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A Study on Adherence to International Patient Safety Goals in a Tertiary Care Cardiac Centre in India

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Abstract

Introduction: Aim:To assess adherence to International Patient Safety Goals among medical and paramedical staff.Objectives:To assess awareness levels about the goals amongst the hospital staff and implementation of the goals by the medical and paramedical staff.

Method: This is a cross-sectional study.The stratified sampling method was used where the healthcare providers who are directly associated with patients in patient care,were sub-grouped into doctors, nurses and paramedical staff which include physiotherapists,lab technicians,radiologists, dieticians,etc. 18% - 20% of the staff under each sub-group was randomly considered for sampling.A structured observational checklist was used along with interview and the questionnaire consisted of 20 questions covering all the 6 goals.The study was carried out from 3rd May 2017 to 15th June 2017 with a sample size of 306 in total.

Results and Discussion: Overall compliance (category wise) is observed to be highest in Doctors with 72%, followed by Nurses with 69% and then Paramedics with 68% compliance.

It was noted that the cause of non-compliance with the goals by staff was either because of lack of knowledge or extra work load which reduces the ease of implementation or sometimes combination of both.Doctors and paramedical staff have mentioned insufficient training classes as the reason for their non-compliance.Nurses had classes on a regular basis but still failed to acknowledge and implement the same.

Keywords : *Adherence,International patient safety goals,tertiary care cardiac centre.*

Introduction

The study setting is a tertiary care cardiac centre in India with National Accreditation Board for Hospitals and Healthcare (NABH) and Joint Commission International (JCI) accreditations. It is a 1000-bedded,super speciality hospital and is equipped with over 20 dedicated Cardiac Operation Theatres and 5 Digital Cath Labs of which one is a Hybrid. It is proficient in performing both interventional cardiac procedures as well as complex heart surgeries.200 critical care beds are devoted to post-operative care. The hospital has successfully treated heart problems on patients ranging from newborns to geriatric adults,from several countries and has done free cardiac procedures for children.It performs over 30 heart surgeries per day and is equipped to perform up to 60 heart surgeries per day to treat complex heart defects like Atrial Septal defect (ASD), Ventricular Septal Defect

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(VSD) and Tetralogy of Fallout (TOF) with surgeries including heart valve repair,coronary artery bypass graft,heart transplant,etc.

IPSG (International Patient Safety Goals) speaks for it itself i.e.improving safety of patients in hospitals. This is one of the key standards to be met by the hospital in order to get certified by the Joint Commission International (JCI).Based on the report produced by Department of Health and Human Services of USA in 2010,1.8 million hospital patients die every year because of infections,surgical mistakes and/ or other medical harm.Another 1.4 million are seriously hurt by their hospital care.[1,2,3,4]

Methodology

Aims and Objectives:

The aim of this study is to find out how many medical and paramedical staffs are adhering to/complying with the International Patient Safety Goals.The objectives of the study are to find the awareness level of the goals amongst the hospital staff and implementation of the goals by the medical and paramedical staff.

Scope of the study:

For this cross-sectional study,stratified sampling method was used where the healthcare providers who are directly associated with patients in patient care,were sub-grouped into doctors,nurses and paramedical staff which include physiotherapists,lab technicians, radiologists,dieticians etc.18% - 20% of the staff under each sub-group was randomly considered for sampling.A structured observational checklist was used along with interview and the questionnaire consisted of 20 questions covering all the 6 goals.The study was carried out from 3rd May 2017 to 15th June 2017 with a total sample size of 306.

Sources of data

It is primary data where staff of the hospital were audited(observed and interviewed) who are involved in patient care directly.Sample includes doctors(surgeons, anesthesiologists,consultants,junior doctors),nurses(shift in charge nurses,floor in charge nurses,cath lab nurses,OT nurses,nurses from radiology,nurses posted at wards and OPD) and paramedical staff (physiotherapists,radiologists,ECG technicians,TMT technicians,technicians at phlebotomy and blood bank) of a tertiary care cardiac centre in India.

Limitations of the study

Since there was no access to the operation theatres and cath labs,the findings on goal 4 are based purely on interviews.

Due to the lack of availability of information on the exact number of dietary staff employed,they could not be included as a part of the sample.

Results and Discussion

Overall Compliance Percentage : Category wise

The overall compliance (category wise) is observed to be highest among Doctors (72%),followed by Nurses (69%) and then Paramedics (68%).

Though the compliance rate of doctors is 72%,

1. 51% of the doctors (14 out of 27) audited were unaware of IPSG.

2. The remaining 49% (13 out of 27) were partially aware of the goals.

Going by implementation,only 69% compliance is observed among nurses.Going by the awareness,out of the 213 nurses audited,

3. 21% (45) were aware and followed the goals,

4. 23.5% (50) were unaware and

5. 55% (118) were either partially aware or aware but ignorant about certain parameters.

Paramedics include physiotherapists, lab technicians, radiologists, clinical nutritionists and infection control nurses.In total 66 were audited.Out of this 66,

6. 30% (20) were aware of the goals,

7. 54.5% (36) were unaware and

8. 15% (10) were either partially aware or ignorant about the same.

Goal wise observation

Goal 1: Identification of Patient Correctly

Following are the parameters with which they were audited for compliance with goal 1. 1.1 Are at least 2

identifiers (name and MRN) used to identify patients?

1.2 Are any other identifiers used to identify patients apart from name and MRN?

1.3 Are the patients identified every time prior to a course of action (before giving drugs, before serving diet-specific food, before procedure, etc.)?

1.4 Are colour coded ID bands used for patient identification?

Compliance observed in different categories under each parameter of the goal.

Doctors have a good compliance rate in parameters 1.1 and 1.3 which deals with the identification of patients using a minimum of 2 identifiers and the identification of the patient every time prior to any course of action involving patients,respectively.

The rate of compliance is less than impressive in parameters 1.2 and 1.4 which are about not using the bed number as one of the identifiers and using colour coded ID bands with basic patient information on it respectively.

In nurses, the compliance is highest in parameter 1.1 (209/ 213) followed by 1.3 (185/213), 1.2 (96/213) and 1.4 (86/206). It is important for nurses to have good compliance, considering the amount of patient contact they establish during patient care.Wrong identification of patients can lead to serious complications.

Paramedical staff, just like the other two categories seem to follow the compliance level when compared parameter wise with highest being parameter 1.1 with almost full (65/66) compliance followed by 1.3 (56/66), 1.2 (43/66) and 1.4 (20/40) with only half the sample being compliant.

Correct identification of patients by paramedical staff is also important considering the amount of contribution they have in delivering patient care.Wrong identification can lead to wrong tests and/or wrong report delivery which can create a lot of chaos and/ or lead to wrong treatment thereby putting the patient's life in jeopardy.

Goal 2: Improving Effective Communication

Following are the parameters with which staff were audited for compliance with goal 2:

2.1 Are the hands off forms filled regularly?

2.2 Are verbal orders taken even when there is no emergency?

2.3 Is Read-Back, Repeat-Back policy (confirmation) followed for verbal orders?

Parameter 2.1 speaks about patient handover.Since this is a study involving observation and interview, compliance based on knowledge alone was not considered. With respect to giving verbal orders, doctors have shown satisfactory compliance.Only 25 nurses were observed to be carrying out patient transfers during auditing, out of which only 17 seemed to be aware of the hands off form (patient transfer checklist) and also documented the same.With respect to taking verbal orders, 203 nurses took it during the time of observation out of which 13 did it while there was no emergency. The parameter is about not taking verbal orders and taking only written orders at times other than emergencies and hence the compliance of 190.

When verbal orders are taken from doctors,the policy is to follow read-back and repeat-back for confirmation of the same.Out of 9 nurses audited for this parameter, only 6 were compliant i.e.followed the read-back and repeat-back policy.Taking or giving verbal orders is not applicable for paramedical staff since they do not have the authority for the same except for 5 of them in TMT (Treadmill Test) laboratory.Out of these 5, none of them took verbal orders at the time and hence were compliant with parameter 2.2 while parameter 2.3 is nil since it is not applicable unless verbal orders are taken or given.

Patient transfer was applicable only for the nurses at the time of study period and hence observation for parameter 2.1 is seen only under nurses while 100 percent compliance is seen in paramedical staff doctors for parameters 2.2 and 2.3,respectively.

Goal 3: Improving the Safety of High-Alert Medications

Following are the parameters with which staff were audited for compliance with goal 3:

3.1 Are high alert medications stored as per policy?

3.2 Are the high alert medications labeled and color coded appropriately?

3.3 Are concentrated electrolytes labeled correctly

and color coded appropriately?

3.4 Are look-alike and sound-alike drugs labeled and colour coded appropriately?

3.5 Are near expiry medicines segregated regularly?

3.6 Is double verification done before administration of high alert drugs?

Goal 3 talks about the storage of high alert medication as per regulations. In the hospital, doctors were not given the responsibility to maintain emergency medicine trolley or crash cart,there by eliminating them as study subjects for this goal.In spite of that,3 doctors with this responsibility were identified from the ECG and dental units where there are no nurses, thus passing on the duty to the doctors present there.

Out of the three doctors observed,not all of them were given all the types of medications to manage in the emergency trolley.Since only selected medications are given to them for handling,the number of doctors audited under this goal varies.

Out of 213 nurses audited,not all were applicable for this goal even though the whole burden of maintaining high alert medications lies on them, because a few nurses from cath lab do not require to store them. This is the reason behind the varying sample size under this goal.

Nurses showed least compliance for parameter 3.6 which deals with double verification prior to administration of high alert medications.The highest compliance was for parameter 3.5 which deals with policies for drugs close to expiry.Paramedical staff on the other hand are also not allowed to maintain the crash carts except in the TMT and ECG rooms. This condition brought the sample number down to 12. Overall, paramedical staff compliance to goal 3 is not found to be good.Parameter 3.6 is not applicable to paramedical personnel since they are not authorized to administer drugs.

The highest compliance among doctors is 100% for parameter 3.6,which speaks about double verification prior to administration while the lowest compliances are in parameters 3.3, 3.4 and 3.5, all with 0% compliance. These three parameters talk about labeling, colour coding, storing of LASA drugs and concentrated electrolytes and storage of prior expiry drugs.

Goal 4: Ensuring Correct-patient, Correct-procedure and Correct-site of Surgery The parameter with which staff were audited for compliance with goal 4 is whether 'Is time-out procedure done before a procedure/surgery or not?'

There is only one parameter under this goal that was checked for compliance and that is about following the documentation of time-out procedure to ensure correct-site, correct-procedure and correct-patient, prior to wheeling the patients into operation theatre and cath labs. Full compliance is seen under this goal by both doctors and nurses from the OT and cath lab. It is not applicable for paramedical staff.

Goal 5: Reducing the Risk of Healthcare Associated Infections

The parameters with which auditing was done for goal 5 are:

5.1 Are the 5 moments of hand hygiene followed?

5.2 Are the 7 steps of hand washing followed?

5.3 Are hands washed after handling *Clostridium difficile* infected patients?

Good level of compliance is seen for the parameter 5.1 which is above 60% while parameter 5.2 ranges from 45% to 66% with the highest compliance in the former parameter beimg by doctors and in the latter parameter being by nurses.

Parameter 5.3 is not applicable for any category because it is about handling of *Clostridium difficile* infected patients and there were no patients admitted with *Clostridium difficile* infection during the period of the study.

Goal 6: Reducing the Risk of Patient Harm Resulting From Falls

Patient falling is the most common patient safety incident reported(Al-Qahtani & Messahel, 2013)[1]. Prevention of patient falls during their stay is an important aspect to be taken care of and hence gave birth to goal 6 of IPSG which is about fall risk assessment, reassessment and measures taken to prevent fall of patients.

Compliance to goal 6 of IPSG was assessed based on the followed parameters:

6.1 Is fall assessment done for all patients?

6.2 Is fall assessment and reassessment done regularly (after fall, change of drugs, post-surgery)?

6.3 Are measures taken to prevent fall?

The highest compliance is seen among doctors with 100% on parameters 6.1 and 6.2 while the lowest compliance is seen among nurses where it is 49.74% for parameter 6.2.Implementation of Health care–associated infections are today by far the most common complications affecting hospitalized patients. Surgical-wound infections constituted the second-largest category of adverse events.[5]Currently, between 5 and 10 percent of patients admitted to acute care hospitals acquire one or more infections, and the risks have steadily increased during recent decades.[6,7]These adverse events affect approximately 2 million patients each year in the United States,result in some 90,000 deaths, nd add an estimated $4.5 to $5.7 billion per year to the costs of patient care.[8,9]Many patient safety practices drawn primarily from nonmedical fields (e.g., use of simulators, bar coding, computerized physician order entry, crew resource management) deserve additional research to elucidate their value in the health care environment.[10]

Conclusion

Though the compliance gathered from the data can be characterised as good, hospitals must always strive to drive further improvements.It was noted that the cause of non-compliance with the goals by staff was either a lack of knowledge or excessive work load which reduces the ease of implementation or sometimes a combination of both.

Doctors and paramedical staff have pointed out that the reason for non-compliance from their side is due to insufficient training classes conducted while nurses had the classes on a regular basis but still failed to acknowledge and implement the same.Additionally, it was found that a few staff lacked the fundamentals and motivation to learn and imbibe the same for which interventional measures are to be taken and the same were suggested to the hospital.

Ethical Clearance- Taken from Institutional ethics committee

Source of Funding- Self

Conflict of Interest - Nil

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