

Compliance to Patient Safety Standards in a Tertiary Care Hospital

By

Rahul Batra

*Dissertation submitted in partial fulfillment of the requirements of the degree
MBA Hospital and Health Management*

Academic year, 2017-2019



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TO WHOMSOEVER MAY CONCERN

This is to certify that Rahul Batra, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Asian Institute of Medical Sciences, Faridabad from 12th February 2019 to 6th May 2019.

The Candidate has successfully carried out the study assigned to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

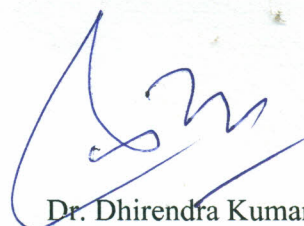
A handwritten signature in blue ink, appearing to read 'Ashok'.

(Col) Dr. Ashok Kaushik

Dean, Academics and Student Affairs

The IIHMR University, Jaipur

16 May 2019

A handwritten signature in blue ink, appearing to read 'Dhirendra'.

Dr. Dhirendra Kumar

Professor

The IIHMR University, Jaipur

The certificate is awarded to

Rahul Batra

In recognition of having successfully completed his

Internship in the department of

QUALITY

and has successfully completed his Project on

***Compliance to Patient Safety Standards in a Tertiary Care
Hospital***

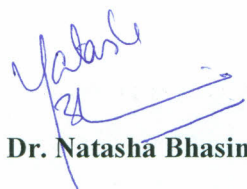
12th Feb 2019 to 6th May 2019

Asian Institute of Medical Sciences, Faridabad

He comes across as a committed, sincere & diligent person who has a strong drive and zeal
for learning

We wish him all the best for future endeavors

For Asian Institute of Medical Sciences



Dr. Natasha Bhasin

(Sr. Manager - Quality and Operations)

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled '**Compliance to Patient Safety Standards in a Tertiary Care Hospital**' in **Asian Institute of Medical Sciences, Faridabad** submitted by **Rahul Batra** Enrollment No. IIHMR-U/01/2017-19/0634 under the supervision of Dr. Dharendra Kumar for award of MBA in Hospital and Health Management of the University carried out during the period from **12th Feb 2019 to 6th May 2019** 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.



Signature
Rahul Batra

ACKNOWLEDGMENT

At the outset, I would like to articulate this project as small journey which was a remarkable learning experience for me. The successful completion of this project is only because of the extraordinary support, guidance, counseling and motivation from my respectable staff, of IIHMR University and my organization Asian Institute of Medical Sciences, Faridabad.

This journey could not be completed without support of my family and friends. I express my deep gratitude to Dr. Dhirendra Kumar (Professor) mentor for this project. Through the support provided by him, I have imparted knowledge on the avenues which this project has opened and explored. His directions in making me think about unique conceptual and practical aspects of Health & Safety which has lifted this project at this stage of successful completion.

I extend my gratitude to my Manager and all my colleagues, friends for their encouragement, support, guidance and assistance for undergoing industrial training and for preparing the project report.

DECLARATION

I do hereby declare that I am a student of 2nd year, MBA in Hospital and Healthcare Management, IIHMR University, Jaipur, Rajasthan session 2017-2019. I would like to state that I have carried out my Dissertation on the topic **“Compliance to Patient Safety Standards in a Tertiary Care Hospital”**. This project work is my own and has not been submitted to any of the other Institute or University for award of any degree or diploma.

Rahul Batra

MBA- HM 22

2017-2019

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2	Prescription/Drug Chart Audit of IPD files with respect to Patient Safety
3	Audit of Practice of hand Hygiene in Healthcare Facility with respect to Patient Safety among staff and employees of the hospital.

LIST OF ACRONYMS

- IPST - International patient safety goals.
- AMC - Annual Maintenance cost.
- OPD - Out patient department.
- IPD - In patient department.
- AIMS - Asian Institute of Medical Science.
- NABH - National accreditation board for hospitals & healthcare providers.
- EML - Essential Medicines List
- HAI - Hospital Acquired Infection
- ALOS - Average length of stay
- NABH - National Accreditation board for Hospitals and Healthcare Providers
- JCI - Joint Commission International
- FDC - Fixed Drug Combination
- HK - House Keeping
- GDA - General Duty Assistant

INTRODUCTION

Accreditation is "A public recognition of the achievement of accreditation standards by a healthcare organization, demonstrated through an independent external peer assessment of that organization's performance in relation to the standards"(1). Accreditation proves to be the best parameter for the quality standards of the hospital and it gives access to reliable and valid information about the facilities, the level of care and treatment as well as the infrastructure in a healthcare facility. The place where healthcare is provided to the population to fulfil the social needs should be a safety umbrella. Failure while identifying the errors of patient safety issues leads to increase in error events.

Safe medication practices, rights of drug administration, indicators related to quality & events related to medication, environmental safety like fire safety, patient safety devices, regular safety audits, clinical audits, and checklists should be emphasized on.

National Accreditation Board for Hospitals & Healthcare Providers (NABH) is a constituent board of Quality Council of India, set up to establish and operate accreditation standards for healthcare organizations in Hospitals. NABH Accreditation is a beneficial level of standard of for all the stake holders. Patients are the major stakeholders which takes the advantage from the accreditation. Accreditation results in matching the desired standard and helps in comparing the actual performance and the desired performance of the healthcare provider and ensuring high quality of treatment and facilities. NABH helps to protect the rights of patients and helps in evaluating the satisfaction level of patients. The staffs working in an accredited hospital is satisfied and it provides continuous learning process under good working environment, strong leadership and above all ownership of clinical processes. To comply with these standards, the hospital should have standard operating procedure and protocols in all aspects of activities that takes place in the hospital, starting from enquiry, registration, admission, any operating procedures and post-operative treatment till the follow up of the patient when he originally starts to recover. The policies should be transparent enough for all the stakeholders and protocols should be followed properly. NABH have total of 10 chapters out of which 5 have patient centric approach and 5 are having management centric approach with 102 standards and 683 objective elements.

Everyday many patients are treated by clinicians all around the world safely. Over the past 10 years patient safety has been noticed by the healthcare organisations. Hospital is more of a patient intensive place. Each employee is responsible to keep the hospital safe from hospital acquired infections. Patient safety nowadays is a global health concern which affects patients in all health care settings in developed countries as well as the developing countries with new health care settings. Research studies depict that around 10% of patients around the globe are victims of unintended patient harm. It is estimated that 75% of these incidents can be prevented with the help of efforts of staff and employees of healthcare settings. In addition to human suffering, unsafe health care exacts a heavy economic toll. Studies estimate that around 5-10% of the healthcare expenditure rises due to unsafe practices that result in patient harm. Most causes of the harm on patients is due to poor management system rather than individual faults. Patient safety standards are set of requirements that are important to establish the program for patient safety in healthcare settings for increase the knowledge of the patients as well as the employees in the organization. They provide a framework that enables hospitals to assess patient care from a patient safety perspective, build capacity of staff in patient safety, and involve consumers in improving health care safety .

Patient Safety - Patient safety is the absence of preventable harm to the patient during the process of health care. The discipline of patient safety is to prevent patients from any severe harm or risks due to healthcare. It is generally agreed upon that meaning of patient safety is “Please do not harm”.

Origin of Patient Safety Concept (Hippocratic Oath) – I will prescribe regimens for the good of my patients according to my ability and my judgement and “never do harm” to anyone. Improvement in the measures/aspects of patient safety reduces harm. Hospital have its primary function to keep people safe and ensure a comfortable stay. The main objective of patient safety is to prevent harm occurring to patients. The safety of the patients is of paramount importance. Patient safety has always been the priority in healthcare organizations. Implementation of patient safety has improved the hospital and patients both clinically and non-clinically. There are national guidelines given on patient safety and International Standards with respect to patient safety given for maintaining safety in healthcare facility, this helps in enhancing the relationship with the stakeholders. To improve patient safety, error must be prevented, rectified or at least minimized. To ensure the patient safety devices (For example, grab bars, bed rails, sign posting, safety belts on stretchers and wheel chairs, alarms both visual and auditory where applicable, warning signages like radiation or biohazard, call bells, fire safety devices etc.) should be installed in the healthcare facility and should be inspected periodically.

Patient Safety can be of these types:

- Information Safety
- Communication Safety
- Medication Safety
- Diagnostic Safety
- Treatment Safety
- Environmental Safety

The patient's consciousness level must be monitored to prevent any possible danger of falling for patients during sleep precautions like side rail, decreasing bed height must be taken, call bells as well as other patient safety devices which are responsible for preventing any mis happening in the organization with the patient.

According to Chapter No.8 (Facility Management and Safety) and Standard No.1 of National Accreditation Board for Hospitals and Healthcare Providers (NABH), Patient safety devices and Infrastructure are installed across the organization and inspected periodically. For example, grab bars, bed rails, sign posting, safety belts on stretchers and wheel chairs, alarms both visual and auditory where applicable, warning signs like radiation or biohazard, call bells, fire safety devices, etc. Provisions are made available for physically challenged/vulnerable person as per regulatory requirement example special toilet for physically challenged.

International Patient Safety Goals (IPSG) help accredited organizations address specific areas of concern in some of the most problematic areas of patient safety.

Goal 1: Identify patients correctly

Goal 2: Improve effective communication

Goal 3: Improve the safety of high-alert medications

Goal 4: Ensure safe surgery

Goal 5: Reduce the risk of health care-associated infections

Goal 6: Reduce the risk of patient harm resulting from falls

Types of Errors while maintaining patient safety:

1. **Adverse Event** – Any event or omission arises during treatment which causes physical and psychological injury to patient.
2. **Health care near misses** – Situation in which an event arising during clinical care falls to develop further, whether as the result of compensating action, thus preventing injury.
3. **Sentinel event** – Any unanticipated or unpredicted event in healthcare which is responsible or death or any serious harm to patients and is not related to natural illness of patient.
4. **Adverse Drug Reaction** – Unwanted effect caused by the administration of drugs
5. **Medication Error** – Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of healthcare profession patient or consumer.

Medication error has been defined as “any, preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of health-care professional, patient or consumer. The error may be of commission or omission, with potentially negative consequences for the patient, which would have been judged wrongly by skilled and knowledgeable peers at the time it occurred, independent of whether there were any negative consequences. Medication errors can be broadly considered to be of three types: prescribing errors, dispensing errors and administration errors”.(2)

Prescription Audit

An audit is a systematic process of evaluating and reviewing healthcare procedures or documentation to match the standards of quality of the hospital. Prescription audit is responsible for monitoring, evaluating and for suggesting/modifying some changes in on-going practices of clinicians. It helps in improving the quality of care. It helps the provider to estimate if they are providing the best level of care to the patient or not. Incorrect drug product selection, dose, dosage form, quantity, route of administration, concentration, rate of administration, or instructions for use of a drug product ordered or authorized by physician (or other legitimate prescriber), illegible prescriptions or medication orders are the major reasons that lead to errors. The scope of Prescription audit is to evaluate the appropriateness and completion while documenting the medications charts/prescriptions.

Potential benefits of prescription audit are as follows:

1. Identifying and promoting good and safe practices
2. Improve the quality and matching the desired standards
3. Continuous learning and development of staff

Fixed Drug Combination (FDC) - A combination drug is a fixed-dose combination (FDC) that includes two or more active pharmaceutical ingredients (APIs) combined in a single dosage form, which is manufactured and distributed in fixed doses.(3)

Examples – Ultracet, Multivitamins, Ecosprin gold etc.

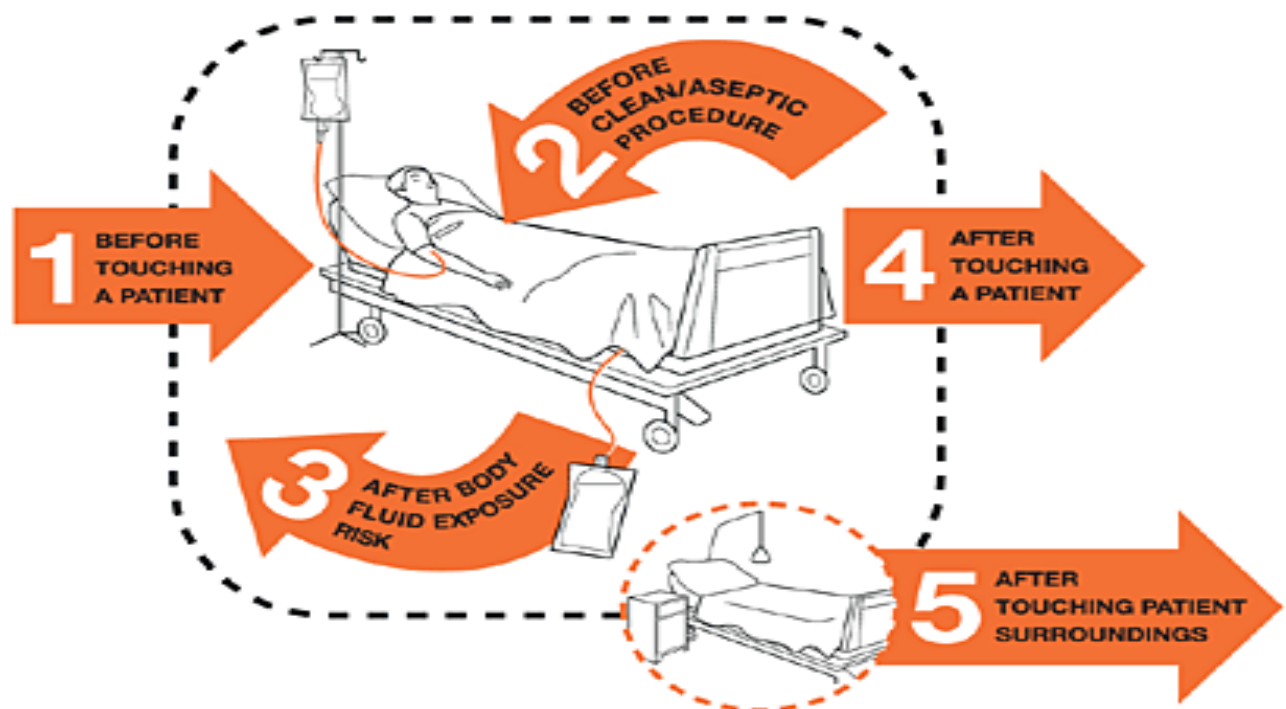
The parameters used for auditing the appropriateness of prescriptions/medications charts during the study are:

- If the dose, time and the route is mentioned in the medication chart?
- If the order continued column dated and signed by nurse?
- If the medication order is in capital letters?
- If there is any use of Error prone abbreviations in the medication chart or not?
- If the Medication Charts are signed/stamped by the doctor?

Hand Hygiene - Health care-associated infections are one of the major problems in hospital/healthcare sector which results into high mortality, increasing the ALOS of the patient and decreasing the quality. Hand Hygiene includes cleaning hands with soap and water or hand rub with alcohol-based hand rub to remove germs. Most of the infections in healthcare facility are caused via hands of workers, the major percentage of infections are transmitted in a hospital to a patient due to poor hand hygiene practices. Any action of cleansing hands with soap/water or antiseptic or hand sanitizer for removal of micro-organisms comes under process of hand hygiene. Hand hygiene is important for healthcare providers as well as for others and everyone needs to be practicing appropriate and effective hand hygiene. Busy health care providers should have accessibility to hand hygiene products where patient or patient environment contact is taking place. Hand hygiene is important in all the critical care departments as well as Acute Care, Long Term Care Facilities, Community and Corporate sites. ICUs have the highest incidence of HAI. Health care workers (HCWs) hands are the more frequent carriers for the responsible microorganisms(4). Providing alcohol-based hand rub at the point of care (within arm's reach) can improve hand hygiene practices in a hospital and can reduce the infections with compliance about 90%. There are 5 moments of hand hygiene that are given by the World Healthcare Organization (WHO) that needs to practice in healthcare sector for improvement and reduction in Hospital acquired infections

5 moments of hand hygiene are -

1. Before touching a patient
2. Before clean/aseptic procedures
3. After body fluid exposure/risk
4. After touching a patient
5. After touching patient surroundings.(5)



REVIEW OF LITERATURE

1) Perception of patient safety culture among health-care providers in a Tertiary Care Hospital, South India(6)

Author - Adhisakthi Rajalatchumi, Thanjavur S Ravikumar, Kaliaperumal Muruganandham, Mahalakshmy Thulasingham, Kalaiselvi Selvaraj, Mahendra M Reddy, Balachander Jayaraman

Introduction – Patient safety covers both employees and patient in a healthcare facility. It is a managerial and organizational concern in healthcare. Patient safety is directly proportional to the quality of the hospital. Patient safety also includes the reporting and prevention of medications errors which can cause further to adverse drug reaction or adverse drug event. Most of the events which can increase the chances of harm to patient safety are preventable and can be stopped if continuously monitored. Sometimes the cause of infection can be the poor management.

Study Setting – The study carried out was hospital based cross sectional study conducted in one of the multispecialty hospitals with Undergraduates, Post Graduates and other allied staff persons. All permanent front-line health care workers serving in the hospital for more than six months of time period were included as a apart of the study. A questionnaire for survey in the hospital was developed by Agency Healthcare Research Quality from United States of America. After taking consent from people, the questionnaire was filled with the help of randomly selected participants. The main outcome variable “perception regarding patient safety culture” was assessed through the modified questionnaire. A 5-point Likert scale was used in the questionnaire (1 - strongly disagree, 2 - disagree, 3 - neither agree nor disagree, 4 – agree, and 5 - strongly agree). Information such as age, gender, experience and occupation of the patient was also collected

Results – The overall response rate in the study was around 91%. The dimensions “teamwork within the unit,” “organizational learning and continuous improvement,” and “supervisor or officer-in-charge expectations” have shown the highest positive responses.

2) Hand hygiene compliance among healthcare workers in an accredited tertiary care hospital(7)

Authors - Siddharth Chavali, Varun Menon, and Urvi Shukla

Introduction – Out of every 20 hospitalized patient 1 among them will always be affected by healthcare associated infections. Patient in critical care are more likely to be affected by healthcare infection. Most of the infections caused due to the employees working in the hospital via hands or skin. To measure and to control Healthcare infections the best practice to do is Hand hygiene. This is an easy process done by personally observing employees in usually the critical units of hospital.

Study Setting – The study is cross sectional observation study by personally observing the hospital staff. Almost 1500 opportunities were observed. The survey was done with the help of pretested close ended questionnaire.

Methods – After analysing the total opportunities it was observed that nurses (75.4%) had the highest number of contacts followed by other allied healthcare workers (24.5%). Most compliance was seen for the moment number 3 as the staff is very concerned and careful after the body fluid contact as it can cause severe infection to staff also. The allied staff did better with an equal distribution across all moments. The Hand hygiene moment 5 which was after touching patient surrounding was poor as most of the non-compliance was observed for that. It was found that 92% of the staff/employee was aware about Hand Hygiene facts.

3) Assessing hand hygiene compliance among healthcare workers in six Intensive Care Units(4)

Authors - M. Musu, A. Lai, N.M. Mereu, M. Galletta, M. Campagna, M. Tidore, M.F. Piazza, L. Spada, M.V. Massidda, S. Colombo, P. Mura, R.C. Coppola

Introduction – Healthcare associated infections are caused generally due to the pathogens present in the surrounding/environment. Sometimes the infections are also spread due to human contact like hospital staff and employees come in contact of patient and do administer any kind of treatment with their dirty hands can be one of the reasons for the spread of hospital acquired infections or poor clinical conditions can be a cause for hospital acquired infections.

Study Setting – The study was carried out in 6 different critical care departments of the healthcare facility; the study is perspective observational study. The main objective of the study is to assess the adhesion to the different aspects of hand hygiene (HH) by the workers/staff of the different ICUs. HCWs were observed during the hand hygiene practices including hand washing with soap and water, or hand rub with an alcohol-based solution.

Result – The results show variable level of adherence towards the hand hygiene practices in the departments where the study was conducted, the compliance rate was in range of 3% to 100%, and out of 142 protocols which were required only 73 were available during the study time.

4) Prescription audit in outpatient department of multispecialty hospital in western India: an observational study(8)

Authors - Nilay D. Solanki, Chaital Shah

Introduction – Prescribing audit is one of the parts of medical audit carried out to monitor, evaluate and recommend some modifications in the practices of prescribing a drug through clinicians. Prescription audit plays an important role in patient safety as wrong administration of drugs can be harmful for patients can there are chances of death.

Study Setting - The type of study was observational study carried out in the period of 2012-2013, a total of 150 samples of prescription were taken from the files of patients and were hence observed and analyzed and reported to the department head as well as the department heading quality. The study was carried out in 31 secondary level hospitals under MSDP (Maharashtra Health Systems Development Project).

Methods - Out of 150 prescriptions that were audited. 60% of the sample population were male and 40% were female cases. 13 parameters were assessed according to the checklist provided by the hospital, after counts analyzing it was found that 74 were noncompliance and 750 were not applicable. About 60% of the drugs that were prescribed were generic drugs and about 23% were in combination. Average number of drugs per prescription were 3.1. After analyzing the results of the findings an EML was prepared for each category for their use in OPD in secondary level hospitals.

RESEARCH QUESTION

- a) What are the Patient safety devices in a hospital and evaluating them considering the guidelines given by NABH and International Patient Safety Goal?
- b) What is the Compliance of medication charts/prescriptions in IPD files with policies and procedures to ensure the legibility?
- c) What is adherence of staff/employees of the critical care units towards hand hygiene practices in Asian Institute of Medical Sciences?

OBJECTIVE

To assess the hospital from a patient safety perspective and observe the compliance towards the patient safety standards.

Process for Assessment of Patient Safety Standards

- To analyse the following Patient Safety Indicators/Devices according to Patient Safety goals in NABH standards and IPSG-
 - 1. Patient Identification
 - 2. Nursing call bell
 - 3. Stretchers
 - 4. Wheelchairs
 - 5. Bed
 - 6. Proper Disclaimer in Washroom
 - 7. Electrical Boards
 - 8. Emergency call bell
 - 9. Fire extinguishers
 - 10. Refrigerators
- To audit the patient files for the appropriateness of prescriptions/medication charts in various inpatient departments of the hospital.
- To observe the Compliance with guidelines for hand hygiene given by WHO among hospital staff in critical care units of the hospital.
- To suggesting the closures of the Non-compliance and giving recommendations for further improvement in the patient safety environment of the hospital by monitoring and doing periodical internal audits in the hospital premises.

Process of the Study

Step 1- Checklist was made for conducting the audits. (3 days)

Step 2 - The data collection was done from various departments of the healthcare facility according to the convenience. (8 weeks)

Step 3 - The data was analysed for all the parameters and further interpretations were done. (4 days)

Step 4 - Recommendations for the improvements were suggested to the hospital and noted down in the report. (1week)

METHODOLOGY

PROJECT DESIGN: - The project design used in this study is '**Descriptive**'.

STUDY AREA: - Asian Institute of Medical Sciences

SAMPLE SIZE: - 697 patient files for Prescription Audit and 1001 hand hygiene opportunities. (Sample for Patient files has been taken as 10% of number of discharges per month and for hand hygiene it was 15 forms to be assessed per month as per hospital policy)

SAMPLING: - Convenient Sampling

DATA COLLECTION METHODS: - The data is collected from Primary Source (Direct Observation)

INCLUSION CRITERIA: -

Prescription Audit: All the patients who are admitted in the hospital premises for more than 24 hours were included in the study.

Drugs comes under the Fixed Dose Drug Combination (FDC) policy of hospital.

Hand Hygiene: All the doctors, nursing staff or allied health workers in the critical units of the hospital were included in the study.

EXCLUSION CRITERIA: -

Prescription Audit: Patients from Day Care were not included into the study.

TYPE OF DATA: - Real Time Data

STUDY DURATION: - 8 Weeks (1st March 2019 – 30th April 2019)

SOURCE OF DATA: The data has been taken from the prescriptions/medication charts in the patient files for the patients admitted in the hospital. Only patients file was referred after taking prior permission from hospital authority.

INSTRUMENT – Audit Checklist was prepared for patient safety devices and prescriptions in IPD files and a checklist given by WHO was adapted for assessment of Hand Hygiene Compliance.

STATISTICAL TOOL: - MS-Excel is used to analyze the data.

OBSERVATIONS

1. Patient ID Bands is an important patient safety device. Patient ID bands are very necessary for identification and it comes under International Patient Safety Goal 1. The chart depicts that 13% of the total IPD patients had issues with their ID band which were either not printed properly or else the information was blurred on the band.

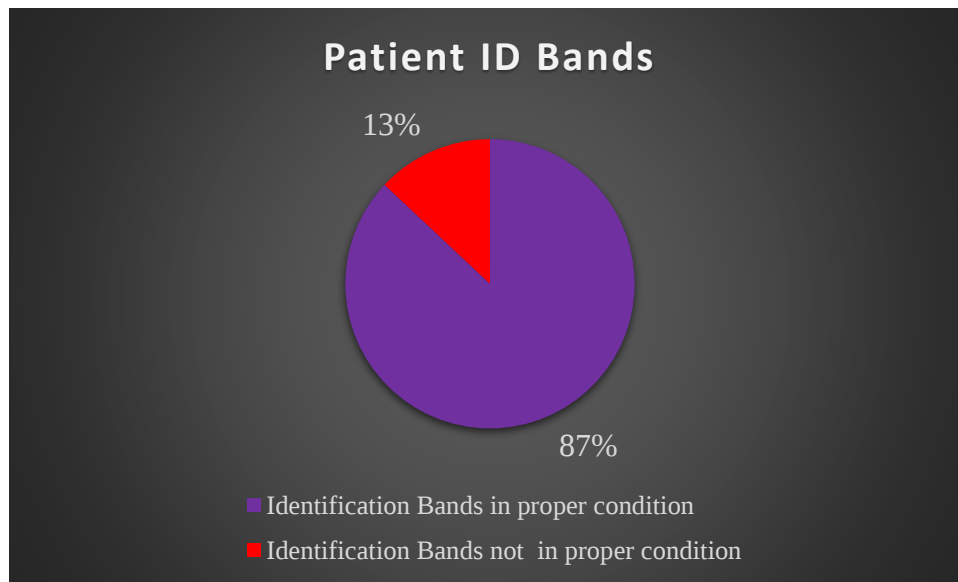


Fig 1.1 – Compliance in Patient ID Bands

2. Nursing call bell is essential for effective communication between the patient and nurses. It was found that about 9% of patient beds, as shown in the chart, had issues with nursing call bell button which were broken and some of them were not functioning properly.

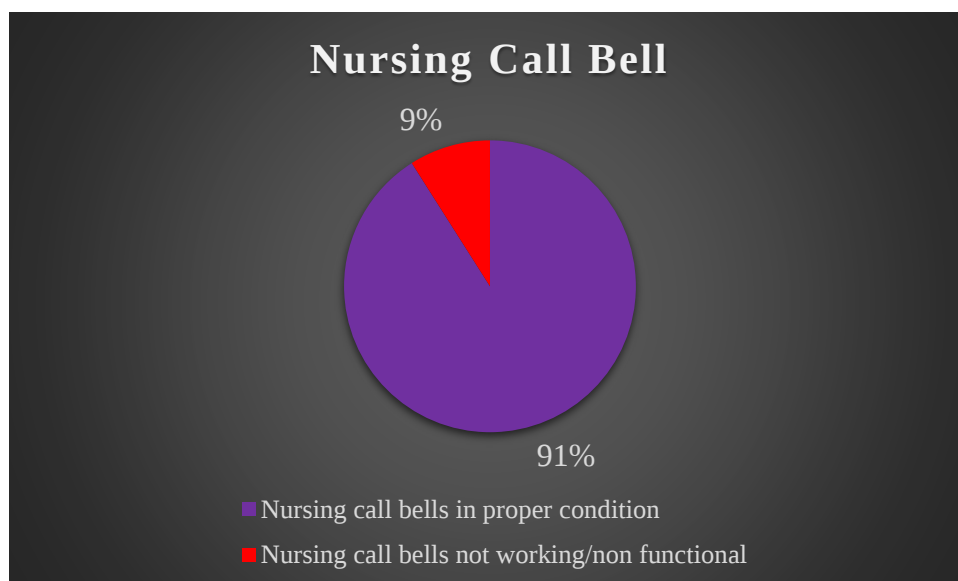


Fig 1.2 – Compliance in Nursing Call Bells

3. Patient safety is also related to properly working of stretchers which also helps in transferring of patients. As shown in the chart, about 20% stretchers were not functioning smoothly with issues like broken belts, brakes not working properly, broken belt buckle and rust was present.

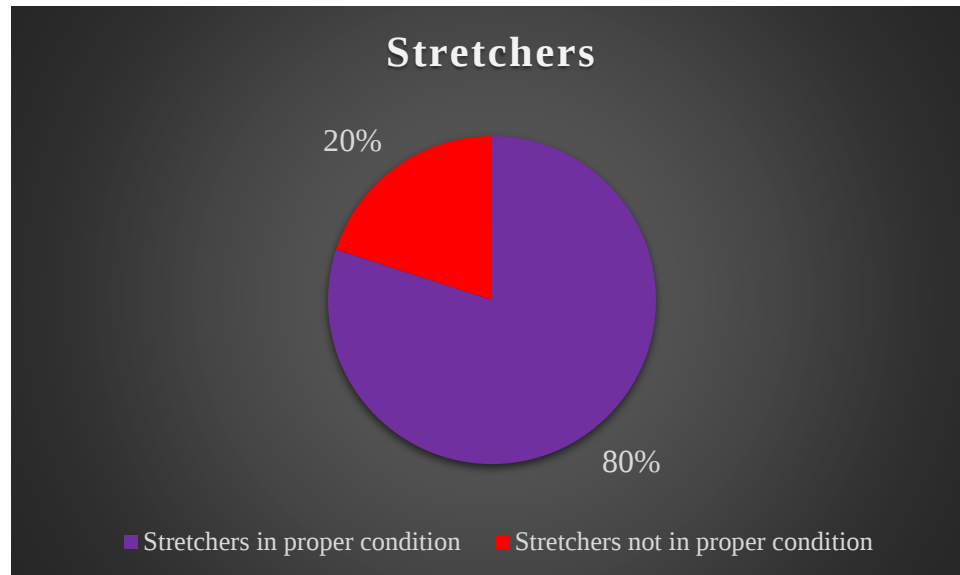


Fig 1.3 – Compliance in Stretchers

4. The movement of patients across the hospital is dependent on wheelchairs when he/she is unable to move physically. It was found that around 11% of the wheelchairs were rusted and had issues with them.

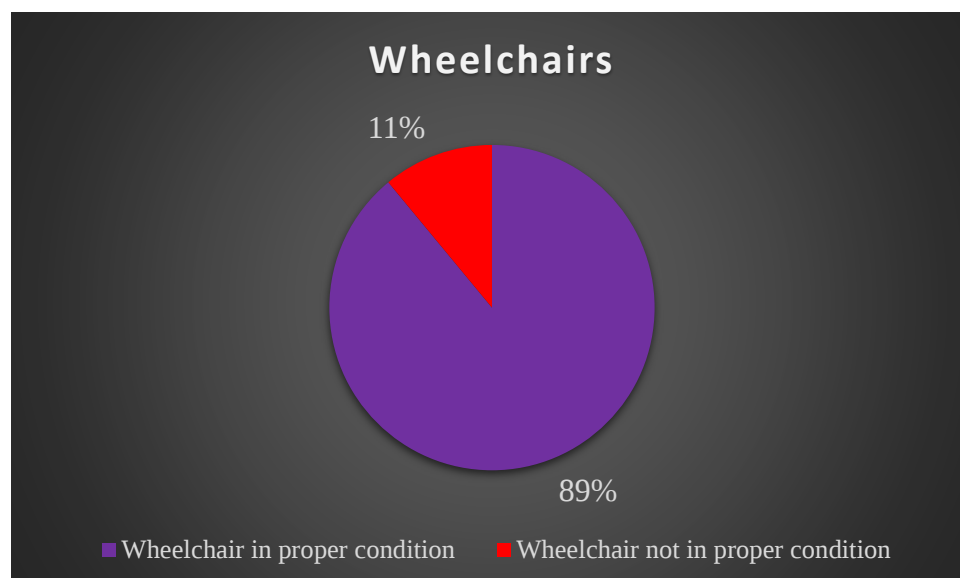


Fig 1.4 – Compliance in Wheelchair

5. Patient beds are one of the most important concerns while considering patient safety as the patients have risk of fall from bed if the side rails are not in working condition or if the bed is not in proper condition can lead to harm to the patients. The chart depicts that 8% beds were not in proper condition due to non-functional rotator of beds as well as presence of rust on them.

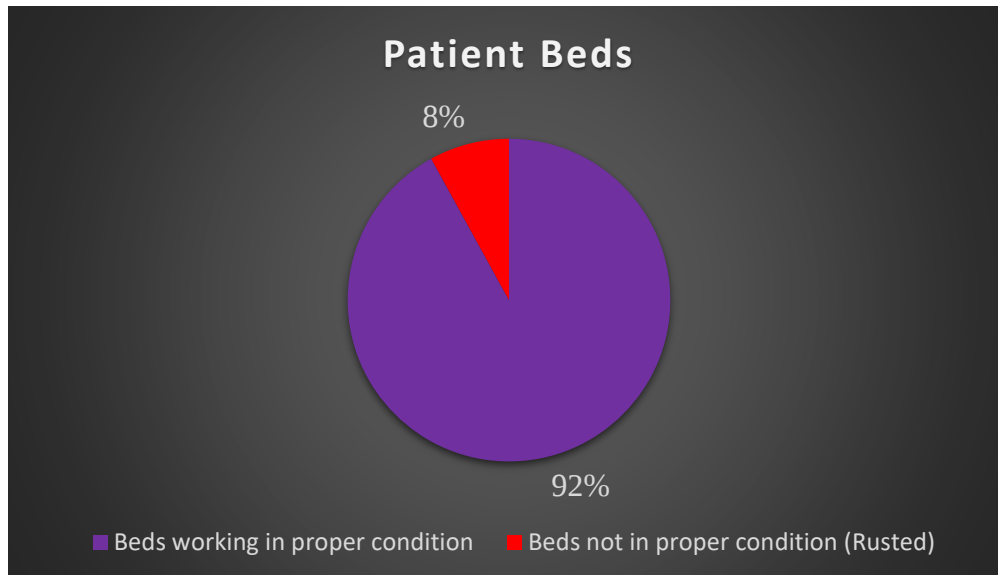


Fig 1.5 – Compliance in Patient Beds

6. All the private washrooms should have 'DO NOT LOCK THE DOOR' sticker. During the time of the audit, it was found that 7% of the private washrooms did not have the sticker at the back of the door. (General Wards and Public Washrooms were excluded)

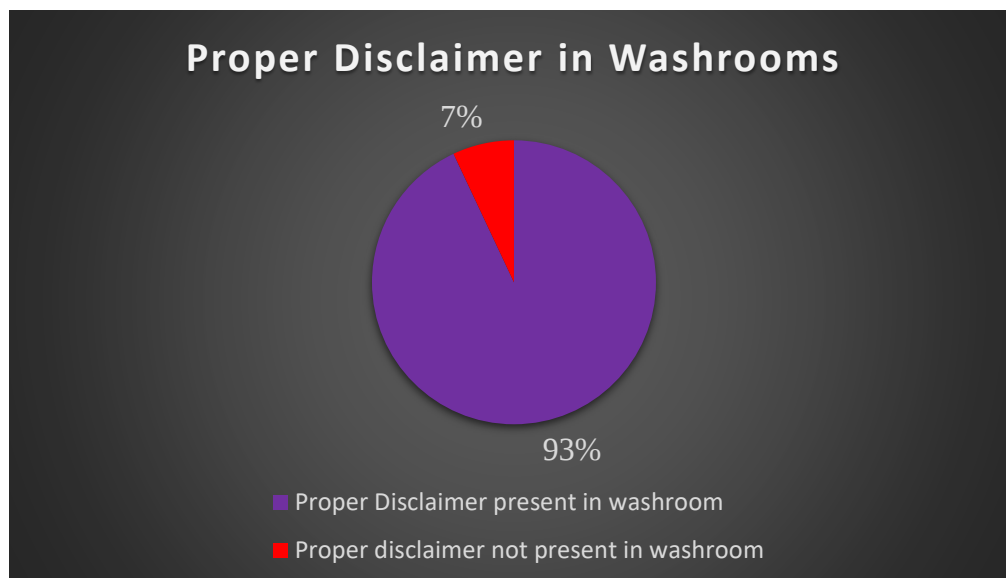


Fig 1.6 – Compliance in Disclaimer in Washrooms

7. Broken boards should be repaired as they are near the patient beds and can change into a disadvantage for the patient as it can lead to electric shocks to the patients. The chart depicts that 2% of the electrical board near the beds were broken and 98% were in proper condition.

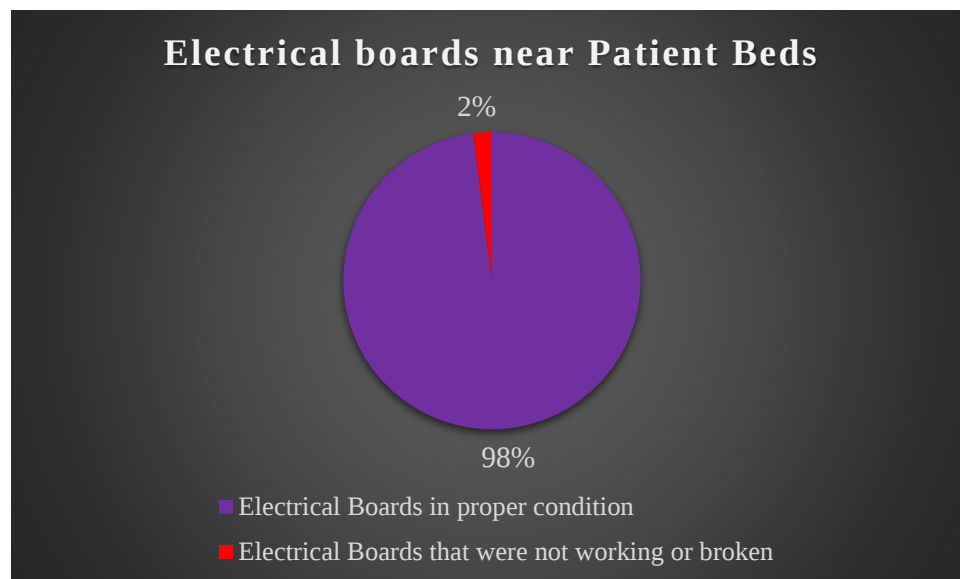


Fig 1.7 – Compliance in Electrical Boards

8. The private washrooms are present in the semi cabins and private wards. the call bell is important if the patient gets stuck in the washroom and needs help from the nurse. all the emergency call bells were audited and according to the graph below 15% of the washroom have defective call bell or did not have call bell.

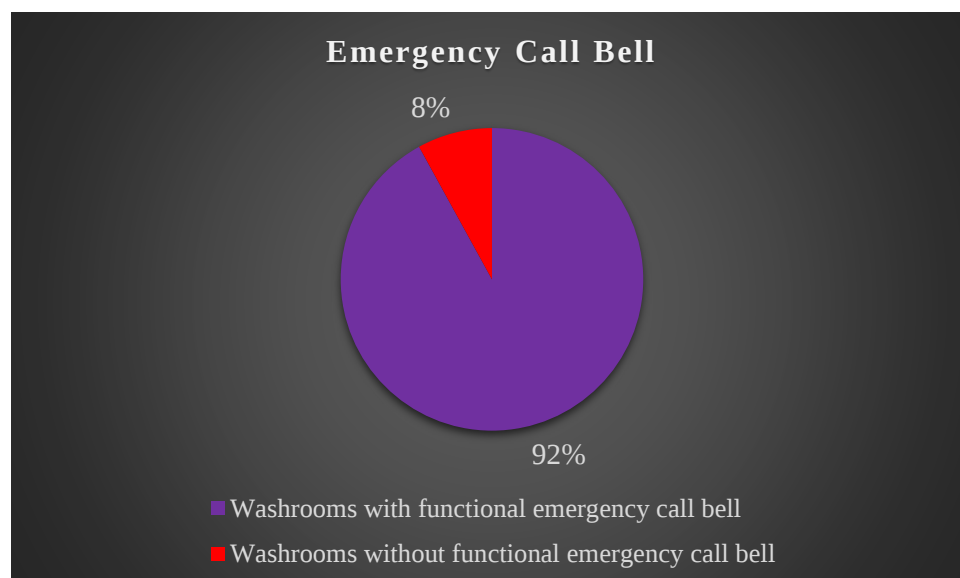


Fig 1.8 – Compliance in Call Bells in Washroom

Other Parameters Audited for Staff and Attendants

9. Fire Extinguisher acts as a support for patients as well as the employees and the attendants of the patients in case of fire. The chart depicts that around 7% extinguisher were not in proper conditions (1 was not properly installed, 2 didn't had safety pins with them and 2 of them were expired) and 93% had proper condition with tag and date of expiry and were specified with their capacity and type of cylinder.

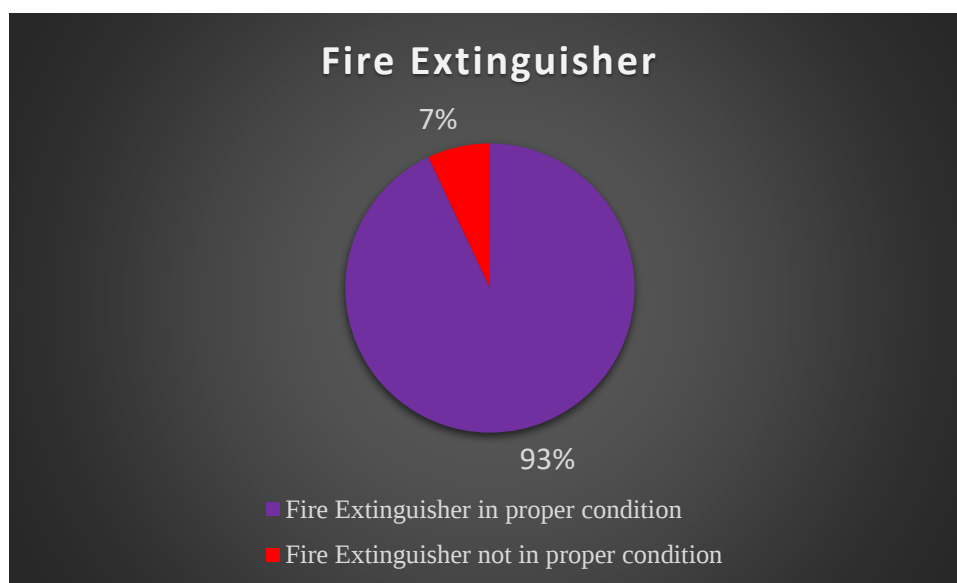


Fig 1.9 – Compliance in Fire Extinguishers

10. Refrigerators used for keeping the medicine should be maintained as they help the drugs to increase their durability and life, with working of refrigerators, the medicines will be effective for certain time frame, the chart depicts that around 43% were in proper condition and 40% had rust on them, for 7% the hygrometer was not functioning properly.

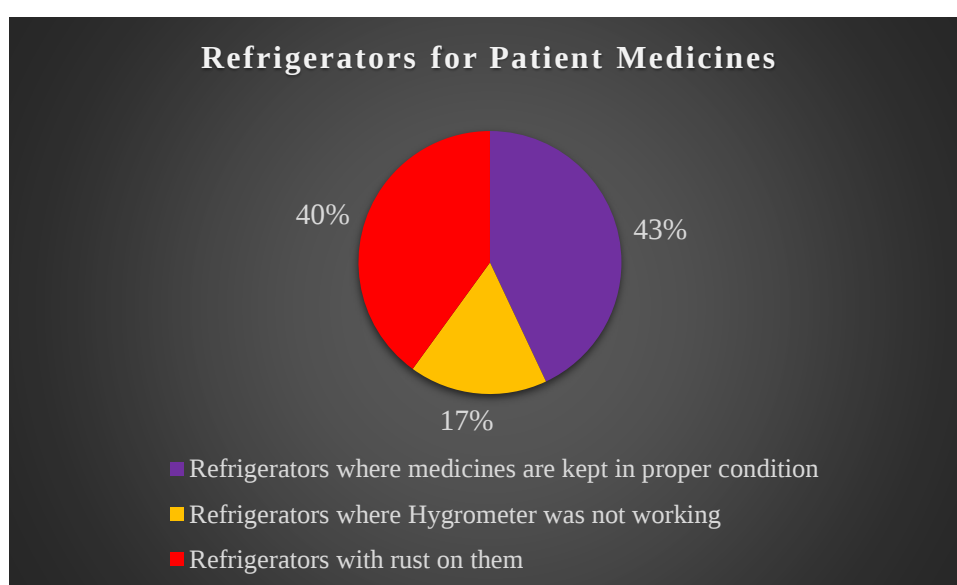


Fig 1.10 – Compliance in Refrigerators

Prescription/Drug chart

1) Medication Order Not in Capital Letters

It is mandatory to mention the medicine in capital letters in the prescription as it increases the legibility of the medicine for other doctors and staff to prevent any medication error, out of 697 prescriptions that were audited, 19 prescriptions didn't have the names written in capital letters.

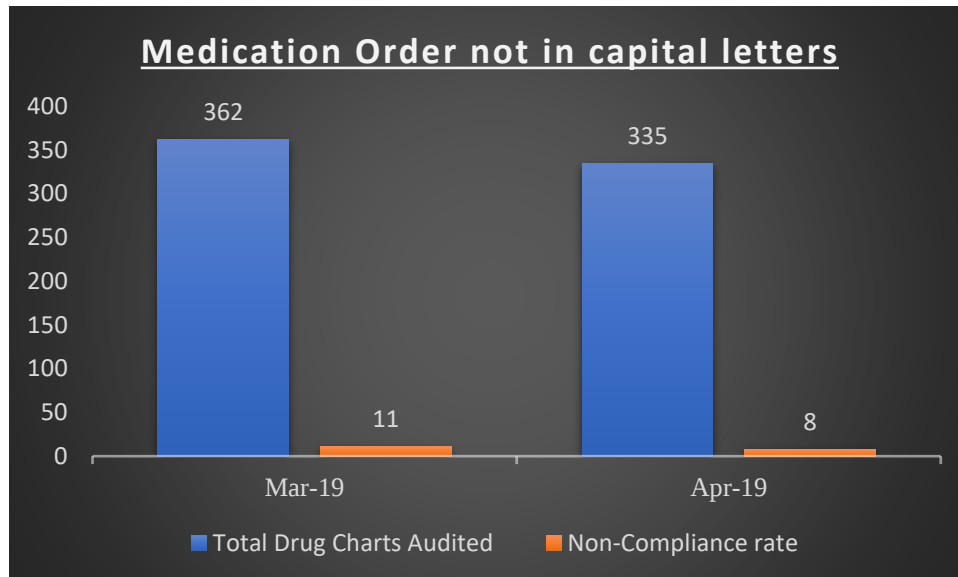


Fig 2.1 – Non - Compliance to Medication Orders not in capital letters

2) Error Prone Abbreviations used in Drug Chart

There are certain abbreviations that are adopted by the hospital from **Institute for Safe Medications Practices (ISMP)** which should not be used as it can create confusion for the nursing staff during the administration of drug. It was found that out of 697 prescriptions, 18 prescriptions had error prone abbreviations mentioned in them.

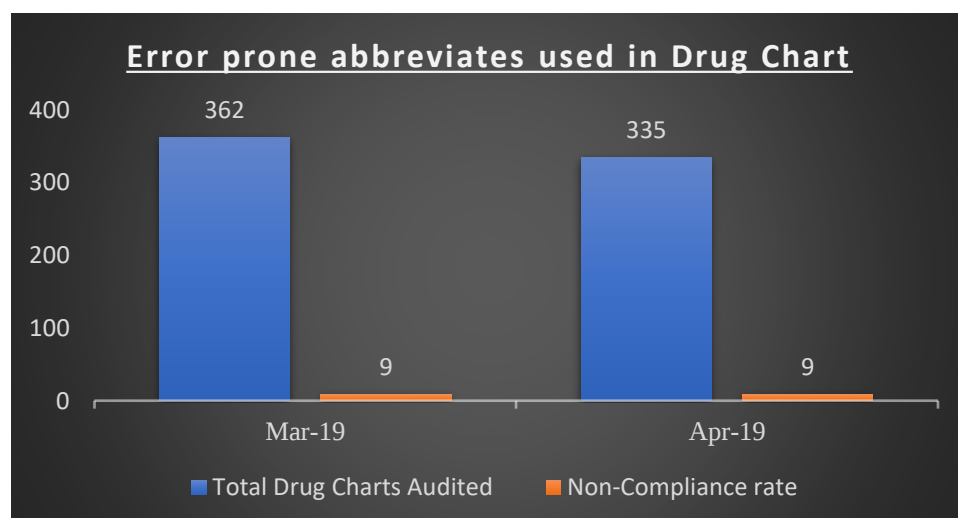


Fig 2.2 – Non-compliance to Error prone abbreviations

3) Signed/Stamp not Present on the Medication Chart

The need of Signature and Employee ID is necessary to ensure the authenticity of doctor who are filling the prescriptions/drug chart. Out of 697 prescriptions that were audited, 14 prescriptions had the non-compliance for Doctor Signature and Employee ID of the personnel.

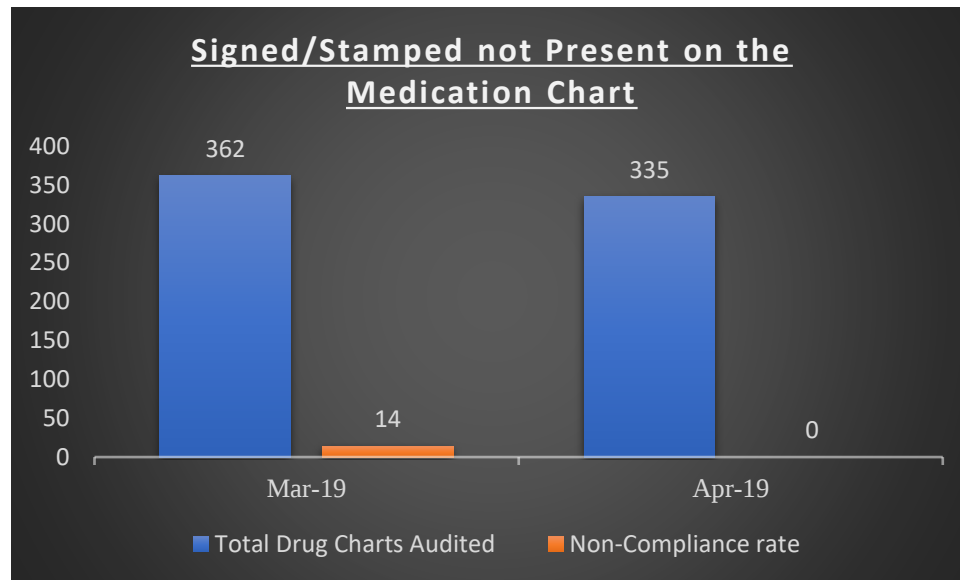


Fig 2.3 – Non-Compliance to Signed/Stamped on Medication Chart

4) Order Continued Column Not Signed/Stamped

The treatment chart of every patient needs to be reviewed by treating clinician daily who needs to sign and stamp the order continued column. Out of 697 files, 568 files had non-compliance in them as the order continued column was not signed.

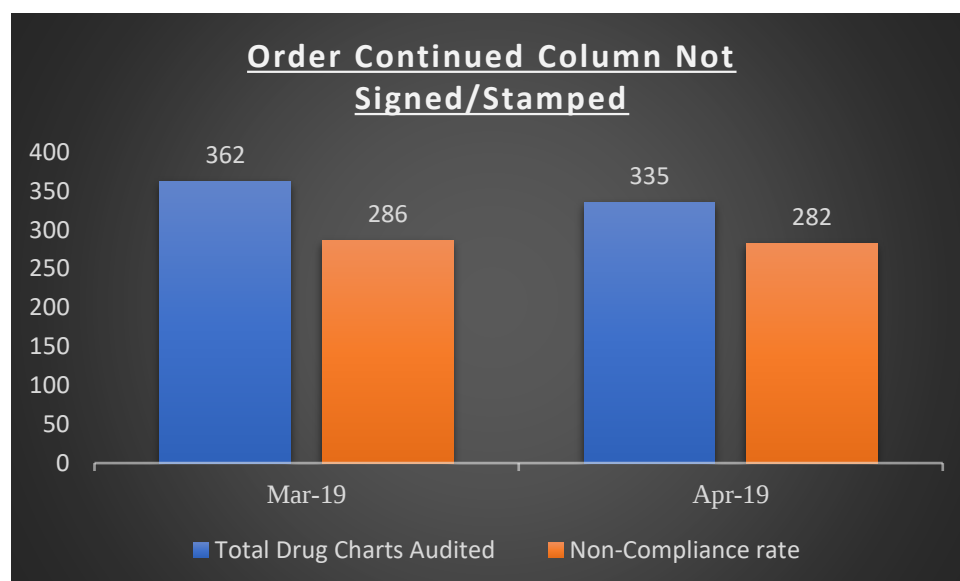


Fig 2.4 – Non-Compliance to Order Continued Column Not Signed/Stamped

5) Dose, time and route not mentioned in the Prescription (Medication Error)

It is necessary to mention dose, route and time in the prescriptions as it is very necessary during the administration of drugs, As the need to administer drugs will be based upon the health needs of the patient such as on what duration, by which route and in how much dose the drug needs to be given Out of 697 prescriptions that were audited, 32 prescriptions had issues with the dose, time and route not mentioned in the prescriptions.

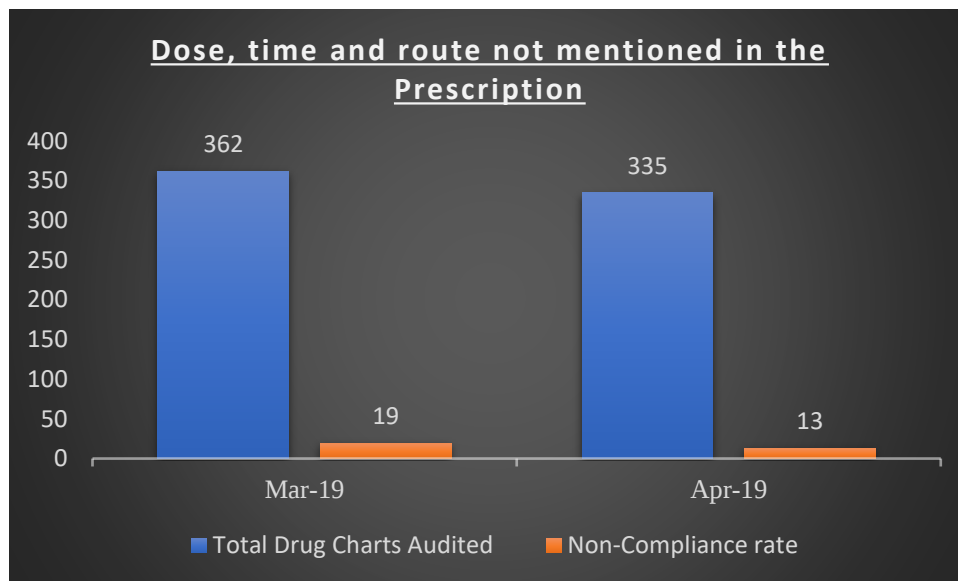


Fig 2.5 – Non-Compliance to Dose, Route and time mentioned

Hand Hygiene

1. The hand hygiene data has been collected with the help of the checklist and hence the following opportunities has been counted and further analysed into compliance and non-compliance. Study has been carried out for 2 months in which total of 1001 opportunities were observed, the compliance was observed in 676 opportunities.

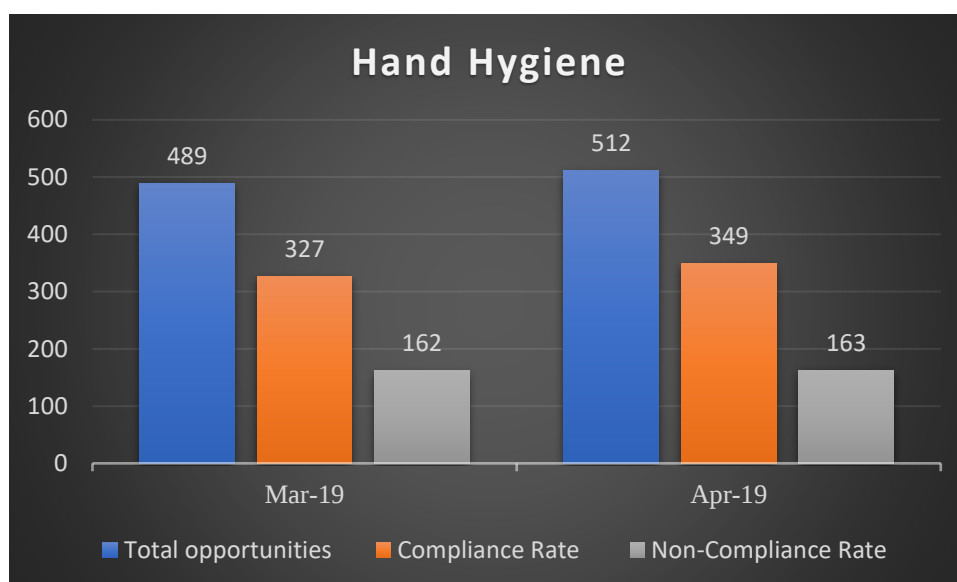


Fig 3.1 – Compliance to Hand Hygiene (Overall)

2. The Hand hygiene for the study period has been further segregated into analysing the compliance rate for Doctors. It was found out that out of 316 opportunities observed for doctors only 197 had compliance present.

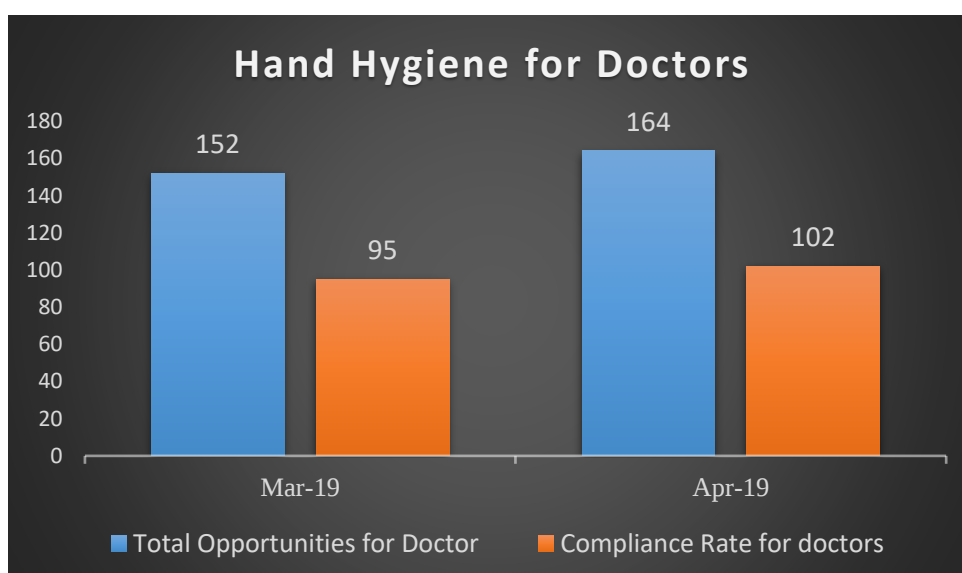


Fig 3.2 – Compliance to Hand Hygiene (Doctors)

3. The Hand hygiene for the study period has been segregated to find out the compliance rate for Nurses following 5 moments of hand hygiene. Out of 641 hand hygiene opportunities, 448 opportunities had compliance present in them.

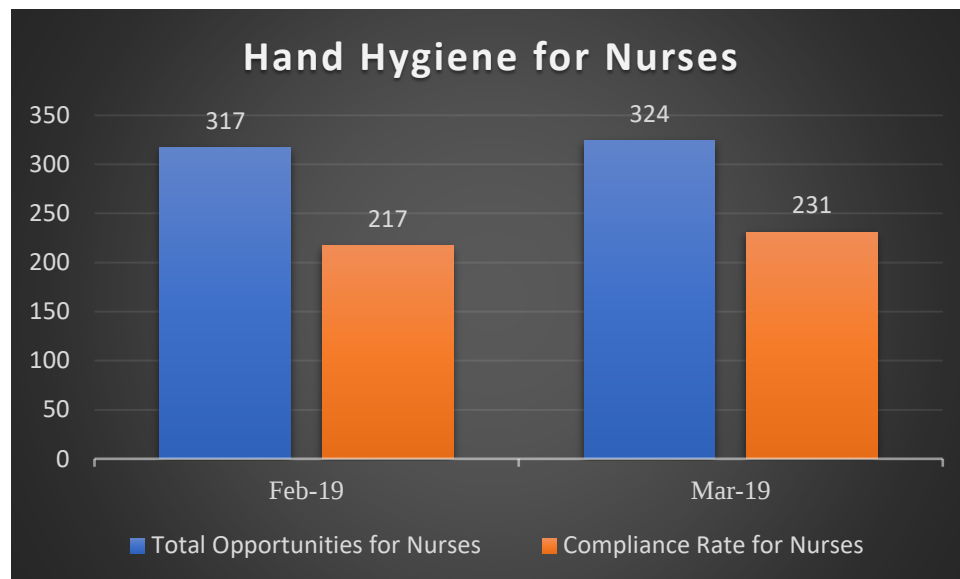


Fig 3.3 – Compliance to Hand Hygiene (Nurses)

4. The Hand hygiene for the study period has been analysed to find out the compliance rate for housekeeping and GDA towards hand hygiene practices, out of 44 opportunities 31 were found to have compliance present.

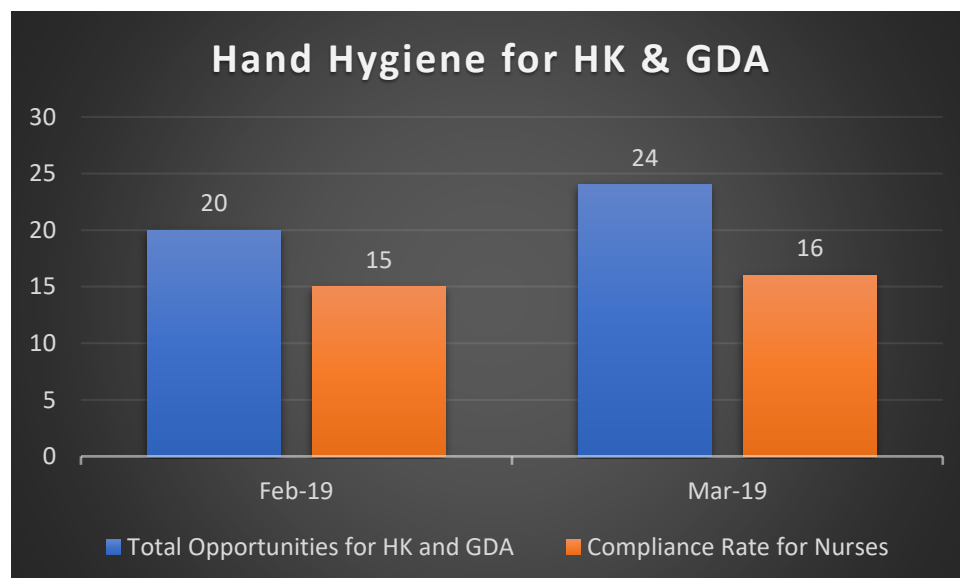


Fig 3.4 – Compliance to Hand Hygiene (HK&GDA)

RECOMMENDATIONS

- The internal audits should be done on frequent basis as it will help the organization to maintain the to maintain the quality and standards they have promised to be deliver.
- There were times that the patient files found incomplete or partially filled, the CAPA (Corrective Action & Preventive Action) should be done at the sight to prevent any misunderstanding.
- The emergency call bells should be installed in disabled patient's washroom for maintain safety of patients or the attendants.
- There were lots of issues in the identification of patients, IT Department should implement better alternatives for preventing issues with the Barcode or patient details
- There were issues with the stretchers and wheelchairs which were reported to the concerned persons and corrective actions should be taken on them.
- The critical care department as well as nursing staff should be well versed with the importance of patient safety and should be aware of preventing it.
- The nursing staff and allied health workers should be trained on monthly basis for the importance of hand hygiene and the practices for fulfilling the 5 moments of hand hygiene.
- There should be more focus on the documentation part of medication charts/prescriptions to prevent any harm to patient as well as for the employees.
- The closures of the non-compliance should be done as soon as possible after the periodical audits.

CONCLUSION

Healthcare organizations are now focusing on the improvement organizational environment for patient safety. Safe environment has been priority for various hospitals with respect to the patients as well as the staff

- This study analysis was done for improving the patient safety. All the audited parameters were related to the patient and work staff safety. After auditing, measures were taken to keep a check on the patient safety devices in the hospital.
- The IPD files were audited on a regular basis for the period of 2 months, mainly 5 parameters were assessed for evaluating the appropriateness of documentation part in the Drug charts which shows almost the same compliance rate as time progresses.
- Maximum number of prescriptions were complying with the prescribe standards, it was found that compliance with order continued column being signed/stamped was low even though the clinicians were reviewing the treatment during the daily rounds.
- The 5 moments of hand hygiene were closely monitored and the compliance rate has increased with the time with increase in the practice of staff and other employees.

REFERENCES

1. National Accreditation Board for Hospitals & Healthcare Providers (NABH) [Internet]. [cited 2019 May 1]. Available from: <https://www.nabh.co/BenefitsofAccreditation.aspx>
2. Thakur H, Thawani V, Raina RS, Kothiyal G, Chakarabarty M. Noncompliance pattern due to medication errors at a Teaching Hospital in Srikot, India. *Indian J Pharmacol* [Internet]. 2013 [cited 2019 Apr 26];45(3):289–92. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23833376>
3. Collier R. Combination Drug. *Can Med Assoc J* [Internet]. 2012 Feb 7 [cited 2019 May 2];184(2):E117–8. Available from: <http://www.cmaj.ca/cgi/doi/10.1503/cmaj.109-4076>
4. Musu M, Lai A, Mereu NM, Galletta M, Campagna M, Tidore M, et al. Assessing hand hygiene compliance among healthcare workers in six Intensive Care Units. *J Prev Med Hyg* [Internet]. 2017 Sep [cited 2019 Apr 19];58(3):E231–7. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/29123370>
5. WHO | My Five Moments for Hand Hygiene. WHO [Internet]. 2011 [cited 2019 Apr 25]; Available from: https://www.who.int/gpsc/tools/faqs/five_moments/en/
6. Rajalatchumi A, Ravikumar T, Muruganandham K, Thulasingham M, Selvaraj K, Reddy M, et al. Perception of patient safety culture among health-care providers in a Tertiary Care Hospital, South India. *J Nat Sci Biol Med* [Internet]. 2018 [cited 2019 Apr 20];9(1):14. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/29456386>
7. Chavali S, Menon V, Shukla U. Hand hygiene compliance among healthcare workers in an accredited tertiary care hospital. *Indian J Crit Care Med* [Internet]. 2014 Oct [cited 2019 Apr 19];18(10):689–93. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25316980>
8. Solanki N, Shah C. Prescription audit in outpatient department of multispecialty hospital in western India: an observational study. *Int J Clin Trials* [Internet]. 2015 Feb 1 [cited 2019 Apr 19];2(1):14. Available from: <http://www.ijclinicaltrials.com/index.php/ijct/article/view/50>

ANNEXURES

<u>S.No.</u>	<u>Parameters</u>	<u>UHID-</u>	<u>UHID-</u>	<u>UHID-</u>	<u>UHID-</u>	<u>UHID-</u>
1.	Is the dose, time & route mentioned? (Yes/No)					
2.	Is the order continued column dated and signed by nurse? (Yes/No)					
3.	Medication order in capital letters? (Yes/No)					
4.	Error prone abbreviations used? (Yes/No)					
5.	Medication Charts signed/stamped? (Yes/No)					

1) Audit check list for the appropriateness of prescription:

HAND HYGIENE OBSERVATION FORM

						Date :					
Shift : Morning + Evening						Start time :			End time :		
Category of Staff :						Observed by : ICN					
Five Moments for Hand Hygiene						Bef-pat.:			Before touching a patient		
						Bef-asept :			Before clean / aseptic procedure		
						Aft-bfluid :			After body fluid exposure risk		
						Aft-pat :			After touching a patient		
						Aft-surr :			After touching patient surroundings		
DPT.											
EMP ID:											
Opp	Indication	Action	Opp	Indication	Action	Opp	Indication	Action	Opp	Indication	Action
1	☐ Bef-pat.	☐ HR	1	☐ Bef-pat.	☐ HR	1	☐ Bef-pat.	☐ HR	1	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
2	☐ Bef-pat.	☐ HR	2	☐ Bef-pat.	☐ HR	2	☐ Bef-pat.	☐ HR	2	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
3	☐ Bef-pat.	☐ HR	3	☐ Bef-pat.	☐ HR	3	☐ Bef-pat.	☐ HR	3	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
4	☐ Bef-pat.	☐ HR	4	☐ Bef-pat.	☐ HR	4	☐ Bef-pat.	☐ HR	4	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
5	☐ Bef-pat.	☐ HR	5	☐ Bef-pat.	☐ HR	5	☐ Bef-pat.	☐ HR	5	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
6	☐ Bef-pat.	☐ HR	6	☐ Bef-pat.	☐ HR	6	☐ Bef-pat.	☐ HR	6	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
7	☐ Bef-pat.	☐ HR	7	☐ Bef-pat.	☐ HR	7	☐ Bef-pat.	☐ HR	7	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
8	☐ Bef-pat.	☐ HR	8	☐ Bef-pat.	☐ HR	8	☐ Bef-pat.	☐ HR	8	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
9	☐ Bef-pat.	☐ HR	9	☐ Bef-pat.	☐ HR	9	☐ Bef-pat.	☐ HR	9	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				
10	☐ Bef-pat.	☐ HR	10	☐ Bef-pat.	☐ HR	10	☐ Bef-pat.	☐ HR	10	☐ Bef-pat.	☐ HR
	☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW		☐ Bef-asept	☐ HW			
	☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed		☐ Aft-bfluid	☐ Missed			
	☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves		☐ Aft-pat	☐ Gloves			
	☐ Aft-surr			☐ Aft-surr			☐ Aft-surr				