

Study on Infection Control Practices in ICU and Wards Among Doctors and Staff in Tertiary Care Hospital

By

Pramita Mahapatra

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2016-2018



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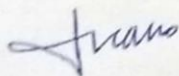
TO WHOMSOEVER MAY CONCERN

This is to certify that **Ms. Pramita Mahapatra** student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at **Wockhardt Hospital, Nagpur** from 5th February, 2018 to 5th May, 2018.

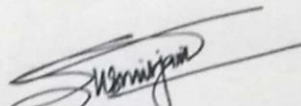
The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



Dr. Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur



Dr. Susmit Jain
Assistant Professor
The IIHMR University, Jaipur

May 5, 2018

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms Pramita Mahapatra** (Student of Indian Institute of Health Management Research University, Jaipur) has successfully completed her Summer Training from 05/02/2018 to 05/05/2018.

She has done project on

1. A study on infection control practices in ICU and Wards among doctors and staff in a tertiary care hospital at Wockhardt Hospitals, Nagpur.

During her aforesaid tenure, she has been found to be extremely honest, regular and sincere.

For Wockhardt Hospitals Ltd.


P. Santosh
Asst. General Manager - HR



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THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **“A Study on Infection Control Practices in ICU & Wards among Doctors and Staff in a Tertiary Care Hospital”** and submitted by **Pramita Mahapatra** Enrollment No **IIHMR-U/01/2016-18/0467** under the supervision of **Dr. Susmit Jain** for award of MBA in Hospital and Health of the University carried out during the period from **5th February 2018 to 5th May 2018** 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.

Pramita Mahapatra

Pramita Mahapatra

ABSTRACT

A STUDY ON INFECTION CONTROL PRACTICES IN ICU & WARDS AMONG DOCTORS AND STAFF IN A TERTIARY CARE HOSPITAL

Submitted By: Pramita Mahapatra

MBA HM 21, ROLL NO: 0467

Guided By: Dr. Susmit Jain

Introduction:-

Hospital Acquired Infection(HAI) is a serious health issue as it leads to increased patients' morbidity and mortality, length of hospital stay and out of pocket expenditure. Hospital Acquired Infections are also known as Nosocomial Infections. It is occurred after 48 hrs of admission. Mainly bacteria are responsible for nosocomial infections. This can be prevent by good infection control practices like Hand Hygiene, Surveillance program, wearing of Personal Protective Equipments (PPE), Vaccination of staff.

Objective:-

To objective is to assess the knowledge of Residential Medical Officer, Nurses, Physiotherapists, Technicians & Housekeeping Staffs & to observe the infection control practice on nurses.

Methodology:-

STUDY DESIGN: - Descriptive and Exploratory Study

SETTING: - Wockhardt Hospital, Nagpur

DURATION OF THE STUDY: - 5th February to 30th April 2018

SAMPLE SIZE:- 25 Medical Officer, 85 Nurses, 22 Technicians, 6 Physiotherapists and 45 Housekeeping staffs, 61 Observational samples, Total 244

SAMPLING TECHNIQUE: - Convenience Sampling.

SAMPLE SELECTION:-

Inclusion Criteria:- Resident doctor and other hospital staff (nurses, physiotherapist, technician, housekeeping)

Exclusion Criteria:- All Senior Consultants.

DATA COLLECTION PROCEDURE: - Interview was taken through a well-structured questionnaire. The questionnarie was administered to RMOs, Nurses, Technicians and Physiotherapists. There were separate questions for Housekeeping Staff. An observation conducted on nurse.

DATA ANALYSIS PROCEDURE: - Data will be analyzed using Microsoft excel and graphical analysis viz. Bar Graphs, Pie charts, etc. of the results will be done

DATA COLLECTION INSTRUMENT: - Interviews is taken from doctors and other hospital staffs and observation is done on nurses regarding infection control practices.

Results:-

The knowledge of infection control practices was assessed out of 25 RMOs 13 scored above 80%, 9 scored 80%, 2 scored 70% & 1 scored 60%. Out of 85 nurses 24 scored above 80%, 29 scored 80%, 15 scored 70%, 9 scored 60%, 3 scored 50% & 5 scored below 50%. Out of 22 technicians 5 scored 80%, 3 scored 70%, 5 scored 60%, 4 scored 50% & 5 scored below 50%. Out of 6 physiotherapists 4 scored above 80%, 1 scored 80% & 1 scored 60%. Out of 45 housekeeping staff 11 scored above 80%, 18 scored 80%, 9 scored 60% & 7 scored 50%.

In the observation part, out of 20 observations in Intensive Care Unit (ICU) hand hygiene noncompliance is 40%, 20% nurses are not using Personal Protective Equipment, rest 40% are correct. 65% antibiotic bottles contains hand written medication sticker, 35% antibiotic bottles are not containing medication sticker. In 4th Level (ward) out of 20 observations 57% hand hygiene noncompliance, 5% nurses are not using Personal Protective Equipment & 38% are correct in both, 52% does not containing medication sticker & 48% contains medication sticker. In 5th Level (ward) out of 21 observations 65% hand hygiene noncompliance are found, only 30% antibiotic bottles contains hand written medication sticker, 70% not contains medication sticker.

Conclusion:-

To improve the current status of infection control practices training & development can be conducted, Continued Medical Education(CME) conducted for the staff of the hospital & motivation of staff can done by small token of gift.

Acknowledgement

“An endeavor over a period can be successful only with the advice and support of well-wishers. I take this opportunity to express my gratitude and appreciation to all those who encouraged me to complete this project.

First of all, I express my sage sense of gratitude and indebtedness to our Dean, Dr.(Col) Ashok Kaushik, IIHMR University, Jaipur,

I would to like extend my sincere and heartfelt thanks to K.Sujatha, Centre Head, Wockhardt Hospital Nagpur, for providing me an opportunity to learn and develop professionally.

I am extremely thankful and pay my gratitude to Dr.Vikas Chaudhury, Head Medical Administration Department, Wockhardt Hospital, Nagpur, for giving me his valuable time, suggestions and support throughout the study, greatly eased my task of completing this project.

I would like to extend my deep gratitude for my Academic mentor Dr. Susmit Jain, Professor, IIHMR University, Jaipur, Rajasthan. I am greatly indebted to him for providing his valuable guidance at all stages of the study, advice, constructive suggestions, positive and supportive attitude and continuous encouragement, without which it would not have been possible to complete this project.

I would like to present Sincere thanks to the respondents, doctor, nurses and the other staff of Wockhardt Hospital sparing their valuable time extends support and providing relevant information

I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards the industry in coming future.

Pramita Mahapatra,
MBA HM 21,
IIHMR University, Jaipur

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List of Abbreviations

- 1) **CAUTI:** Catheter Associate Urinary Tract Infection
- 2) **VAP:** Ventilator Associate Pneumonia
- 3) **CLABSI:** Central Line Associate Blood Stream Infection
- 4) **ICU:** Intensive Care Unit
- 5) **RMO:** Residential Medical Officer
- 6) **IC:** Infection Control
- 7) **HAI:** Hospital Acquired Infection
- 8) **MRSA:** Methicillin Resistant Staphylococcus Aureus
- 9) **STG:** Standard Treatment Guideline
- 10) **CDC:** Centre for disease control
- 11) **PPE:** Personal Protective Equipment
- 12) **MICU:** Medical Intensive Care Unit

INTRODUCTION:-

Hospital Acquired Infection (HAI) leads to increase hospital length of stay & death. Hospital Acquired Infections are also known as Nosocomial Infections. It is occurred after 48 hrs of admission. Mainly bacteria are responsible for nosocomial infections. This HAI can be spread through susceptible patients as well as health care workers, infected instruments & air droplets. Sometimes the source of infection is unknown, may come from external environment. Sometimes microorganism originates from patients own skin. The main route for transmission of infection is like, contact, droplet etc. It is important to minimize the risk of spread of infection to patients and staff in hospital by implementing good infection control Programme.

The following Infection Control practices need to be followed,

1. **Hand Hygiene:** - This is the simplest & it should be the first priority to prevent infection in hospitals. Medical hand wash takes 20 to 30 secs whereas surgical hand wash takes 40 to 60 secs with soap & water. Hand rub usually done with Sterilium before touching a patient to prevent cross infections. This hand hygiene should be practiced by hospitals. The steps of hand washing are as following,
 - i. Palms should be rubbed together
 - ii. Back of the hand should be rubbed
 - iii. Rubbing the hand & interface of the finger should be done together
 - iv. Interlocking of fingers
 - v. The thumb should be rubbed in rotating manner
 - vi. Then, the finger tips are rubbed in palm
2. **Surveillance:** - Through surveillance, hospital gathered data regarding infection control. The member of Infection Control Committee closely performing the surveillance or monitoring program to see the infection control practices among staff.
3. **Vaccinations:** - The infection can be spread by the staffs of hospital; especially the staff like RMOs, Nurses, and Housekeeping is responsible for mainly patient care. So, vaccination should be given to the staff to prevent any further infections.
4. **Antibiotic stewardship:** - The misuse & overuse of antibiotics may lead to antibiotic resistant & antibiotic toxicity. Methicillin resistant Staphylococcus aureus (MRSA) is a staph bacterium which is not responds to any other antibiotic, it causes skin infections. The antibiotic selection should be done according with the Standard Treatment Guidelines (STG). This helps optimize patient outcomes.

OPERATIONAL DEFINITION:-

- Following are the most common infection developed in patient, admitted in ICU:
 1. **Ventilator Associate Pneumonia (VAP):** - This type of Pneumonia usually occurs in the patient who is in ventilation (in ICU) through endotracheal or tracheostomy tube; these tubes are the free passage for bacteria. They affect mainly lower lobe of the lung. The causative organisms like **Pseudomonas, Klebsiella Pneumoniae** etc.
 2. **Catheter Associate Urinary Tract Infection (CAUTI):** - The indwelling catheters are source of infections urinary tract infections. It is difficult to diagnose as the symptoms are same with illness. The causative organisms are like **Escherichia Coli, Enterococcus faecallis** etc.
 3. **Central Line Associate Blood Stream Infection (CLABSI):** - Central line catheter is placed in large veins, mainly inserted in veins like Jugular vein, Subclavian vein. These lines are done in chronically ill patients. CLABSI caused by **Staphylococcus Aureus**.

LITERATURE REVIEW:-

The literature review is following,

A) A study on Nosocomial Infection Conducted in Adult ICU in Fiji

A study on nosocomial infection was conducted in an adult I.C.U in Fiji in the year 2011-12. The study reported that one hundred fourteen out of total six hundred sixty-three adult I.C.U admissions were found to be bacteriological culture-confirmed nosocomial infection. Respiratory and bloodstream sites were the most common reported sites of infection. 33% of the total admissions with a nosocomial infections leads to mortality.

B) Epidemiology of nosocomial infections in a tertiary care Intensive Care Unit of Northern India

A study was conducted between July 2014 and December 2015 to describe the epidemiology of nosocomial infections in a tertiary care ICU.

A study was conducted with a convenient sampling of one hundred fifty three patients co patients admitted in a tertiary care ICU. Out of these 153 patients, 87 patients were infected by nosocomial infections.

C) Patient with Nosocomial Infection admitted in Intensive Care Unit of a Tertiary Health Centre, India

A study was conducted to assess the current status of nosocomial infection, rate of infection. The study was conducted between August 2012 to May 2013.

The study was conducted among 130 patients. Out of all these, 23 were found to be having incidence of nosocomial infections. From the study, it was observed that Urinary tract infections (UTI) – 34.8%, followed by pneumonia - 21.7%

AIM:-

To know the knowledge of resident medical officers, nurses, technicians, physiotherapists & Housekeeping staffs on infection control, in wards and ICU, with the help of a questionnaire, and Practices of nursing staff through observations.

OBJECTIVES:-

1. To assess the knowledge on infection control practices among RMOs, Nurses, Physiotherapists, Technicians & Housekeeping staff
2. To identify major factors preventing infection control practices in ICU & Wards.
3. To observe the Infection Control practices of nurses

METHODOLOGY:-

STUDY DESIGN: - Descriptive and Exploratory Study

SETTING: - Wockhardt Hospital, Nagpur

DURATION OF THE STUDY: - February to April 2018

SAMPLE SIZE: - 25 Medical Officer, 85 Nurses, 22 Technicians, 6 Physiotherapists and 45 Housekeeping staffs, 61 Observational samples.

SAMPLING TECHNIQUE: - Convenience Sampling.

SAMPLE SELECTION:-

Inclusion Criteria: - Resident doctor and other hospital staff (nurses, physiotherapist, technician, and housekeeping)

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DATA COLLECTION PROCEDURE: - Interview was taken through a well-structured questionnaire. The questionnaire was administered to RMOs, Nurses, and Technicians & Physiotherapists. There were separate questions for Housekeeping Staff. An Observation conducted on nurse.

DATA ANALYSIS PROCEDURE: - Data will be analyzed using Microsoft excel and graphical analysis viz. Bar Graphs, Pie charts, etc. of the results will be done as per the need of the study.

DATA COLLECTION INSTRUMENT: - Interviews is taken from doctors and other hospital staffs and observation is done on nurses.

RESULTS:-

A) Knowledge Based:-

To know about knowledge, interview was taken of 25 RMO, 85 nurses, 6 physiotherapists, 22 technicians & 45 housekeeping staffs through a questionnaire. There are 10 questions for RMO, Nurses, Physiotherapists and Technicians. There is a separate questionnaire for Housekeeping staffs, contains 5 questions. The knowledge responses showed by pie chart.

1) RMO (Residential Medical Officer) Response:-

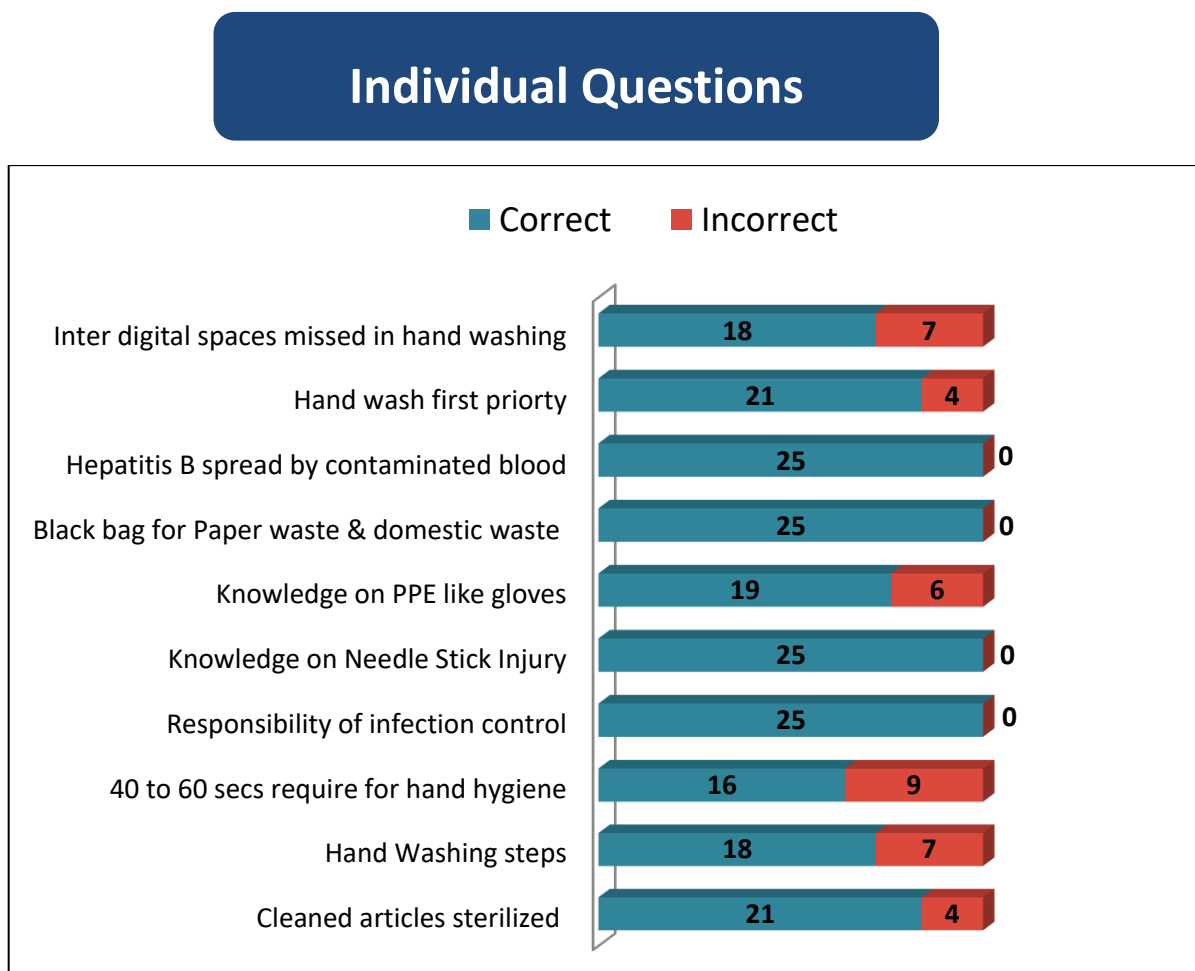


Figure 1: RMO's Knowledge Regarding Infection Control

- Above graph showing the outcome regarding infection control, there are total 25 respondents; the answers are plotted in this graph.

Overall Knowledge

% Correct Responses	Number of RMOs
Above 80%	13
80%	9
70%	2
60%	1

Table 1: The Overall Knowledge Scoring of RMOs

- Above table showing the correct responses, 13 RMOs scored above 80%, 9 RMOs scored 80%, 2 RMOs scored 70% & 60% scored 1 RMO.

Nurses Response:

Individual Questions

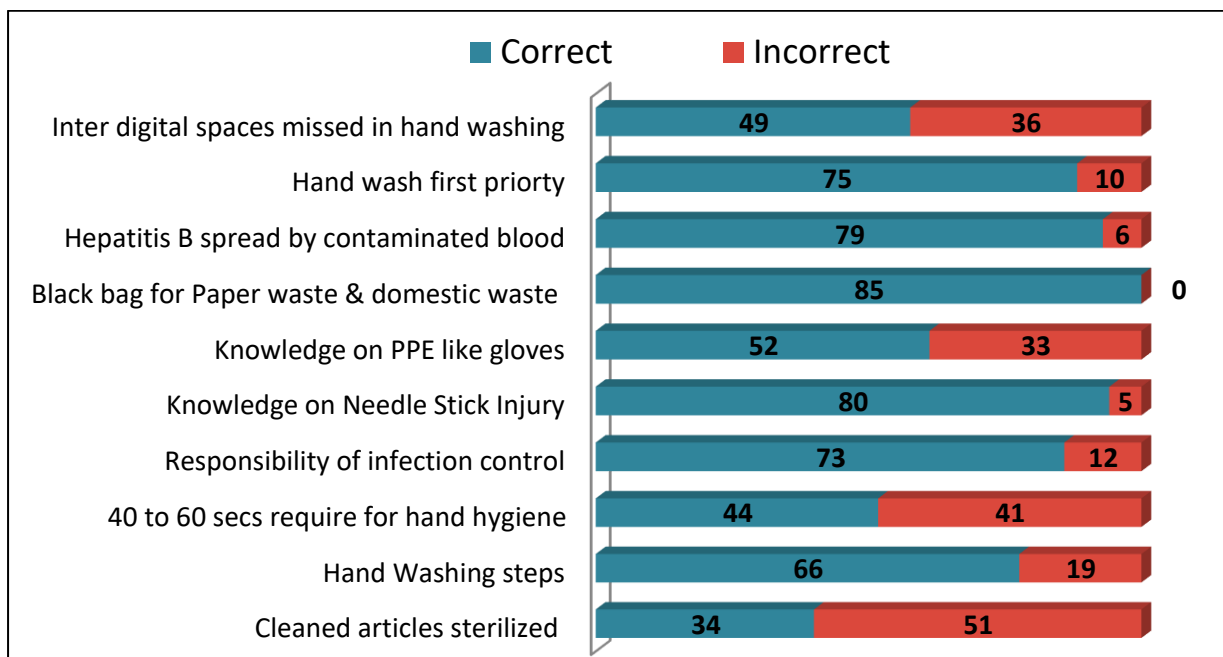


Figure 2: Nurses Knowledge Regarding Infection Control

- Above graph showing knowledge regarding infection control, there are 85 respondents, the responses are plotted in the above graph

Overall Knowledge

% Correct Responses	Number of Nurses
Above 80%	24
80%	29
70%	15
60%	9
50%	3
Below 50%	5

Table 2: The Overall Knowledge Scoring of Nurses

- Above table showing overall outcome of nurses, above 80% scored 24 nurses, 80% scored 29 nurses, 70% scored 15 nurses, 60% scored 9 nurses, 50% scored 3 nurses, and below 50% scored 5 nurses.

2) Physiotherapist Response:-

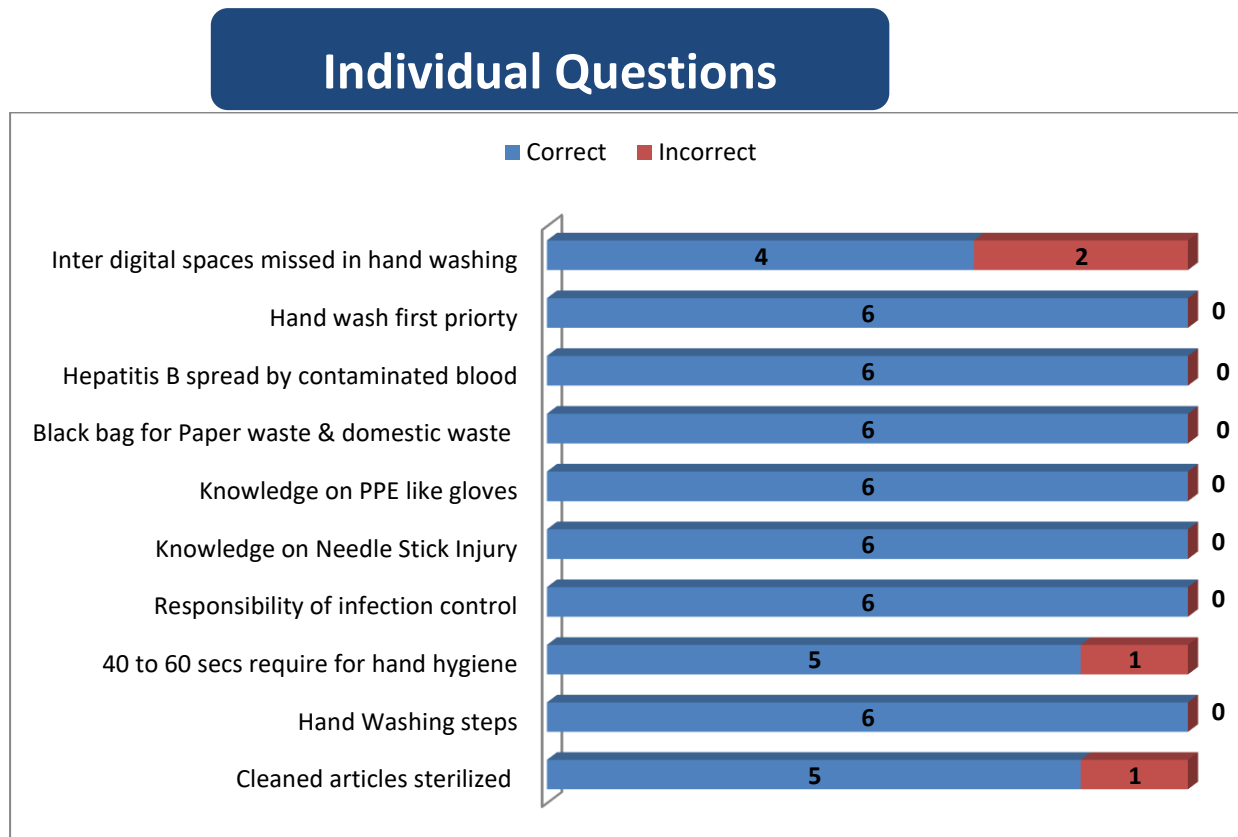


Figure 3: Physiotherapist Knowledge Regarding Infection Control

- Above figure showing knowledge regarding infection control, there are total 6 respondents, the responses are plotted in above graph,

Overall Knowledge

% Correct Responses	Number of Physiotherapists
Above 80%	4
80%	1
60%	1

Table 3: The overall Knowledge Scoring of Physiotherapists

- Above table showing overall outcome of physiotherapists, above 80% scored 4 physiotherapists, 80% scored 1 physiotherapist, 60% scored 1 physiotherapist.

3) Technicians Response:-

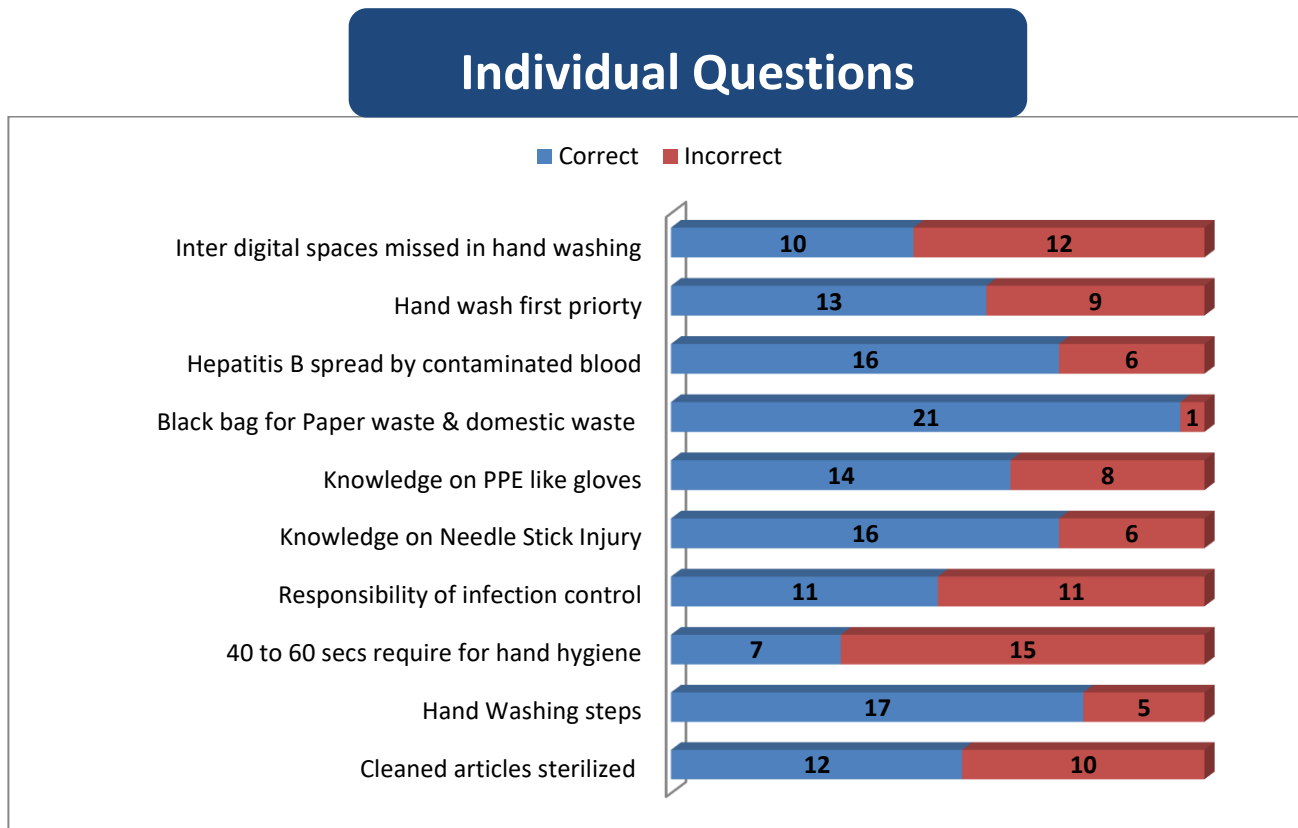


Figure 4: Technicians Response Regarding Infection Control

- Above figure showing knowledge regarding infection control, there are total 22 respondents, the responses are plotted in above graph.

Overall Knowledge

% Correct Responses	Number of Technicians
80%	5
70%	3
60%	5
50%	4
Below 50%	5

Table 4: The overall knowledge scoring of Technicians

- Above table showing overall outcome of Technicians, 80% scored 5 technicians, 70% scored 3 technicians, 60% scored 5 technicians, 50% scored 4 technicians, and below 50% scored 5 technicians.

4) Housekeeping Staff Response:-

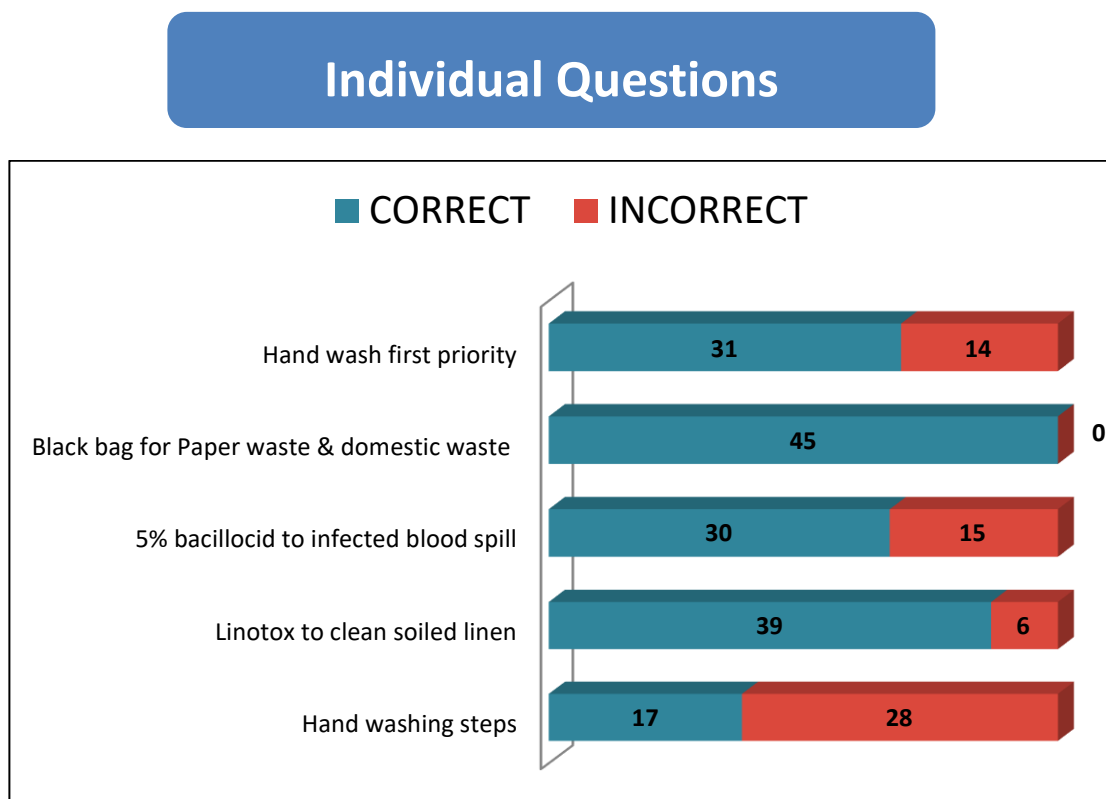


Figure 5: Housekeeping Staff Knowledge Regarding Infection Control

- Above graph showing knowledge regarding housekeeping staff, there are total 45 respondents, the responses are plotted in above graph.

Overall Knowledge

% Correct Responses	Number of Housekeeping Staff
Above 80%	11
80%	18
60%	9
50%	7

Table 5: The overall knowledge scoring of Housekeeping Staff

- Above table showing overall outcome of housekeeping staff, above 80% scored 11 housekeeping staff, 80% scored 18 housekeeping staff, 60% scored 9 housekeeping staff, and 50% scored 7 housekeeping staff.

B) Observational Based:-

To know about the practices of infection control in ICU & Wards an observational study was done where 61 samples are taken as patient wise & observation was done on Nurses. 20 samples are from ICU, 20 samples are from level 4th and 21 samples are from level 5th. The observations are done on certain parameters like,

Bundle check list (CAUTI, VAP, CLABSI),In CAUTI there are several parameters like,

- 1) Patient sticker & date of insertion
- 2) Foley's Catheter size
- 3) Foley's Catheter type
- 4) Foley's Catheter inserted by
- 5) Daily review of catheter can be done
- 6) The catheter has to be connected with the drainage system
- 7) Patient should be aware about the infection
- 8) The urinary bag should be emptied in a clean container.
- 9) The bag has to be properly positioned (below bladder & not touching floor).
- 10) Hand hygiene & wearing of PPE needs to be done before procedure.
- 11) Hand hygiene is mandatory after the procedure.

In CLABSI there are several parameters like,

- 1) Patient sticker
- 2) Date of insertion
- 3) Inserted by
- 4) Perform hand hygiene
- 5) Aseptic measures need to be taken.
- 6) Using of PPE to maintain aseptic condition.
- 7) Chlorhexidine antiseptics needs to use.
- 8) Optimal catheter site selection with subclavian/Jugular vein as the preferred site.
- 9) Daily review of line necessity.

In VAP the parameters are,

- 1) Date of insertion
- 2) Intubation/ Re Intubation by
- 3) Extubation/ Re Extubation by
- 4) Endotracheal Tube Size
- 5) Tracheostomy tube Size
- 6) Head Propped Up Position 30 to 45 degrees
- 7) Sedative interruption & assessment of readiness to extubate
- 8) Subglottic suctioning
- 9) Cuff Pressure
- 10) Oral care with Chlorhexidine

These bundle check list should properly followed in 3 shifts (Morning, Evening & Night), properly documented in file.

- ✓ Hand written Medication Sticker on antibiotic medication bottle
- ✓ Hand hygiene compliances
- ✓ Personal protective equipment compliances
- ✓ Documentation

1) ICU Observational Findings

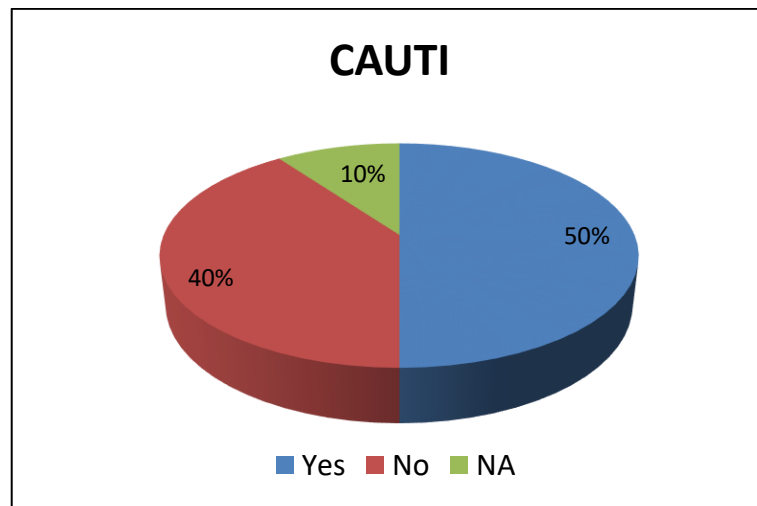


Figure 6: Above figure showing CAUTI Compliances

- Above graph showing out of 20 observations 50% bundle check list for CAUTI properly maintained, 40% are not properly maintained & 10% patient does not have catheter.

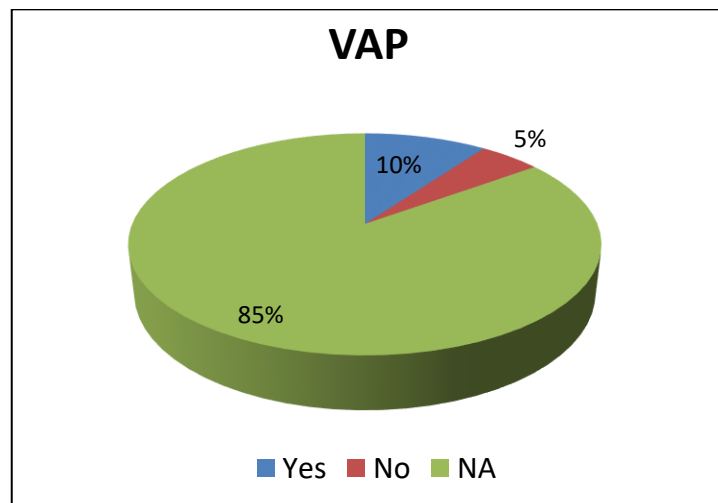


Figure 7: Above figure showing VAP Compliances

- Above graph showing out of 20 observations 85% patient are not not having mechanical ventilation, 10% patient with ventilation the bundle check list for VAP properly maintained & 5% not properly maintained.

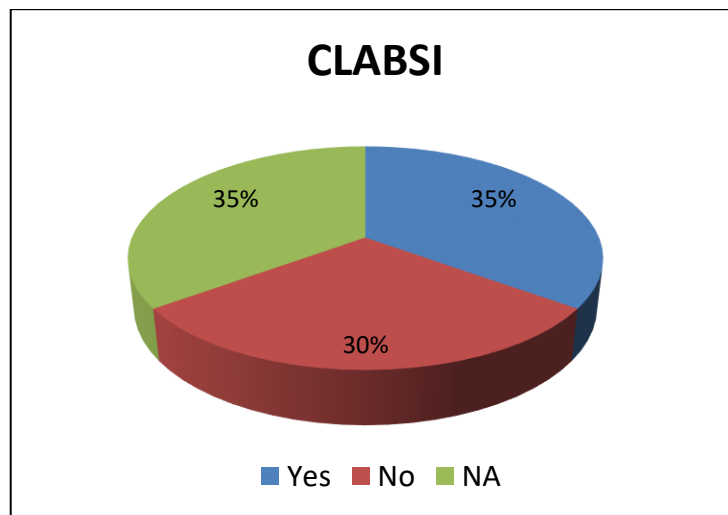


Figure 8: Above figure showing CLABSI Compliances

- Above graph showing out of 20 observations 35% patients are not having central line, 35% bundle check list for CLABSI are properly followed, 30% are not followed.

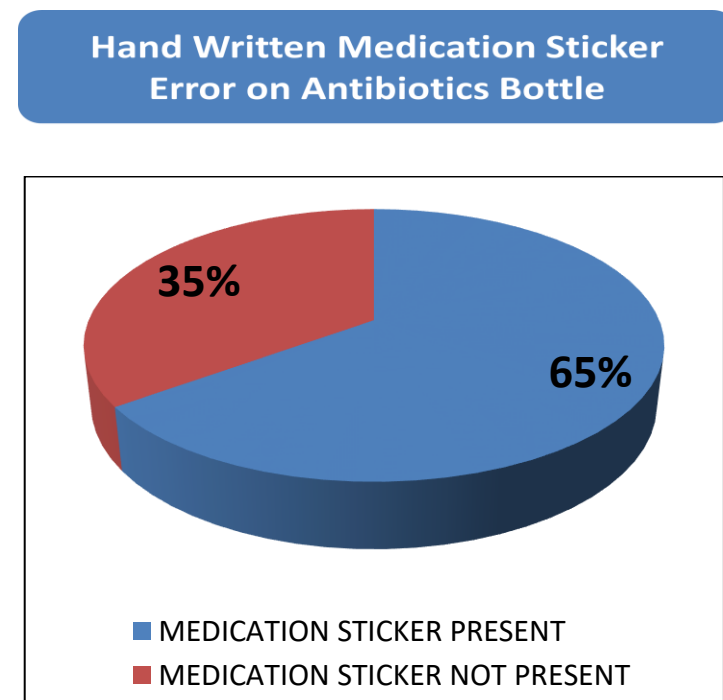


Figure 9: Above figure showing regarding Medication Sticker Status

- Above graph showing out of 20 observations 65% medication sticker are present in antibiotic bottles, 35% antibiotic bottles are not containing hand written medication sticker.

Hand Hygiene & PPE Non Compliance

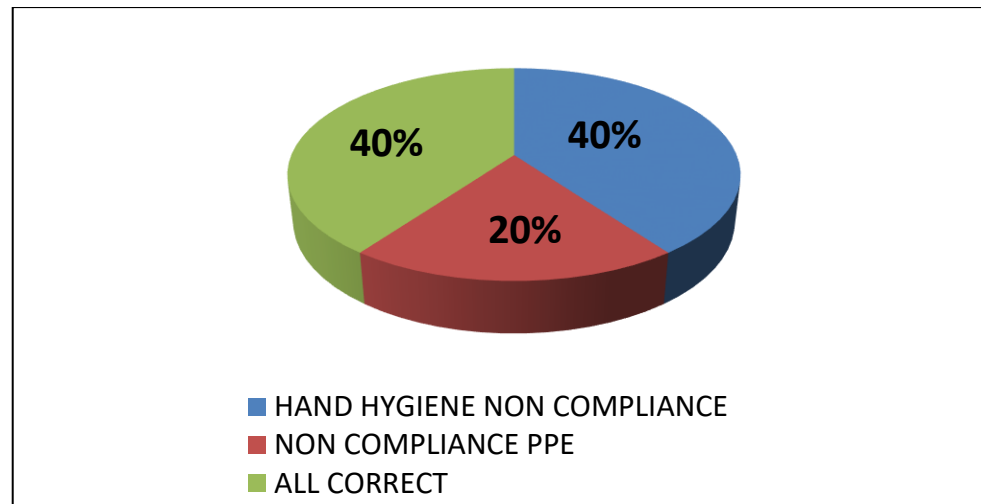


Figure 10: Above figure showing Hand Hygiene & Personal Protective Equipment (PPE)

- Above graph showing out of 20 observations 40% hand hygiene noncompliance, 20% nurses are not wearing PPE, 40% are correct in both cases.

Documentation Error

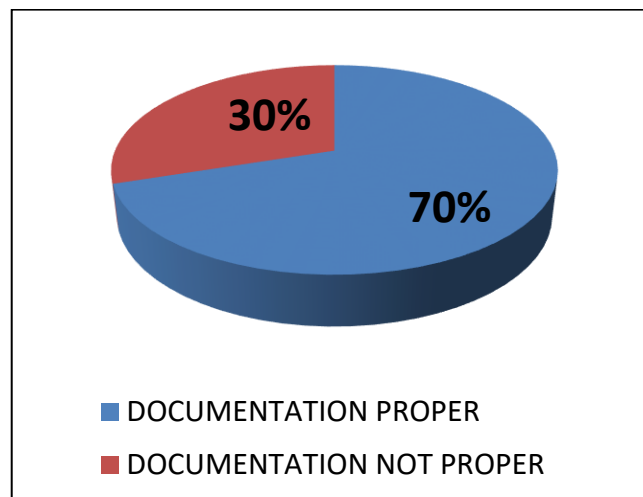


Figure 11: Above figure showing about the Documentation status by Nurses

- Above graph showing out of 20 observations 70% documentation done by nurse are correct, 30% not correct

2) 4th Level Observational Findings:-

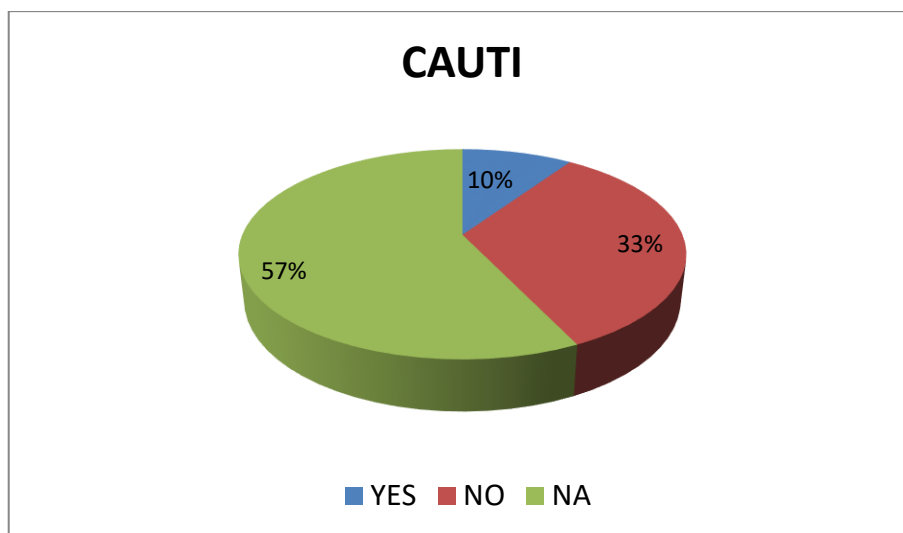


Figure 12: Above figure showing CAUTI Compliances

- Above graph showing out of 20 Observations 57% patient does not have catheter, 10% bundle check list for CAUTI are properly maintained, 33% are not properly maintained.

Hand Written Medication Sticker on Antibiotic Bottle

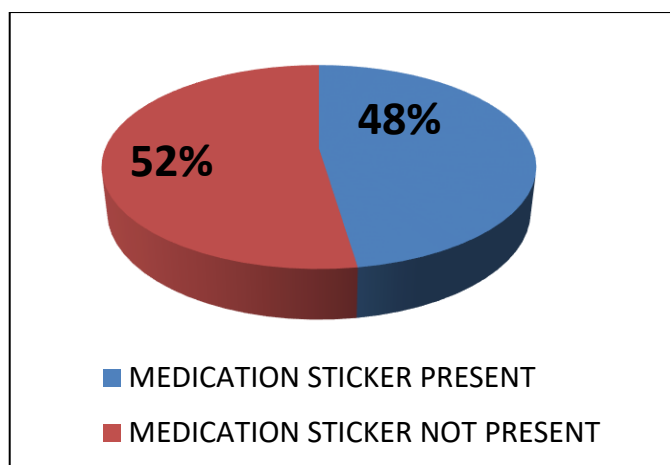


Figure 13: Above Figure showing Medication Sticker Status

- Above graph showing out of 20 Observations 52% antibiotic bottles does not containing hand written medication sticker, 48% does contain medication sticker.

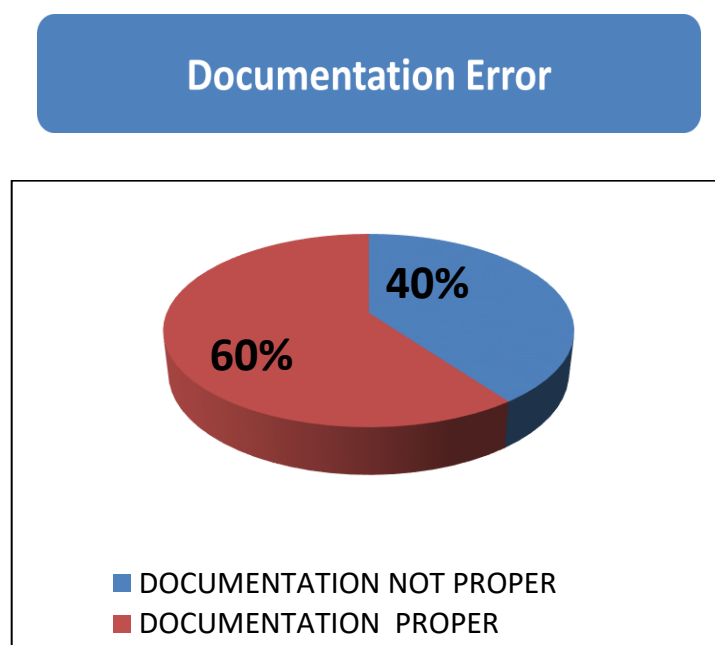


Figure 14: Above figure showing the Documentation Status by Nurses

- Above graph showing out of 20 observations 60% documentations are proper & 40% documentations are not proper done by nurses.

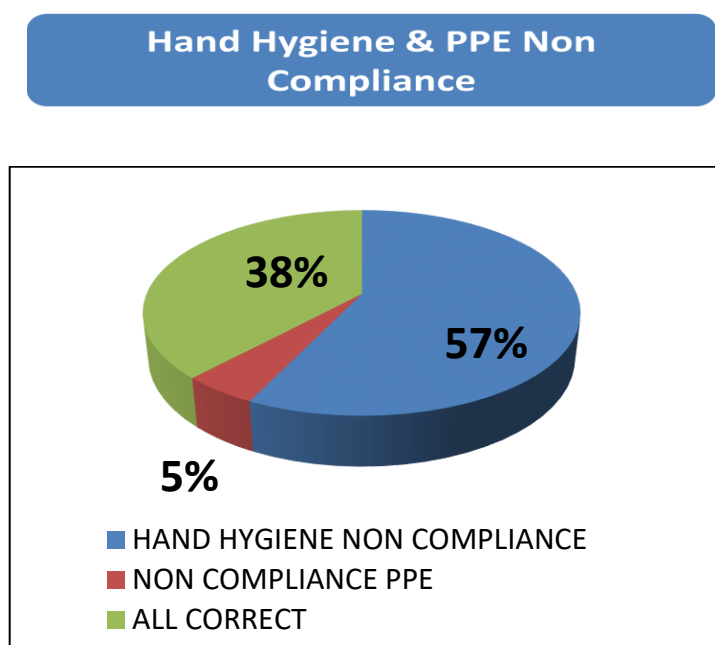


Figure 15: Above figure showing Noncompliance of Hand Hygiene & PPE

- Above graph showing 57% noncompliance of hand hygiene & 5% of PPE, 38% nurses are correct of both the cases.

3) 5th Level Observational Findings:-

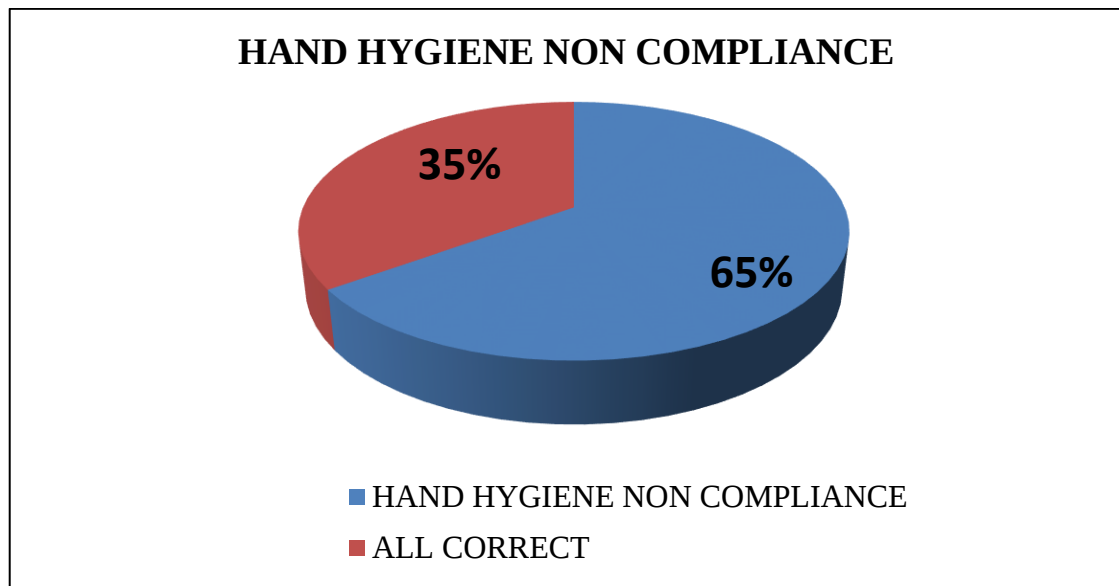


Figure 16: Above figure showing about Hand Hygiene Compliances

- Above graph showing 65% noncompliance of hand hygiene & 35% are properly doing hand hygiene.

Hand Written Medication Sticker on Antibiotics Bottle

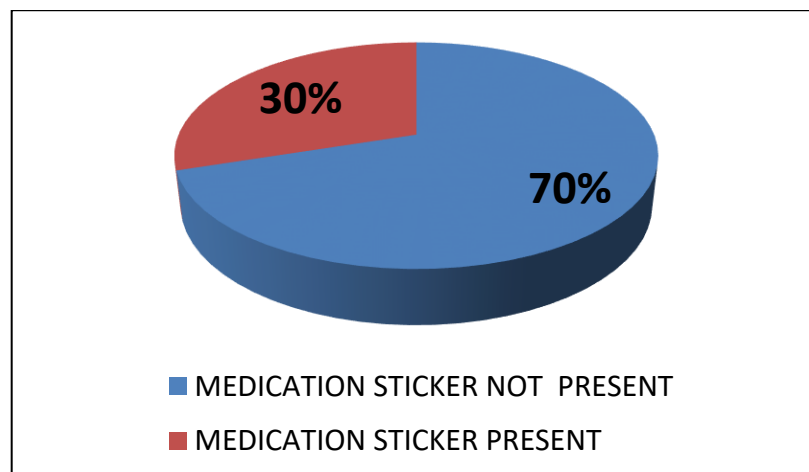


Figure 17: Above figure showing about Medication Sticker Status

- Above graph showing that 70% antibiotic bottles does not contain hand written medication sticker, 30% contains medication sticker.

Documentation Error

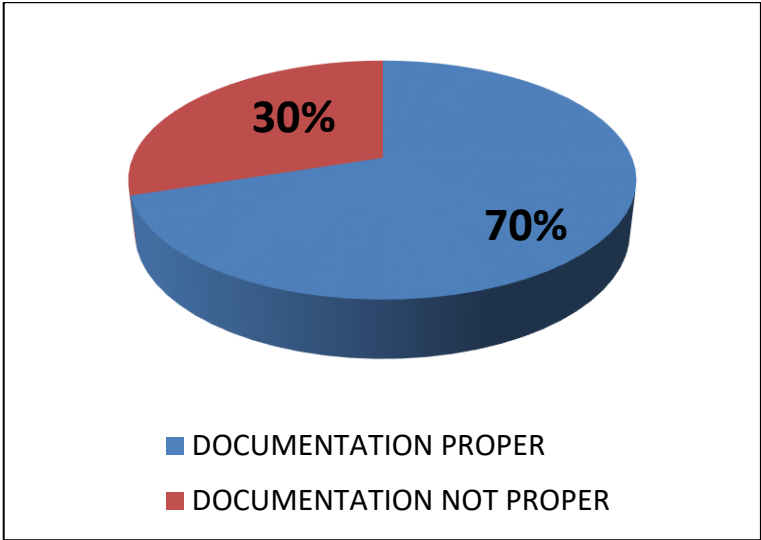


Figure 18: Above figure showing Documentation status by Nurses

- Above graph showing 70% documents are proper done by nurses, 30% not proper.

CONCLUSIONS:-

To improve the current status of infection control practices training & development can be conducted, Continued Medical Education(CME) conducted for the staff of the hospital & motivation of staff can done by small token of gift, empowerment of Infection Control Nurse can be done.

ANNEXURE:

QUESTIONS FOR DOCTORS, NURSES, PHYSIOTHERAPISTS & TECHNICIANS

1. Which part of our hands usually we miss while doing hand washing
 - a) Palm
 - b) Back of the hands
 - c) Inter digital spaces
 - d) Wrist
2. The first priority to prevent infection should be
 - a) Washing of hands
 - b) Use of PPE
 - c) Using a barrier between client's furniture
 - d) Wearing gowns & goggles
3. Hepatitis B is spread by :
 - a) Drinking from same cup
 - b) Coughing or sneezing
 - c) Contaminated blood
4. According to Biomedical Waste Rules, paper waste & domestic waste must be put inside,
 - a) Red bag
 - b) Yellow bag
 - c) Blue cardboard box
 - d) Black bag/bin
5. PPE includes
 - a) Gloves, gowns, masks, goggles
 - b) Aprons, booties, gloves
 - c) Eye shields, aprons, masks
 - d) All of the above
6. After needle stick injury what should be done first?
 - a) Wipe the area with dry cloth & put bandage.
 - b) Wash the area with soap and water & report to Infection Control Nurse
7. Infection control is the responsibility of:
 - a) The administrator
 - b) The nurse
 - c) All members of the health care team
 - d) The doctor
8. What is the minimum amount of time you need while doing hand hygiene with soap and water?

- a) 20 to 30 secs
- b) 40 to 60 secs
- c) 5 to 10 secs
- d) 10 to 15 secs

9. Identify the steps of Hand Washing serially and mark with numbers



10. Articles cannot be disinfected or sterilized unless they are ____ first

- a) Vacant
- b) Dried
- c) Cleaned
- d) Counted

QUESTIONS FOR HOUSEKEEPING STAFF

1. The first priority of preventing infections should be
 - a) Washing of hands
 - b) Wearing of gloves
2. According to Biomedical Waste Rules, paper waste & domestic waste must be put inside bag
 - a) Red bag
 - b) Yellow bag
 - c) Blue bag
 - d) Black bag
3. If there is an infected blood spill, what solutions you are using to clean it?
 - a) Sodium hypochlorite
 - b) 5% Bacillocid
 - c) Water
 - d) Water & detergent
4. Which solutions you are using to clean soil linen
 - a) Linotox solution
 - b) Bacillol solution
5. Identify the steps of Hand Washing serially and mark them with numbers



Bundle Check list

Patient Sticker																						
CAUTI — Bundle (Catheter-Associated Urinary Tract Infection)																						
Remove catheters as soon as possible, care for catheters individually																						
Date of Insertion :		Date																				
Foley's Catheter Size :																						
Foley's Catheter Type :																						
Foley's Catheter Inserted by:																						
1. Perform a daily review of the need for the urinary catheter.		M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
2. Check the catheter has been continuously connected to the drainage system and secured.																						
3. Ensure patients are aware of their role in preventing urinary tract infection. Perform routine daily meatal hygiene.																						
4. Regularly empty urinary drainage bags as separate procedures, each into a clean container.																						
5. Ensure the bag is properly positioned (below bladder and not touching floor)																						
6. Perform hand hygiene and don gloves and apron prior to each catheter care procedure																						
7. On procedure completion, remove gloves and apron and perform hand hygiene again.																						
This Content is modified from WHO / IHI																						
WHL/IC/06		Version 01																				

Figure 19: Above Figure showing the check list for CAUTI

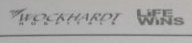
Patient Sticker																						
CLABSI Bundle (Central Line Associated Blood Stream Infections)																						
Date																						
Date of Insertion :		M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
Inserted By:																						
1. Perform hand hygiene.																						
2. Adhere to aseptic technique.																						
3. Use maximal sterile barrier precautions (i.e., mask, cap, gown, sterile gloves, and sterile full body drape)																						
4. Chlorhexidine skin antiseptics																						
5. Optimal catheter site selection with subclavian /Jugular vein as the preferred site.																						
6. Daily review of line necessity.																						
This Content is modified from WHO IHI																						
WHL/IC/07																						
VAP Bundle (Ventilator associated pneumonia)																						
Date & ICU Day																						
Date of Insertion :																						
Intubation / Re Intubation By :		M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N	M	E	N
Extubation / Re Extubation By:																						
Endotracheal Tube Size:																						
Tracheostomy tube Size:																						
1. Head Propped Up Position 30 to 45 degrees																						
2. Sedative interruption & assessment of readiness to extubate																						
3. Tubulottic suctioning																						
4. Cuff Pressure																						
5. Oral Care with Chlorhexidine																						
Reference - "Strategies to Prevent Ventilator-Associated Pneumonia in Acute Care"																						
Hospitals: 2014 Update / Infection Control & Hospital Epidemiology / Volume 35 / Issue 08 / August 2014, pp 915 - 936																						
DOI: 10.1086/527363, Published online: 16 January 2015																						
WHL/IC/5		Version 1																				

Figure 20: Above Figure showing the check list for CLABSI & VAP

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