type (error), communication (failures between patient or patient proxy and practitioners, practitioner and nonmedical staff, or among practitioners), patient management (improper delegation, failure in tracking, wrong referral, or wrong use of resources), and clinical performance (before, during, and after intervention).

The types of errors and harm are further classified regarding domain, or where they occurred across the spectrum of health care providers and settings. The root causes of harm are identified in the following terms:

- Latent failure—removed from the practitioner and involving decisions that affect the organizational policies, procedures, allocation of resources
- Active failure—direct contact with the patient
- Organizational system failure—indirect failures involving management, organizational culture, protocols/processes, transfer of knowledge, and external factors
- Technical failure—indirect failure of facilities or external resources

Finally, a small component of the taxonomy is devoted to prevention or mitigation activities. These mitigation activities can be universal (implemented throughout the organization or health care settings), selective (within certain high-risk areas), or indicated (specific to a clinical or organizational process that has failed or has high potential to fail). [3]

3. Literature Review

The term “safety culture” first became popular following the Chernobyl nuclear disaster when it was suggested that organizations can reduce accidents and safety incidents by developing a ‘positive safety culture’. The notion of safety culture is not unique to healthcare, and has been used extensively in the oil, gas and energy industries, the transport sector, aviation and the military.

Many safety culture scholars indicate the concept is neither theoretically defined nor consistently applied and researched as the terms safety culture, safety climate, and safety attitude are interchangeably used to represent the same concept.

3.1 The origins of safety culture

- Normal accident theory
- High reliability theory
- Aviation framework

Safety culture draws from the theoretical perspectives of sociology (represented by normal accident theory), organizational psychology (represented by high reliability theory), and human factors (represented by the aviation framework). By understanding not only the origins but also the empirical safety culture research and the associated intervention initiatives, healthcare professionals can design appropriate HR strategies to address the system characteristics that adversely affect patient outcomes. Increased emphasis on human resource management research is particularly important to the development of safety cultures. [4]

Overall, safety culture means the extent to which organizations prioritize and support improvements in safety. Organizations with a positive safety culture have communication based on mutual trust, shared perceptions of the importance of safety, confidence in the effectiveness of preventive measures, and support for the workforce. However safety culture is a broad term representing an organization's values and actions related to safety, whereas safety climate focuses on staff perceptions about the way in which safety is managed in their organization.

The AHRQ also provides surveys tools on patient safety culture for medical office, nursing home and community pharmacy. These tools are used to examine the trend in patient safety culture change over time and to evaluate the effectiveness of patient safety interventions.In addition the AHRQ patient safety culture tool can also be modified and used for the units specifically.

However till date not much evidences and studies have been found supporting the link between the psychometric analysis and better patient practices.

4. Methodology

A set of six pages questionnaire was prepared for the study. The approval was taken from the Ethical Committee of the hospital. The study was carried out for one month and a total of 107 hospital staff were contacted. The response rate was 93 percent. Seven out of hundred questionnaires were not given back and hence not included in the study. The method of collection was paper based and most of the survey was done on an instant basis as on an average it took only 10-15 minutes. The decision was made to have the nurses as the majority for the study as they are the maximum in numbers in a hospital. The second most healthcare professionals in numbers were the doctors followed by technicians (laboratory personnel and in-patient-pharmacists) and then the administrative staff for the study. Being new to the hospital, the respondents were selected on a random basis thereby reducing the bias.

Section B responses to the questionnaire were analyzed using excel sheet and pivot table. Only the positive responses (agree and strongly agree, always and most of the times) were taken into consideration for the calculation of compliance. The aim was to get the highest positive responses for the positively worded statements and the lowest average positive responses for the reverse-worded statements or negatively worded.

Overall compliance of a dimension = Sum of positive responses (agree+strongly agree/always+ most of the times) / Total number of respondents excluding the respondents who didn't answer for the given dimension).

For the dimension with more than one item, an average percent positive score was calculated of all the items of the dimension.

4.1 Key research questions

1- What are the gaps in knowledge related to patient safety amongst doctors, nurses, technicians and administrative staff?

2- What is the overall patient safety culture in hospital from both the clinicians and non-clinicians perspectives?

3- What are the areas of strengths and weaknesses?

4.2 Research design

This study is based on a cross–sectional survey. The data was collected from different healthcare staff at a hospital for a period of one month.

4.3 Sampling

Random sampling: The respondents were selected on a random basis.

Sample size: A total of 100 hospital staff respondents.

The four staff positions of respondents:

- Nurses(45)
- Doctors(22)
- Technicians(19)
- Administration(14)

4.4 Research Instrument

A paper- based survey data collection.

A six pages questionnaire comprising of section A and B (close-ended questions).

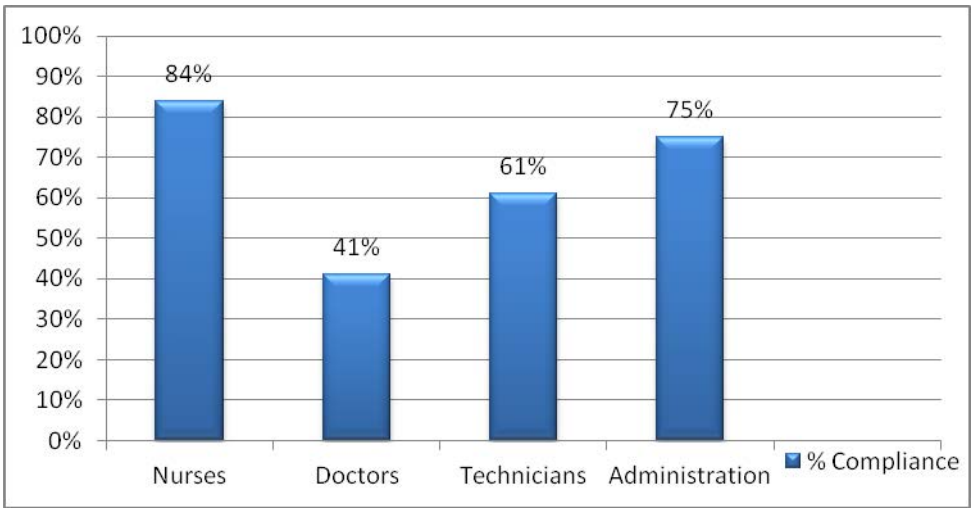
Support from the ethical committee of the hospital.

5. Results: Section A

Section A consisted of questions to identify gaps in knowledge amongst the nurses, doctors, technicians and administrative staff of the hospital.

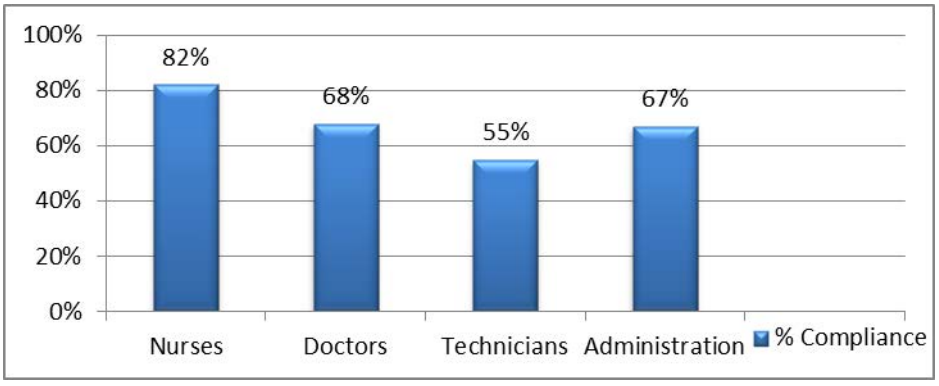
1. The Six International Patient Safety Goals: As per Joint Commission International (JCI), there are six international patient safety goals. Fig 5.1 shows 84 % of the nurses knew about the goals as opposed to only 41 % of the doctors. Thereby suggesting about this aspect of JCI that the nurses are more knowledgeable than the doctors.

Figure 5.1 International Patient Safety Goals



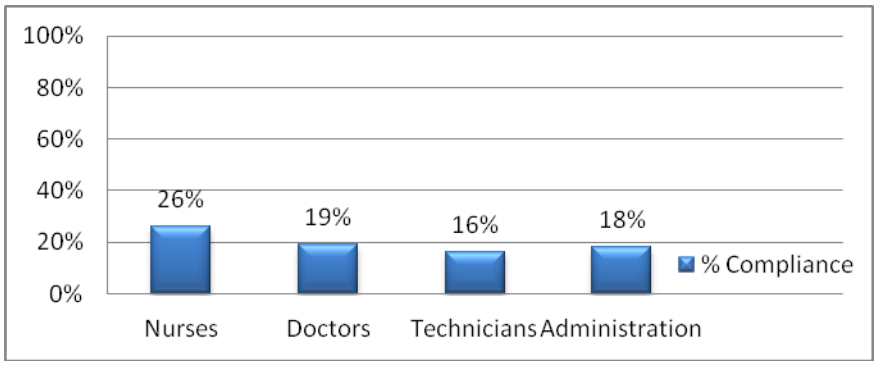
2. Patient identifiers: The respondents were asked to answer how many patient identifiers are considered (at least) for procedures and clinical testing as recommended by Joint Commission International. The answers were two namely the patient's name and date of birth. As shown in the Fig 5.2 the nurses got the highest scores i.e. 82 % as compared to the other respondents.

Figure 5. 2 Patient Identifiers



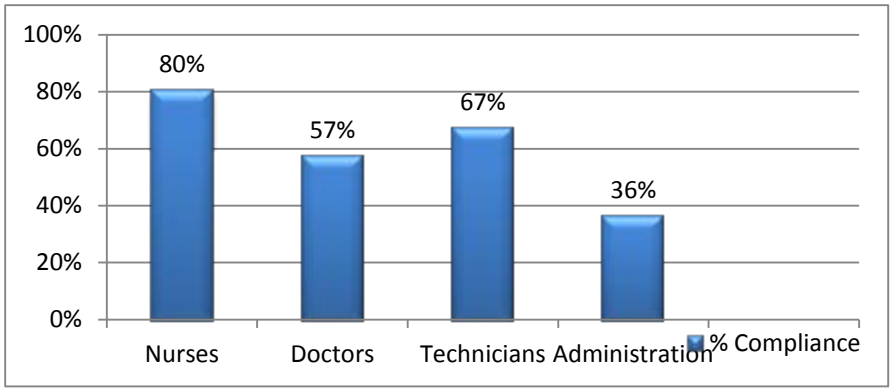
3. Early signs of pressure ulcers: The respondents were asked about the early signs of pressure ulcers from a list. Overall, the correct answer responses were low and only 26 % of the nurses gave the correct answer as depicted in Fig 5.3.

Figure 5.3 Early signs of pressure ulcers



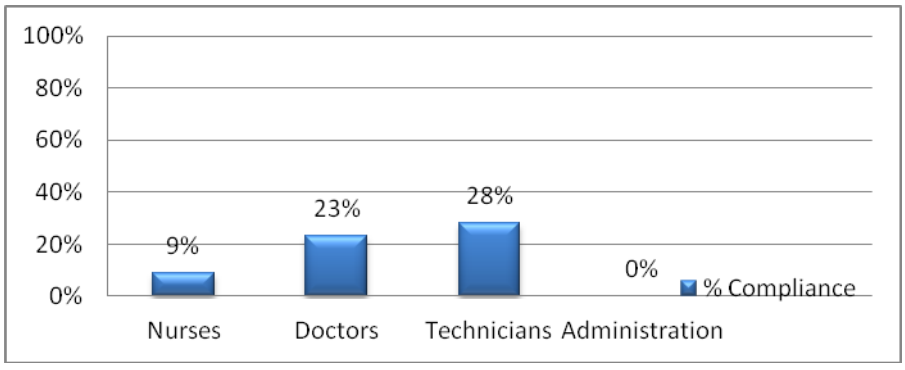
4. Chest compressions to ventilation ratio: The respondents were asked about the standard ratio for performing CPR on an adult by a single rescuer using the 2014 American Heart Association (AHA) criteria. As shown in Fig 5.4 the nurses knew the most about the ratio (80%) and the administrative staff (36%) the least.

Figure 5.4. Chest compressions to ventilation ratio



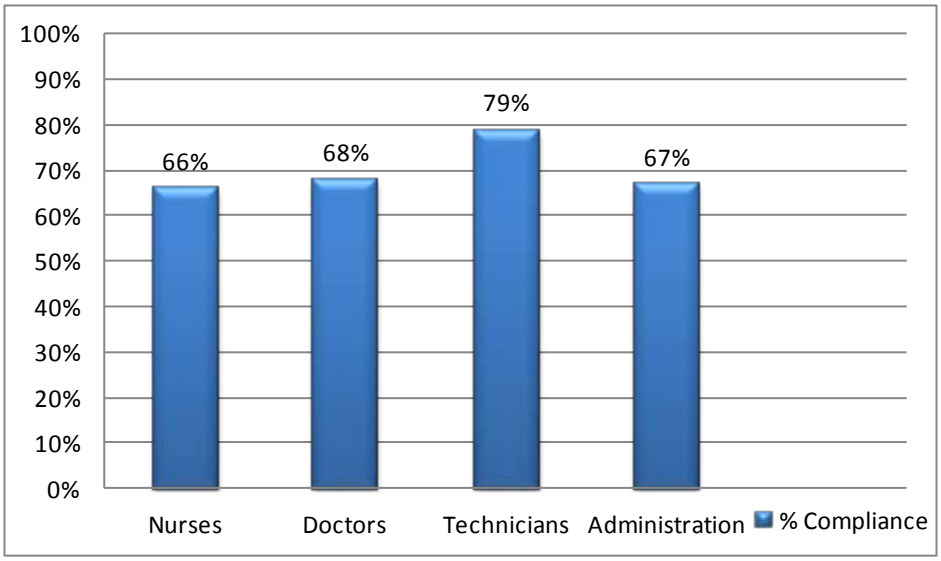
5. Safe recapping procedures of used needles: The respondents were asked about the procedures to prevent needle stick injuries. Most of the respondents knew about the single hand technique. However, very few knew about the mechanical recapping device. Overall, there were a few correct responses and technicians got the highest score (28%) and the nurses the least (9 %) as shown in Fig 5.5.

Figure 5.5 Safe recapping procedures of used needles



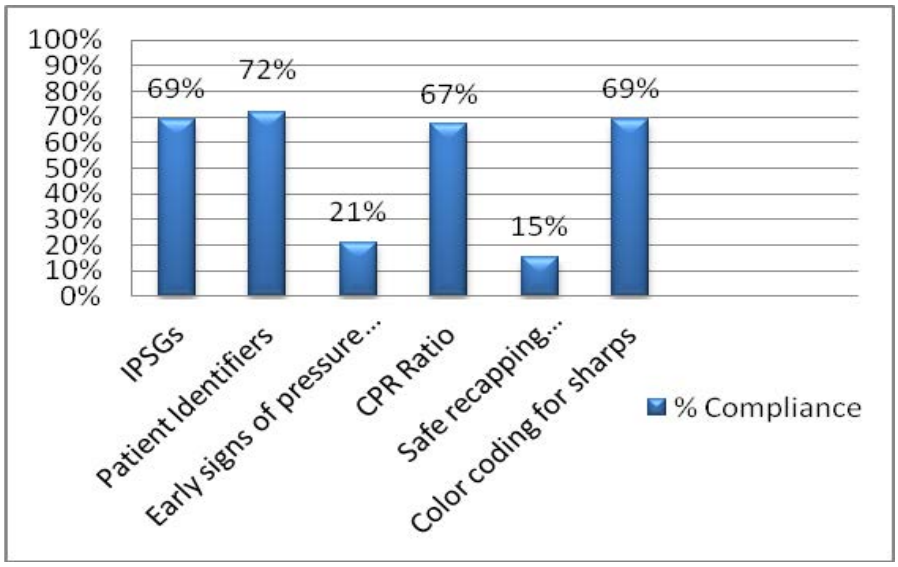
6. Color coding for sharps disposal: The respondents were asked about the color coding used for sharps at the hospital. The technicians (79 %) gave the maximum correct answers as shown in the Fig 5.6.

Figure 5.6 Color coding for sharps of used needles



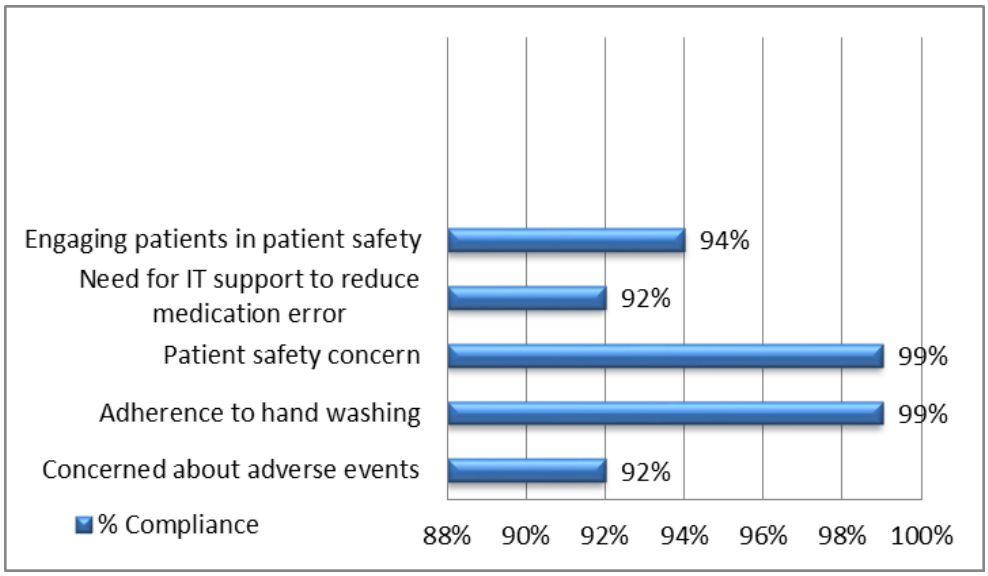
The figure 5.7 is a summary about the overall knowledge and awareness amongst the hospital staff of the different aspects of care. The two areas identified with the least scores are the early signs of pressure ulcers (21%) and safe recapping procedures (15%).

Figure 5.7 The Overall Summary of Results



The figure 5.8 shows the overall agreement about the ideas supporting the attributes of patient-centered care. The respondents were asked about their agreement with the different ideas and concerns related to patient safety improvement. Overall, there is a high degree of consensus amongst the hospital staff supporting the attributes.

Figure 5.8 Overall agreement with the following ideas/concern

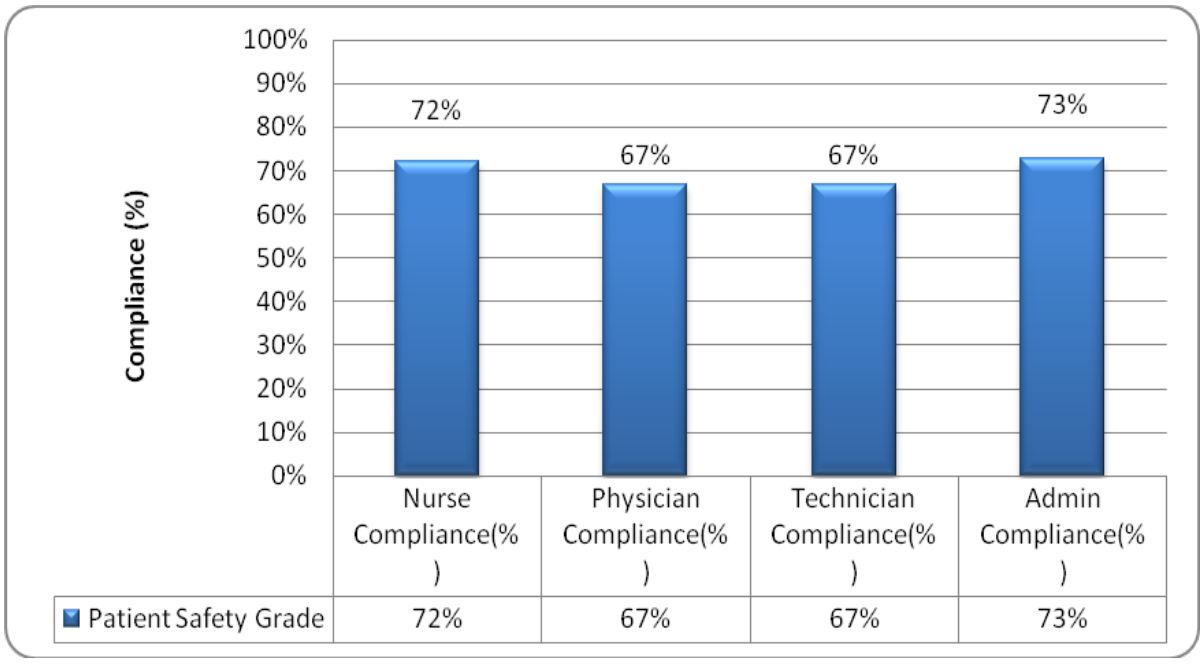


6. Results: Section B

Section B consisted of questions to measure patient safety culture dimensions at the hospital.

The respondents were asked to grade the hospital on the following scale- excellent, very good, acceptable, and poor and failing. Only the positive responses (excellent, very good) were considered for the analysis. As shown in figure 6.1, the administration and the nurses gave the highest grade i.e. 73% and 72 % respectively.

Figure 6.1: Patient Safety Grade

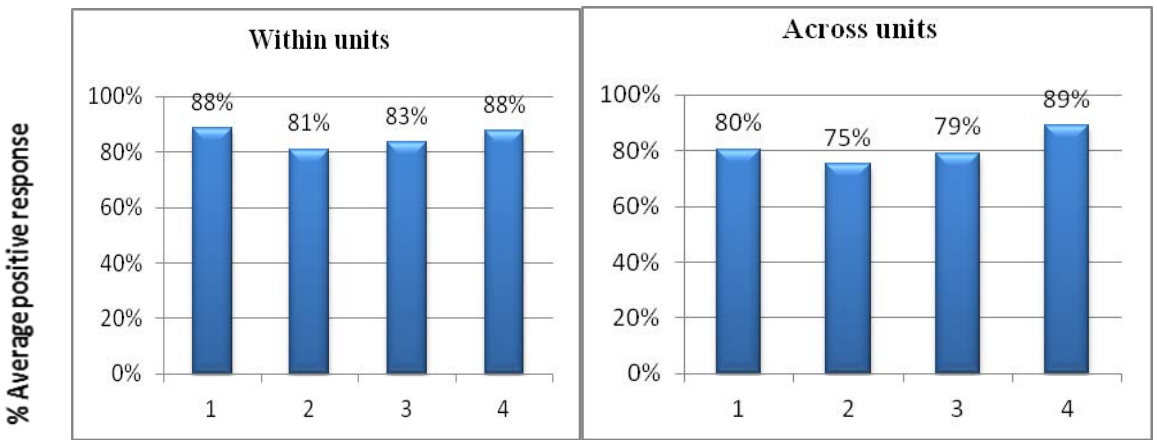


Various dimensions analysed

1. Team work

The respondents were asked on a likert scale whether they agree that they work as a team and share common goals both within and across units. Overall, the result was high average positive scores related to team work both within units and across units and the administrative staff gave the highest positive responses i.e. 88 % and 89 % as depicted in figures 6.2 and 6.3.

Figure 6.2 and 6.3 Team work

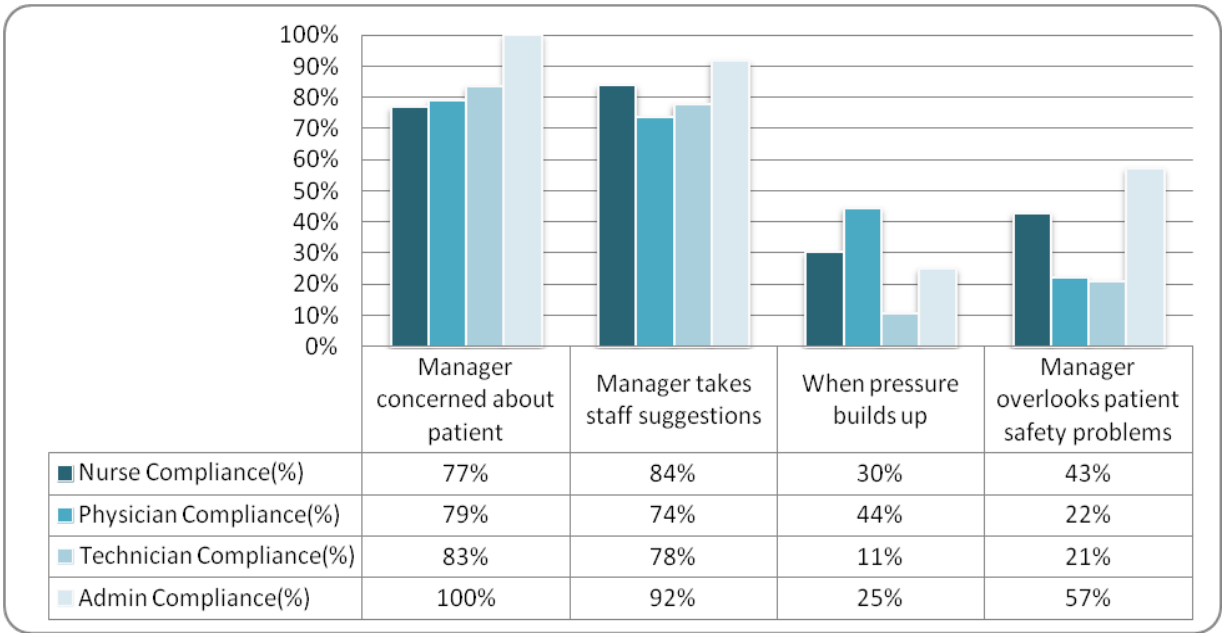


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

2. Manager/Supervisor promoting safety

Figure 6.4 shows the extent of support from the manager at the unit level promoting patient safety. For the positively–worded statements, the administration agreed to 100 % and 92 % about the manager being concerned about the patient safety procedures and taking staff suggestions for patient safety improvements. Similarly for the negatively-worded statements, only 11 % and 21% of the technicians agreed to the statement about the manager taking shorter cuts and overlooking patient safety problems.

Figure 6.4 Manager/Supervisor promoting safety

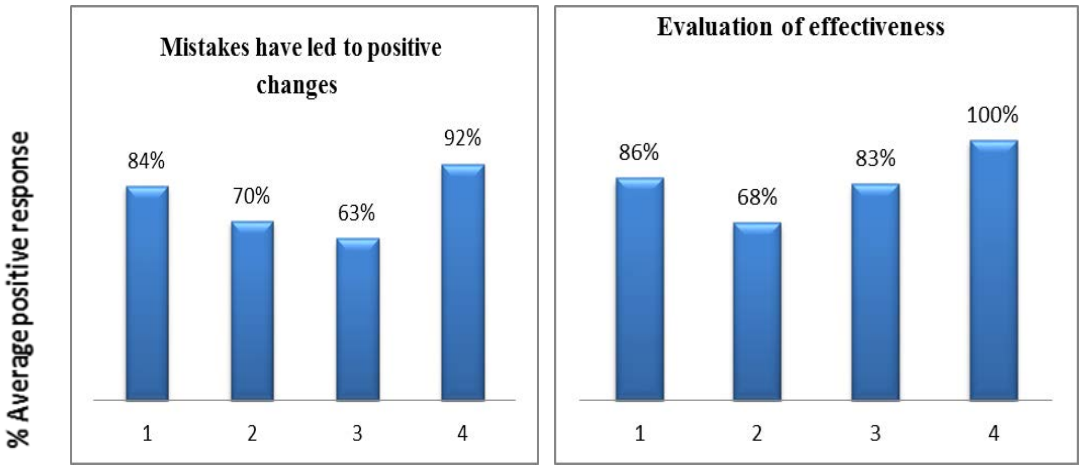


	Manager concerned about patient	Manager takes staff suggestions	When pressure builds up	Manager overlooks patient safety problems
Nurse Compliance(%)	77%	84%	30%	43%
Physician Compliance(%)	79%	74%	44%	22%
Technician Compliance(%)	83%	78%	11%	21%
Admin Compliance(%)	100%	92%	25%	57%

3. Organizational Learning (continuous learning)

The respondents were asked to rate on a likert scale the extent to which the staff learn from their mistakes and evaluate their effectiveness. Figures 6.5 and 6.6 show that 92 % and 100 % of the administrative staff agreed that mistakes have led to positive changes and they evaluate the effectiveness after an adverse event or a mistake.

Figures 6.5 and 6.6 Organizational learning (Two items)

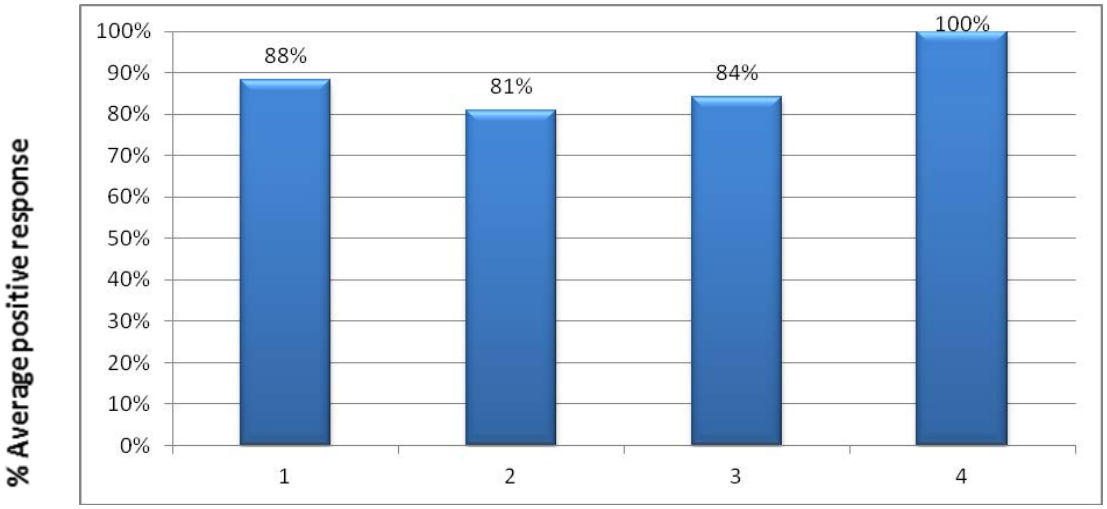


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

4. Hospital management promotes patient safety

Figure 6.7 shows the strong positive perception amongst the staff regarding support from the hospital management for patient safety. 100 % of the administrative staff agreed to the statement that hospital management promotes patient safety.

Figure 6.7 Hospital management promotes patient safety

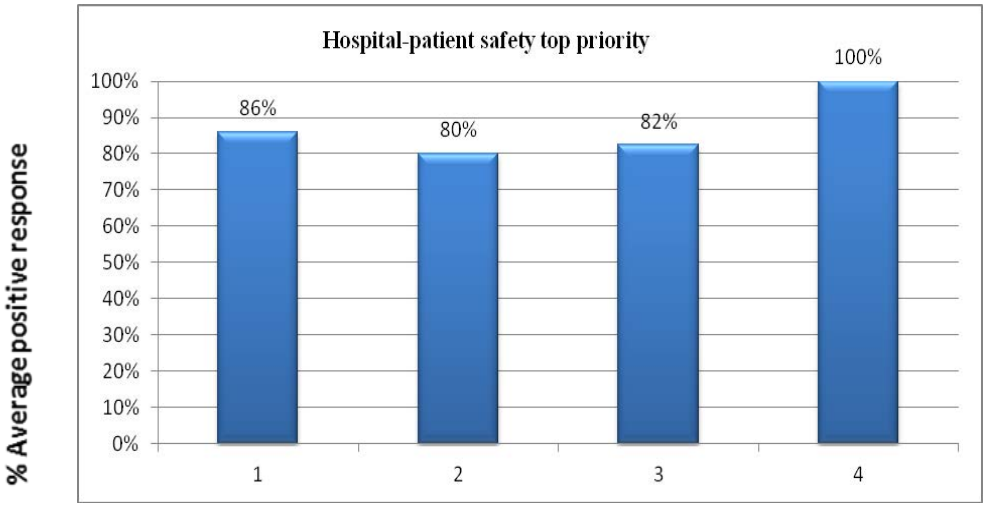


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

5. Hospital management's top priority is patient safety

The respondents were asked whether they think that hospital management's top priority is patient safety.100 % and 86 % of the administrative and nurses agreed that patient safety is the top most priority of the hospital management as shown in figure 6.8.

Figure 6.8 Hospital management promotes patient safety

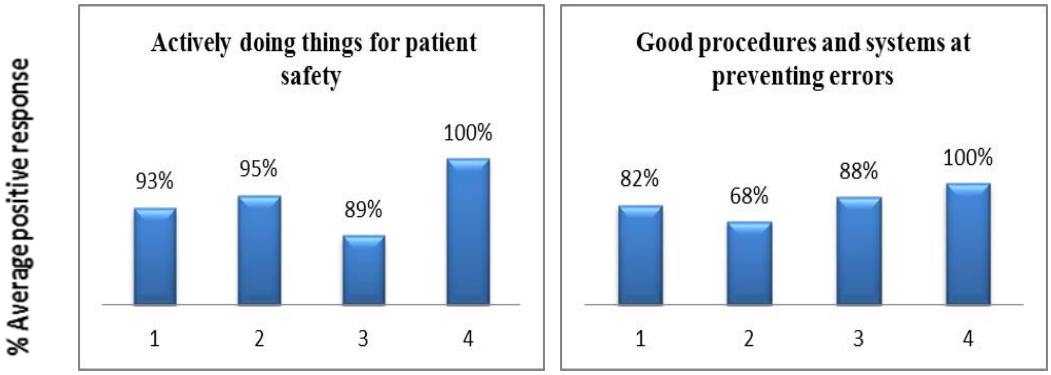


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

6. Overall perception of patient safety

Under the overall perception of patient safety, five items/statements were there in the questionnaire to assess the dimension. The average of the positive responses amongst the staff for each item was calculated following which the average of all the three positive items was calculated thereby calculating an overall average positive response.83 percent average positive response for the positively-worded items as depicted in figures 6.9, 6.10 and 6.11.

Figures 6.9 and 6.10 Overall perception of patient safety (5 items) for positive-worded items



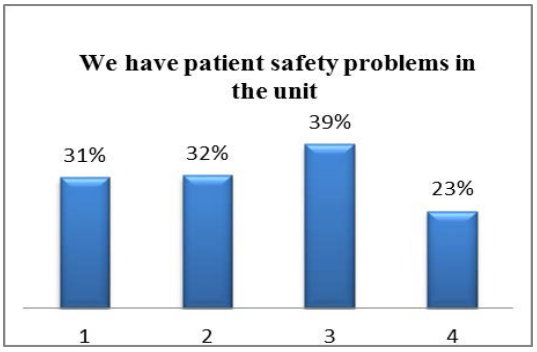
1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

Figure 6.11

For the negatively-worded statements, the average of the positive responses amongst the staff for each item was calculated following which the average of both the items were calculated thereby calculating an overall average positive response. Only 35 % of the staff gave the average positive response for the reverse-worded statements as depicted in the figures.

Figure 6.12 Negatively worded

Figure 6.13 Negatively worded

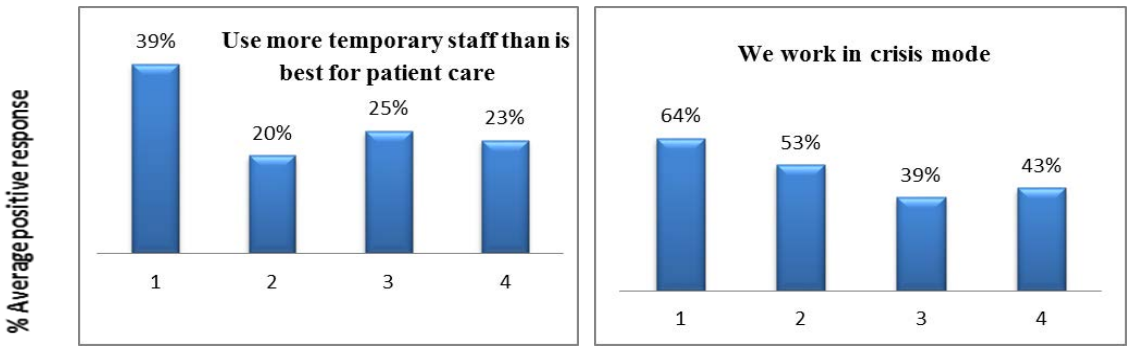


1. Nurses 2. Physicians 3.Technicians 4. Administrative staff

7. Staffing

The respondents were asked whether they believe that there are enough staff to provide care to the patient. Only 39 % of the staff agreed to the two reverse-worded statements under the dimension as shown in the Figs 6.14 and 6.15. The average of the positive responses amongst the staff for each item was calculated following which the averages of both the items were calculated thereby calculating an overall average positive response.

Figures 6.14 and 6.15 Staffing

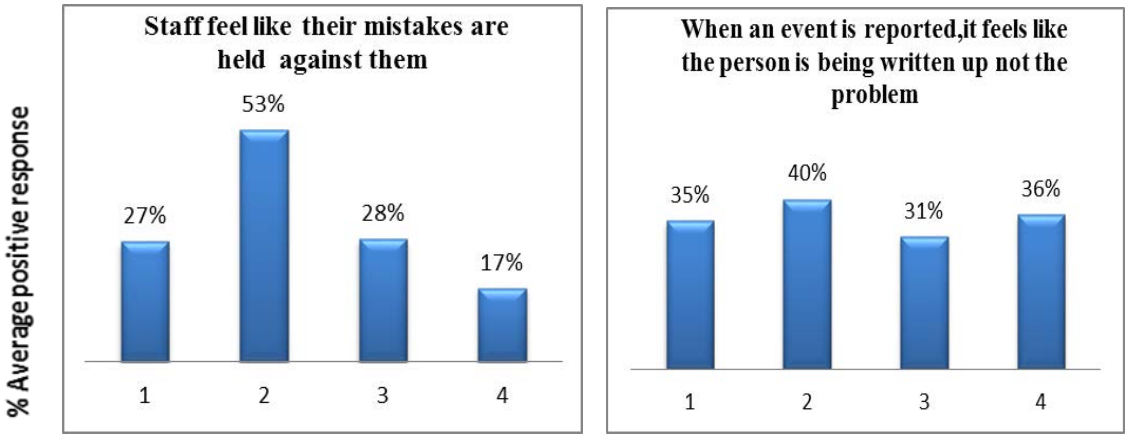


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

8. Punitive response to error

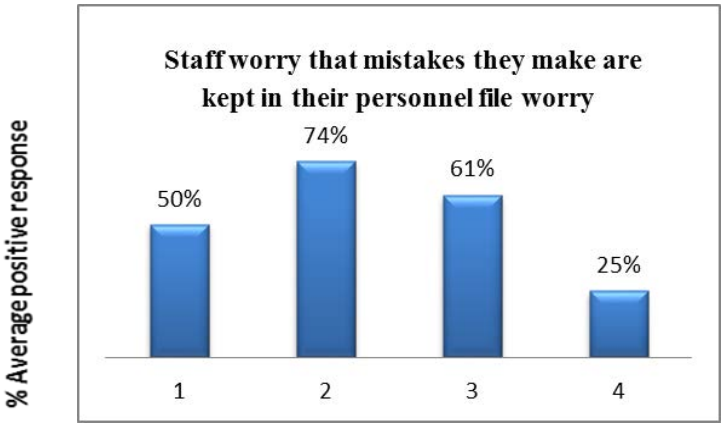
The respondents were asked to rate on a likert scale if they believe that the staff are blamed for their faults. 40 percentage of the staff agreed to the statements as depicted in the figures 6.16, 6.17 and 6.18. The average of the positive responses amongst the staff for each item was calculated following which the average of all the three items were calculated thereby calculating an overall average positive response.

Figures 6.16 and 6.17 Punitive response



1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

Figure 6.18

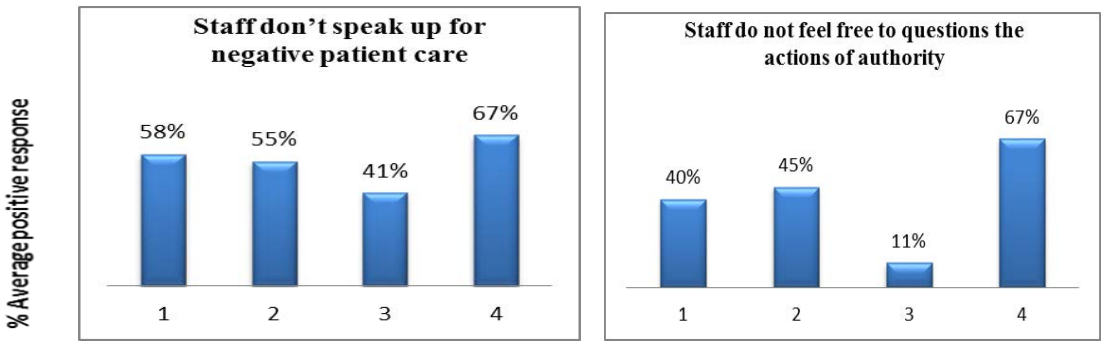


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

9. Communication to openness

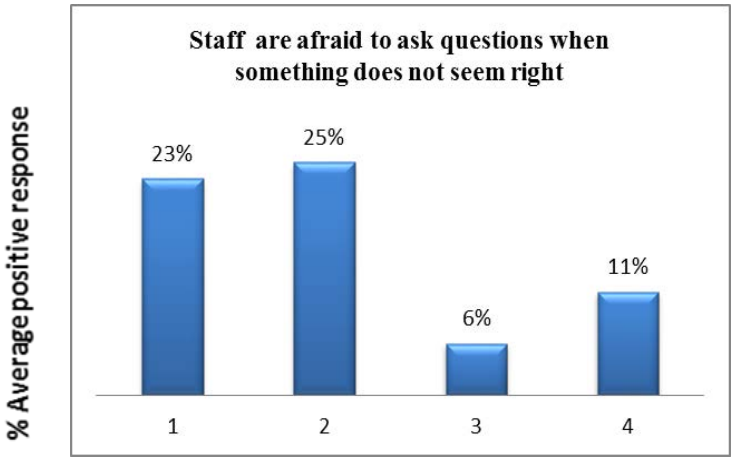
Overall, three items were there in the tool to assess the staff attitudes and perception about the transparency.37 % of the staff agreed to the lack of transparency in the organization as depicted in the figures 6.19,6.20 and 6.21. The average of the positive responses amongst the staff for each item was calculated following which the average of all the items were calculated thereby calculating an overall average positive response.

Figures 6.19 and 6.20 Communication to openness (Three items)



1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

Figure 6.21



1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

10. Feedback to error

The respondents were asked if they believe that they get feedback based on event reports, informed about errors and discuss ways to prevent errors. The average of the positive responses amongst the staff for each item was calculated following which the average of both the items were calculated thereby calculating an overall average negative response.As shown in the figures 6.22, 6.23 and 6.24, 63 percent of the staff believe that they get feedback to error.

Figures 6.22 and 6.23 Feedback to error (Three items)

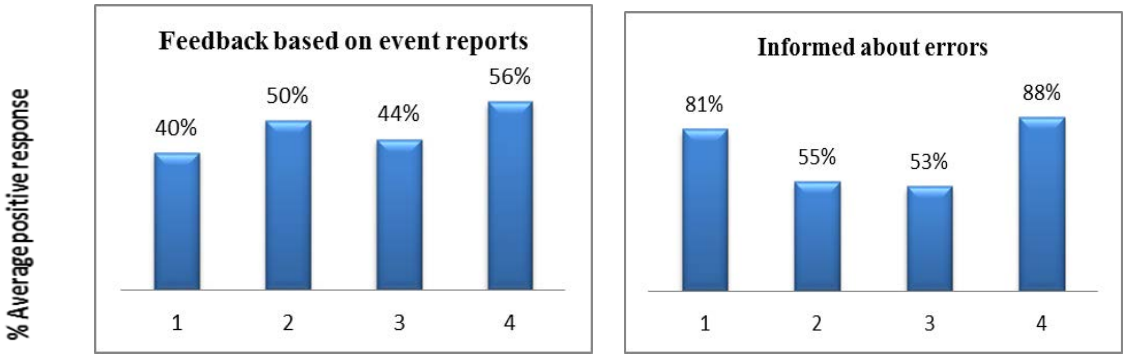
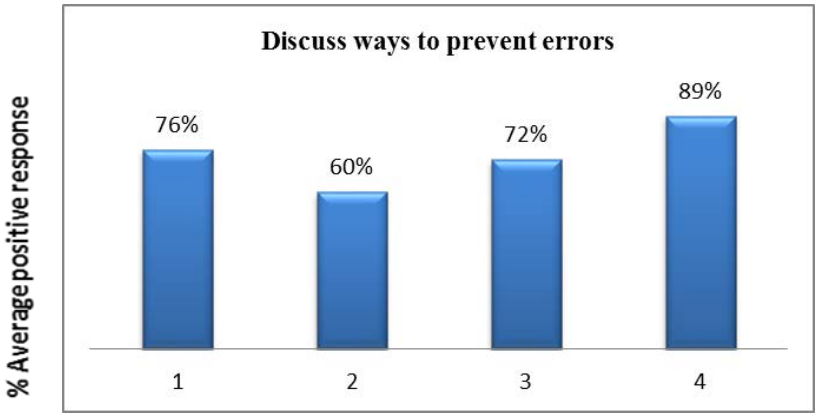


Figure 6.24

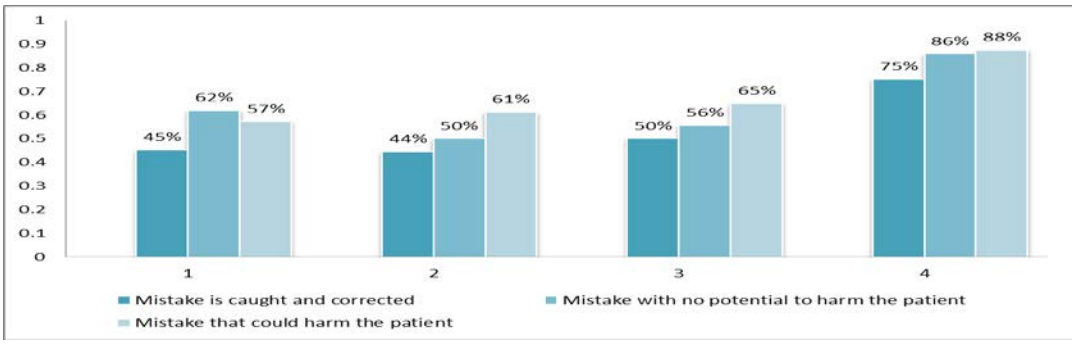


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

11. Frequency of events reported

For the frequency of events reported, three potentials were taken into consideration.Firstly, when the mistake is caught and corrected, secondly when the mistake with no potential to harm the patient is caught and corrected and lastly when the mistake is caught that could harm the patient but does not. The administrative staff have given the highest positive scores for the three potentials as shown in the figure 6.25.

Figure 6.25 Frequency of events reported

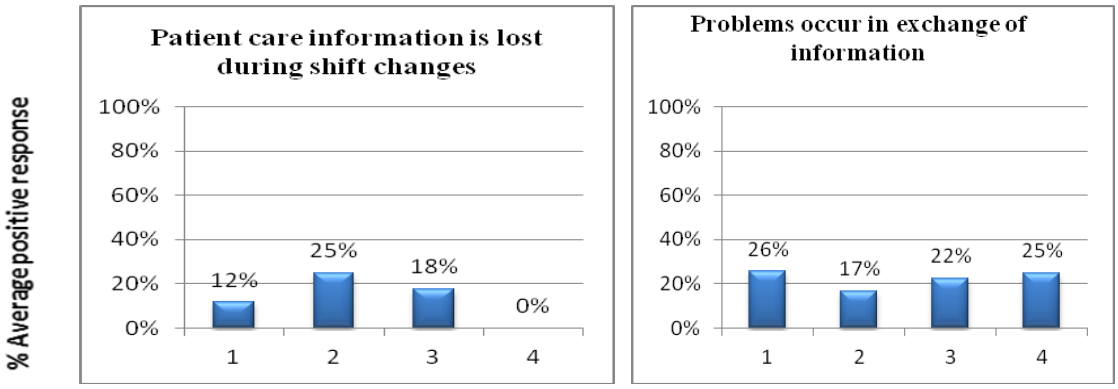


1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

12. Handoffs and transitions

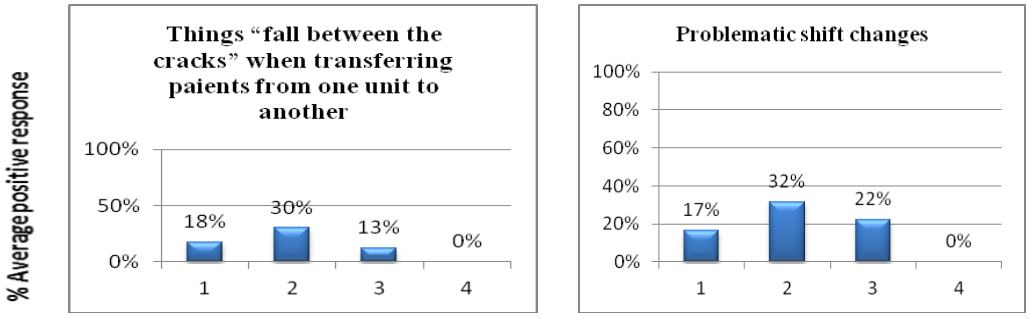
For the handoffs and transitions, four items were considered. The average of the positive responses amongst the staff for each item was calculated following which the average of all the items were calculated thereby calculating an overall average positive response.17 % of the staff agreed to the statement that patient information is lost during handoffs and transitions.

Figures 6.26 and 6.27 Handoffs and transitions (Four items)



1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

Figure 6.28 **Figure 6.29**



1. Nurses 2. Physicians 3. Technicians 4. Administrative staff

The results of section B on patient safety culture dimensions showed significant areas of strength. Some of the key strengths of the organization are as follows:

The aim was to get highest positive responses for the positively worded items/statements and lowest positive responses for the negatively- worded items/statements.

Areas of Strength

The five areas of strength or composites with the highest average percent positive responses were:

1. Teamwork within Units (85 percent positive response)—the extent to which staff support each other, treat each other with respect, and work together as a team.

2. Teamwork across units (81 percent positive response).

3. Supervisor/Manager Expectations and Actions Promoting Patient Safety (84 percent positive response)—the extent to which supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures.

4. Organizational Learning—Continuous Improvement (81 percent positive response)—the extent to which mistakes have led to positive changes and changes are evaluated for effectiveness.

5. Hospital management promotes patient safety (88 % positive response).

6. The actions of hospital management show that patient safety is a top priority (87 % positive response).

Areas with the lowest average percent positive responses

The six areas with the lowest average percent positive responses were:

1.Punitive Response to Error (40 percent positive response)—the extent to which staff feel that their mistakes and event reports are held against them and that mistakes are kept in their personnel file.

2. Handoffs and Transitions (17 percent positive response)—the extent to which important patient care information is lost during shift changes.

3. Staffing (39 percent positive response)—the extent to which there are not enough staff to handle the workload and work hours are appropriate to provide the best care for patients.

4. Frequency of events reported (62 percent positive response)- the extent to which the staff report the events.

5. Communication to openness (37 percent positive response)-the extent to which staff feel free to speak up for any concerns related to patient safety.

6. Feedback to error (63 percent positive response)-the extent to which the staff get feedback after an incident is reported.

Table 1 Overall summary of patient safety culture dimensions with average percent positive responses

Patient safety culture dimensions	***Average percent positive response***
Overall perception of patient safety for positively-worded statements	83 percent
Overall perception of patient safety for negatively-worded statements	35 percent
Team work within units	85 percent
Team work across units	81 percent
Organizational learning	81 percent
Hospital management supports patient safety for positively-worded statements	84 percent
Hospital management supports patient safety for negatively-worded statements	32 percent
Hospital management supports patient safety	88 percent
Hospital management's top most priority is patient safety	87 percent
Punitive response	40 percent
Staffing	39 percent
Communication to openness	37 percent
Feedback to error	63 percent
Frequency of events reported	62 percent
Hands offs and transitions	17 percent

Discussion

The study was conducted in a 253 bedded tertiary care hospital. The hospital is Joint Commission International accredited and the staffing is multicultural. The results of section A have shown significant differences in knowledge gaps amongst different healthcare staff. One such significant difference was the gap between the nurses and doctors related to the international patient safety goals awareness. As compared to the nurses only half of the doctors knew about the goals.

This reflects the psychometric differences that exist between the doctors and nurses. The nurses are more aware of the goals as they undergo regular mandatory trainings and workshops related to patient care at the hospitals. On the contrary the doctors are more specific about their own clinical procedures that they do and accordingly go for the trainings and conferences if they needed.

Nurses are more exposed to the patient safety related concepts as they were taught about this same in their nursing schools. The lack of a subject on patient safety in medical schools may be one of the reasons why doctors have lesser inclination towards the overall patient safety awareness and only consider safety within their own doctor/patient relationship.

Recently many medical schools are starting a new subject on patient safety in the curriculum. This may develop the inclination of the young medical students towards the overall patient safety concepts.

The overall perception of patient safety is positive for most of the items covered under the dimension. However only 68 percentage of the doctors agree to the statement that “patient safety is never sacrificed.’’ It may be assumed that most of the doctors related more to the need for apparatus in their units for safety. Also, only 68 percentage of the doctors gave a positive response for the statement that “We are having good procedures and systems at preventing errors thereby supporting the latter that doctors do relate more to the need of apparatus and IT support when it comes to safety.

For the negatively -worded statements under the overall perception of patient safety, the aim was to get lowest positive responses. However 57 and 40 percentage of the nurses and doctors agreed that “It is just by chance that serious mistakes don’t happen here.” It may be because of the complexity of the statement assuming that they thought the statement is having a positive connotation. Almost an equal number of technicians, doctors and the nurses agreed to the statement “We have patient safety problems in the unit.” This may be related to the information lost during handoffs and transitions. The doctor’s writings are usually illegible and most of the times the nurses are not able to understand the written instructions fully. Furthermore, they are afraid to go to the doctors for the clarification. This might be one of the cultural barriers as most of the nurses agree to the doctors and are afraid to ask further information.

Under the staffing dimension, 39 percentage of the nurses agreed that the hospital uses more staff than is best for patient care. It may be assumed that they related to the temporary rotation of the nurses between wards and did not understand that the statement is referring to the temporary staff.

Also, 64 percentage of nurses and 53 percentage of the doctors agreed to the statement “We work in crisis mode.” The statement is negatively- worded and low responses were expected. It may be assumed that they related to being busy and thereby giving a positive response.

Under the punitive response, there is an overall 40 percentage average positive response. In general, the doctors gave the highest positive reponse. It means that the staff is worried about their personnel file and the mistakes they make. It may be considered as good as mistakes lead to positive changes and overall better patient outcomes. As reporting the incidents bring in the accountability dimension in an organization. However, the human factor should not be only looked into only but also the processes/systems that made the incident to happen.

Conclusion

The overall perception of the professionals in the hospital towards patient safety culture is significantly high as evident by a higher number of average positive responses for the positive-worded items in the study. Team works within units and across units are the strong areas of the organization. Another significant positive finding is about the organizational learning, the extent to which the staff believe that they are learning from their mistakes and evaluating their effectiveness. Hospital management supporting the patient safety initiatives and procedures too got a higher positive response from the respondents.

In general, the nurses gave more positive responses for all the dimensions and also a higher overall grade on patient safety as compared to the other staff. Next to the nurses, the administrative staff held a more positive perception for the dimensions thereby giving overall higher positive responses.

In addition, punitive response to error, handoffs and transitions, staffing, frequency of events reported, communication to openness and feedback to error got the lowest average positive responses. The recent emphasis on “To err is human” by Institute of Medicine (IOM) has led the organizations to bring more transparency at all the levels. Because of the fear of being caught most of the times the events occurred are under reported or sometimes not reported at all. Mistakes can led to positive changes. It is recommended to report all the events even the potential ones as this would instill the culture of reporting events and learning from them.

Also, one of the most interesting findings of the study showed that the nurses were more knowledgeable regarding patient safety than the doctors as contrary to the belief that doctors are more knowledgeable. This was supported by the fact that 84% of the nurses knew about the international patient safety goals as compared to only 41 % of the doctors.

Safe recapping procedures of used needles and color coding of sharps disposal got the lowest scores. Most of the respondents did not know that the recapping devices can also be used to prevent needle stick injuries.

In addition, a high degree of consensus was there amongst the staff regarding the attributes of patient-centered care. The idea that engaging patients in their own safety, the support from the IT to prevent medication errors and adherence to hand washing got good overall scores from the respondents.

Surveying hospital staff and physicians about patient safety culture may be a useful mean to assess the environment within a hospital for preventing patient harm. Higher patient safety culture scores may result with better patient outcomes.

The Canadian Council on Health Services Accreditation (CCHSA) in January 2005 formally recognized the importance of culture in healthcare standards by including a culture of safety as one of their patient safety goals and also specifying five required organizational practices to promote a positive culture.

In conclusion, the overall safety culture of the organization is between the proactive and generative stage. The Manchester Patient Safety Framework described five levels of culture: pathological, reactive, calculative, proactive and generative. At the pathological level of maturity, organizations lack in safety culture. Organizations at the reactive level respond only after significant incident/harm has occurred. Calculative organizations tend to be bound by rules, positions and bureaucracy. They don't make a deeper inquiry into the systems/ processes after an incident occurs. Organizations at the proactive level are on the alert and focus their efforts on anticipating safety issues before they occur by involving a wide range of stakeholders in safety. Generative organizations actively seek out information to understand why they are safe and unsafe and are the highest level of maturity as safety culture is an integral part of the organization (Annex A2).

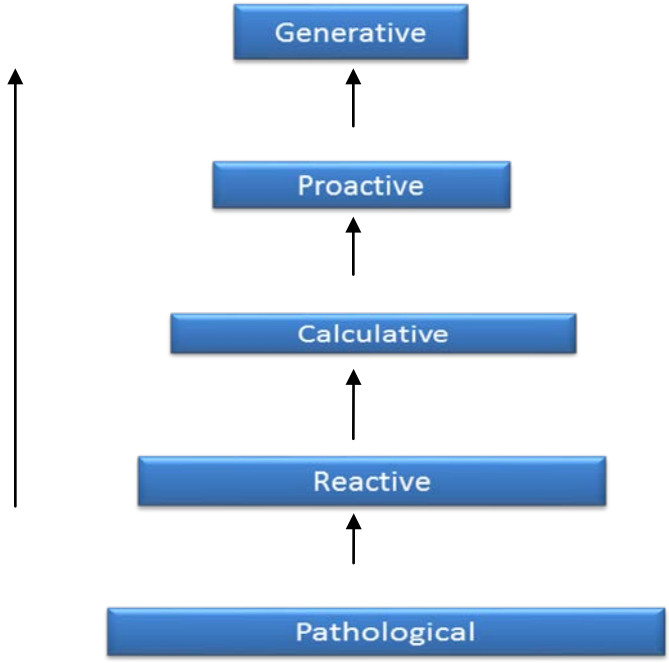
Appendix (A1)

AHRQ Patient Safety Culture Composites	Definition: The extent to which…
1. Communication openness	Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority.
2.Feedback and communication about error	Staff are informed about errors that happen, given feedback about changes implemented, and discuss ways to prevent errors.
3. Frequency of events reported	Mistakes of the following types are reported: (1) mistakes caught and corrected before affecting the patient, (2) mistakes with no potential to harm the patient, and (3) mistakes that could harm the patient but do not.
4. Handoffs and transitions	Important patient care information is transferred across hospital units and during shift changes.
5. Management support for patient safety	Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.

6. Punitive response to error	Staff feel that their mistakes and event reports are held against them and that mistakes are kept in their personnel file.
7.Organizational learning—Continuous improvement	Mistakes have led to positive changes and changes are evaluated for effectiveness.
8. Overall perceptions of patient safety	Procedures and systems are good at preventing errors and there is a lack of patient safety problems.
9. Staffing	There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.
10. Supervisor/manager expectations and actions promoting safety	Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems.
11. Teamwork across units	Hospital units cooperate and coordinate with one another to provide the best care for patients.
12. Teamwork within units	Staff support each other; treat each other with respect, and work together as a team.

Appendix (A2)

Patient Safety Culture Maturity Levels



Manchester patient safety culture assessment tool, 2010

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Hospital Survey on Patient Safety

I am a management trainee at the VPS corporate office. I have a background in dentistry. I am a student of Institute of Health Management Research, Jaipur. I am doing a study to collect information on aspects of patient safety culture. I would greatly appreciate it if you could spare some minutes to answer a few questions. The information given by you will be treated as confidential and will only be used for research purposes.

Thank you.

Gender: Prepared by: Dr. Sehr Durrani

Instructions

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 15 to 20 minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- An "event" is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.
- "Patient safety" is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.

Background Information

Department - Staff position in this hospital -

1. How long have you worked in this hospital?

☐ a. Less than 12 months
☐ b. More than 12 months

2. How long have you worked in your current hospital work area/unit?

☐ a. Less than 12 months
☐ b. More than 12 months

1. How many JCI International Patient Safety Goals are there?

3	6	5	4	Not sure
☐	☐	☐	☐	☐

2. We must encourage the use of at least___of the patient identifiers.

1	2	3	5	Not sure
☐	☐	☐	☐	☐

3. Early signs of pressure ulcers include all of the following except:

Warm areas	Spongy or hard skin	Itching	Skin redness	Not sure
☐	☐	☐	☐	☐

4. Chest compressions to ventilation ratio for an adult by a single rescuer is

15:2	30:2	10:2	30:1	Not sure
☐	☐	☐	☐	☐

5. To prevent needle-stick injuries, one should follow safe recapping procedures such as:

One- handed scoop technique	Use of a recapping device	Both	None	Not sure
☐	☐	☐	☐	☐

6. Color coding for sharp waste is

Yellow	Blue	Green	Black	Red
☐	☐	☐	☐	☐

7. Are you concerned about how adverse/sentinel issues are dealt with in your hospital?

Very concerned ▼	Concerned ▼	Neither ▼	Not really concerned ▼	Not at all ▼
☐1	☐2	☐3	☐4	☐5

8. By adhering to appropriate hand washing guidelines, nurses and healthcare staff can reduce infection transmission.

All the time▼	Most of the time▼	Neither ▼	I don't adhere to the guidelines▼	I prefer not to comment ▼
☐1	☐2	☐3	☐4	☐5

9. How concerned are you about the patient safety in your hospital?

Very concerned	Concerned	Neither	Not really concerned	Not concerned at all
▼	▼	▼	▼	▼
☐1	☐2	☐3	☐4	☐5

10. Systems that use information technology (IT), such as computerized physician order entry, automated dispensing, barcode medication administration can be vital components of strategies to prevent medication errors.

Strongly Agree	Disagree	Neither	Disagree	Strongly Disagree
▼	▼	▼	▼	▼
☐1	☐2	☐3	☐4	☐5

11 - Patients can have a role in patient safety. They can be vigilant observers of the care they receive and can provide information about adverse events and safety- related processes.

Strongly support	Support the idea	Neither	I don't support the idea	I prefer not to comment
▼	▼	▼	▼	▼
☐1	☐2	☐3	☐4	☐5

SECTION B: Your Work Area/Unit (continued)

In this survey, think of your "unit" as the work area, department, or clinical area of the hospital where you spend most of your work time or provide most of your clinical services.

Think about your hospital work area/unit…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1.We are actively doing things to improve patient safety	☐1	☐2	☐3	☐4	☐5
2. We use more agency/temporary staff than is best for patient care	☐1	☐2	☐3	☐4	☐5
3.Staff feel like their mistakes are held against them	☐1	☐2	☐3	☐4	☐5
4.Mistakes have led to positive changes here	☐1	☐2	☐3	☐4	☐5
5. It is just by chance that more serious mistakes don't happen here	☐1	☐2	☐3	☐4	☐5
6.When one area in this unit gets really busy, others help out	☐1	☐2	☐3	☐4	☐5
7.When an event is reported, it feels like the person is being written up	☐1	☐2	☐3	☐4	☐5
8. After we make changes to improve patient safety, we evaluate	☐1	☐2	☐3	☐4	☐5

9.We work in "crisis mode" trying to do too much, too quickly…….	☐1	☐2	☐3	☐4	☐5
10.Patient safety is never sacrificed to get more work done……	☐1	☐2	☐3	☐4	☐5
11.Staff worry that mistakes they make are kept in their personnel file…….	☐1	☐2	☐3	☐4	☐5
12. We have patient safety problems in this unit……..	☐1	☐2	☐3	☐4	☐5
13. Our procedures and systems are good at preventing errors……..	☐1	☐2	☐3	☐4	☐5

SECTION C: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report.

	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures…….	☐1	☐2	☐3	☐4	☐5
2. My supervisor/manager seriously considers staff suggestions for improving patient safety……..	☐1	☐2	☐3	☐4	☐5
3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts……	☐1	☐2	☐3	☐4	☐5
4. My supervisor/manager overlooks patient safety problems that happen over and over…….	☐1	☐2	☐3	☐4	☐5

SECTION D: Communications

How often do the following things happen in your work area/unit?

Think about your hospital work area/unit…	Never ▼	Rarely ▼	Some-times ▼	Most of the time ▼	Always ▼
1.We are given feedback about changes put into place based on event reports.....	☐1	☐2	☐3	☐4	☐5
2.Staff will freely speak up if they see something that may negatively affect patient care	☐1	☐2	☐3	☐4	☐5
3.We are informed about errors that happen in this unit	☐1	☐2	☐3	☐4	☐5
4.Staff feel free to question the decisions or actions of those with more authority	☐1	☐2	☐3	☐4	☐5
5.In this unit, we discuss ways to prevent errors from happening again.....	☐1	☐2	☐3	☐4	☐5
6.Staff are afraid to ask questions when something does not seem right.....	☐1	☐2	☐3	☐4	☐5

SECTION E: Frequency of Events Reported

In your hospital work area/unit, when the following mistakes happen, how often are they reported?

	Never ▼	Rarely ▼	Some-times ▼	Most of the time ▼	Always ▼
1.When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	☐1	☐2	☐3	☐4	☐5
2. When a mistake is made, but has no potential to harm the patient, how often is this reported?	☐1	☐2	☐3	☐4	☐5
3. When a mistake is made that could harm the patient, but does not, how often is this reported?	☐1	☐2	☐3	☐4	☐5

SECTION F: Patient Safety Grade

Please give your work area/unit in this hospital an overall grade on patient safety.

☐	☐	☐	☐	☐
A	B	C	D	E
Excellent	Very Good	Acceptable	Poor	Failing

SECTION G: Your Hospital

Please indicate your agreement or disagreement with the following statements about your hospital.

Think about your hospital…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. Hospital management provides a work climate that promotes patient safety	☐1	☐2	☐3	☐4	☐5
2. Hospital units do not coordinate well with each other	☐1	☐2	☐3	☐4	☐5
3. Things “fall between the cracks” when transferring patients from one unit to another	☐1	☐2	☐3	☐4	☐5
4. There is good cooperation among hospital units that need to work together	☐1	☐2	☐3	☐4	☐5

SECTION H: Your Hospital (continued)

Think about your hospital…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
5. Important patient care information is often lost during shift changes...	☐1	☐2	☐3	☐4	☐5
6. It is often unpleasant to work with staff from other hospital units	☐1	☐2	☐3	☐4	☐5
7. Problems often occur in the exchange of information across hospital units.....	☐1	☐2	☐3	☐4	☐5
8. The actions of hospital management show that patient safety is a top priority.....	☐1	☐2	☐3	☐4	☐5
9. Hospital management seems interested in patient safety only after an adverse event happens.....	☐1	☐2	☐3	☐4	☐5
10. Hospital units work well together to provide the best care for patients.....	☐1	☐2	☐3	☐4	☐5
11. Shift changes are problematic for patients in this hospital.....	☐1	☐2	☐3	☐4	☐5

THANK YOU FOR COMPLETING THE SURVEY