

**Summer Training at
Alchemist Hospital**

- **Patient Satisfaction Index - OPD services of Alchemist Hospital**
 - **Study of Hospital Infection Control (HAI)**

**By
Swati Saini**

**Under the guidance of
Dr. Mohan Lal Bairwa**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

CERTIFICATE

This is to certify that **Dr. Swati Saini** student of **MBA in Health and Hospital Management** from the IIHMR University, Jaipur has undergone summer training at **Alchemist hospital, Panchkula** from 1st April to 31st May, 2016.

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

The internship is in fulfilment of the course requirements.

I wish her all success in future endeavours.



Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
IIHMR University, Jaipur



Dr. M.L. Bairwa
Assistant Professor
IIHMR University, Jaipur

Ref: AHL/HRD/2016/06/SI-001

Date: 01st June 2016

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Swati Saini** has undergone summer training in this hospital from 01st April 2016 to 31st May 2016.

She has submitted project reports on the following topics:

- Patient satisfaction Index-OPD services
- Hospital Infection Control

Upon successful completion of her training, she was relieved. Her conduct and performance during the training period has been good.

For Alchemist Hospitals Ltd.

Harleen Kaur

Harleen Kaur
Head - HR & Admin

ACKNOWLEDGEMENT

First and foremost, I Dr Swati Saini and Dr Heena Mansotra would like to express our sage sense of gratitude and indebtedness to mentor Dr. Mohan Bairwa Assistant Professor Institute of Health Management Research Jaipur respectively for giving us opportunity to do the 8 weeks internship at Alchemist Hospital, Panchkula.

We also extend our heartfelt gratitude to Dr Mohan Bairwa for mentoring and guiding us through this study .We are thankful to them for their invaluable assistance and cooperation.

Our sincere and heartfelt thanks to the administration of Alchemist Hospital for extending all the possible support and guidance required for successful completion of project and valuable learning which came along with entire process.

We are grateful to our mentor Dr Abhishek Garg (Medical superintendent) at Alchemist Hospital, and our guide Dr Garima Gupta for their valuable guidance, advice,suggestion and encouragement rendered to us at every stage which was a great learning experience for us.

We express our sincere gratitude to Mrs Harleen Kaur, HR Manager who gave us the chance to pursue our summer internship here and for their loving support throughout internship.

Last but not the least ; we would like to acknowledge the co-operative and helpful staff of entire hospital and departments of Alchemist Hospital for their assistance and for providing all the relevant information that assisted us to accomplish successful completion of our project.

It was real great pleasure to complete our internship at Alchemist Hospital , well –organized and diversified organization. We conclude that our learning experience was very enriching .We are grateful to all those who helped us in completing the internship projects.

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ABBREVIATIONS

ICU	INTENSIVE CARE UNIT
MICU	MEDICAL INTENSIVE CARE UNIT
NICU	NEONATAL INTENSIVE CARE UNIT
SICU	SURGICAL INTENSIVE CARE UNIT
CCU	CORONARY CARE UNIT
HEPA	HIGH EFFICIENCY PARTICULATE ARRESTANCE
ENT	EAR, NOSE AND THROAT
VDRL	VENEREAL DISEASE RESEARCH LABORATORY TEST
SARS	SEVERE ACUTE RESPIRATORY SYNDROME
ICN	INFECTION CONTROL NURSES

HOSPITAL PROFILE

Alchemist Hospital, Panchkula is a multispecialty tertiary care hospital committed to the principles of Accountability, Compassion, Excellence and Respect. The philosophy of hospital is 'Care, not just cure' attained a more humane form offering the best in health care. Alchemist group forayed into provision of healthcare with the acquisition of 114 – bedded hospital at Panchkula.

The Alchemist hospital is managed by a corporate body, along with distinguished panel of health experts. The hospital is complete with latest technology and state-of-the-art facilities that include monitored beds, digital cardiac cath labs well as major operation theatres equipped with HEPA and MAC laminar vents with its various surgical and medical departments.

In recognition of its commitment to excellent patient care and its comprehensive range of quality health care services, Alchemist Hospital, Panchkula has been awarded NABH Accreditation and has recently conferred with ABP Brand Excellence Award for achieving extraordinary success in health care services.

VISION

We want to set the standards for compassionate care and trust, always placing patients and their families first.

MISSION

We create an environment of health and healing for the people and communities we serve by delivering innovative, compassionate, patient- and family-centred health care, enriched by education, science and technology.

VALUES

Caring – Integrity – Safety – Excellence

Our Quality Norms

Care, Compassion, Courtesy

Community health provider patient centric with value for money to all sections of society.

Timely intervention

Effectiveness : Sharing Knowledge and best practices.

Efficiency : never ending improvements.

Maintenance of high standard of hygiene and cleanliness.

Best quality patient care.

Judicious use of drugs and appropriate interventions.

Compliance with the highest standards of medical ethics.

Continuous skill up gradation and keeping abreast of latest development.

To carry out all processes right the first time, on time and every time.

HOSPITAL CONSISTS OF FOLLOWING DEPARTMENTS

MEDICAL DEPARTMENT

- Anaesthesiology and pain management
- Cardiology
- Clinical Dermatology and Cosmetology
- Critical Care
- Dental Medicine
- Diabetology
- Emergency (causality)
- ENT
- Gastroenterology
- General Medicine
- Gynaecology and Obstetrics
- Nephrology
- Ophthalmology
- Pain Management
- Paediatrics (neonatal & childcare)
- Urology and stone
- Pulmonology and Chest medicine
- Psychiatry and Psychology

ADMINISTRATION DEPARTMENTS

- Administrator / CEO Office
- Finance
- Human Resources
- Marketing
- Nursing Superintendent
- Operations
- Purchase / Store

PARAMEDICAL SERVICES

- Blood Bank
- Radiology
- Pharmacy
- Histology
- Pathology
- Immunology
- Haematology

SUPPORT SERVICES

- Billing
- CSSD
- Biomedical
- Dietician
- Front Office
- Housekeeping
- Information Technology

- Maintenance and Engineering
- Telephones
- Medical Records
- Security and Transport

WARDS

- CCU
- ICU
- NICU
- PICU
- SICU
- MICU
- CATH Lab
- Operation Theatre
- Post Operative
- AC General Ward
- Recovery Room
- Deluxe Room
- Nursing Station
- Male General Ward
- Female General Ward
- OPD Waiting Area
- Sample Collection

HOUSE KEEPING

- Types of Manpower : Junior and Senior house keeping
- Number of Manpower : 42 (9 females + 33 males) + 4 supervisors
- Timings of shifts : Morning – 7am to 4pm
Evening – 12:30pm to 10pm
Night - 10pm to 7am

LAUNDRY

Different entry and exit areas for dirty and clean linen

STEPS

- Dirty linen comes
- Weight age of linen done
- Linen put in washing machine
- Washed clothes put in tumblers for drying
- After drying linen undergoes pressing.

ACCOMODATION

They have the following In Patient rooms to suit different needs and budgets of patient:

Deluxe Room

Single Room

Twin Sharing Room

General Ward

ALCHEMIST CENTERS OF EXCELLENCE

- Institute of Cardio Pulmonary Sciences
- Institute of Orthopaedics & Joint Replacement Surgery
- Institute of Gastrointestinal Sciences and Bariatric Surgery
- Institute of Obstetrics, Gynaecology and Child Health
- Institute of Renal Diseases
- Institute of Neurosciences
- Institute of Oncology (Total Cancer Care)
- Eye Institute

CRITICAL CARE

The hospital has the facilities of Medical Care Unit (MICU), High Dependency Unit (HDU), Cardio Thoracic Vascular Surgery (CTVS) ICU, Coronary Care Unit (CCU) and Neonatal Intensive Unit (NICU). The critical areas are under the care of critical care team which has highly qualified and experienced intensivists and specialists. The critical units are equipped with advanced medical equipments viz. Ventilators, Monitors, Central Monitoring Station (CMS), ABG Machine, Echocardiography, and portable Ultrasound and X-ray Machines. The team has expertise in pain management.

OPERATION THEATRE

Alchemist Hospital has five operation theatres that are equipped with anaesthesia machines of International standards, cold operating lights, advanced air filtering system, central gases and suction, image intensifier, electrosurgical units and endoscopic equipments.

The theatres are staffed by an experienced team of anaesthesiologists technicians and nurses and follow strict protocols for infection control.

These ensure high standards of patient safety during and after surgery by following pre-operative checklist.

Types of OTS : 1) Cardiac

2) Orthopaedic

3) Neurosurgery

4) Multispeciality

MEDICAL RECORD DEPARTMENT (MRD)

It maintains and analyzes patients medical records.

Medical records of the patient start building the day he is admitted in the hospital. It consist of his case sheets , physical condition , investigation ,operation/procedure details , daily progress and discharge information. All these papers are deposited in this section after the discharge / death of the patient and are arranged according to the MR number.

Medical records of in-patient and out-patient maintained separately . These are confidential documents and its handing over to the patients or doctors should not be against the signature of person/officer concerned .

Medical- legal cases are maintained separately and the medical records officer is responsible for providing assistance to police officers in the form of requirement of injury report , MLC investigation reports.

IMAGING / RADIOLOGY

The Department of Radiology is equipped with the latest state- of- the- art equipment for routine as well as specialized radiological procedures. All routine X-rays are digital and special procedures like hysterosalpingogram, barium studies and other contrast studies are performed on a remote controlled digital fluoroscopy machine .

CT Angiography – The 64 slice DUAL- SOURCE CT Scan detects the blockages in the vessels of your heart (Coronary Arteries) in minimal time. It takes only 7 seconds to take high quality coloured pictures , which show the fatty deposits in the coronary arteries of a beating heart.

BLOOD BANK

The Alchemist Blood Bank strictly adheres to the norms prescribed under Drugs & Cosmetics Act 1940 and rules 1945 , as amended from time to time. The blood bank uses the latest GEL technology. This technology is more standardized, sensitive and specific, and is used routinely for blood grouping , cross matching and antibody screening . The blood bank also conducts the mandatory tests for Hepatitis B ,Hepatitis C , Malaria , VDRL and HIV . The latest technology in blood bank refrigerators provides for safe storage of blood at proper temperature. Platelet aphaeresis is also done with the help of COM.TEC.

The blood bank is participating in the blood bank external quality assessment scheme (BEQAS) recognized by NABH quality council of India.

AMBULANCE AND AMBULANCE SEVICES

Two ambuances , outfitted with advanced life saving equipment , are available round the clock. An ambulance is always accompanied by a specialised nurse . A doctor also accompanies the ambulance if the medical condition of the patient so demands .

Alchemist is having well equipped ACLS and BLS ambulance , designed to need the clinical needs of the patients . The ambulance has skilled nurses on board who are trained in advanced cardiac life support , advanced trauma life support and basic life support .

PHARMACY

Alchemist Hospital has its own pharmacy i.e. Alchemist Pharmacy .The pharmacy is located on the ground floor of the hospital and can be utilized to obtain prescribed drugs and over-the –counter medications. The services is available 24* 7.

CSSD (Central Sterile Supply Department)

Central Sterile Supply Department (CSSD) is one of the most sophisticated, technically advanced state of the art department , having 8XL-STERI VAC for ETO and STERIS-AMSCO Century for steam sterilization. CSSD has demarcated separate zones i.e. Dirty zone, Clean zone, EO zone, Sterile zone, Distribution zone.

The department is functional 24 hours for routine and emergencies surgeries.

FOOD SERVICES

There is a strong relationship between diet and health. The dietician takes inputs from the patient and checks medical records and genetic patterns of the patient and then suggests modification in diet.

The food is prepared in hygienic condition and is checked for quality, taste, quantity and presentation before taking it to the patient.

The food is monitored, assessed and optimised based on the patients current medical condition.

Special diets are also available to patients who need specific diet control or are undergoing special diet therapy.

LAB MEDICINES

The Clinical Pathology Lab at Alchemist Diagnostic Centre is fully automated lab designed to handle large volumes of samples efficiently and effectively.

Great emphasis is laid on Quality and Accuracy of testing.

Facilities offered

- Biochemistry
- Hematology
- Clinical Pathology
- Cytology
- Histopathology
- Microbiology
- Serology



PROJECT REPORT

PROJECT 1 - Patient satisfaction index - OPD services of
Alchemist Hospital

Project Guide – Dr Garima Gupta

Mentor – Dr Abhishek Garg

INTRODUCTION

Health care scenario is fast changing all over the world . Patient satisfaction is one of the established yardstick to measure the extent to which a patient is content with services which they have received from the hospital. A patient is the ultimate consumer of the hospital.

A patient survey can monitor satisfaction levels to ensure care , standards are maintained at certain level. Surveys can also be used to identify possible areas of financial waste or areas where greater patient contact and interaction is needed . A well crafted patient questionnaire thoroughly assesses the patient's experience and provides solid , accurate data to be used to develop change initiatives.

Very few studies carried out in India for measuring satisfaction of patients with hospital services .The purpose of present study is to carry out evaluation of hospital services by getting feedback from outdoor patients.

LITERATURE REVIEW

Hospitals are among complex and dynamic institution of our society .The main function of hospital is to promote health of community it serves.

According to WHO : Hospital is defined as integral part of a social and medical organisation , the function of which is to provide complete health care both curative and preventive for population and whose out – patient services reach out to the family in its home environment .

Main objective of the hospital is to provide health services to all people at all the time . A modern hospital has become highly scientific and complex medical institution from its old age concept of poor house where people left their incurable and dying relatives .In modern era role of hospital administration has been broadened as the life expectancy has gone up.

Hospital administration is an activity to secure better output “ through optimum utilization of inputs”. It is said each hospital has an image of its own , a tempo of work and emotional atmosphere peculiar to its tradition , its community of staff and patients.

The patient and hospital environment are interested only in the ultimate quality of effective health care , which is an important factor in the inputs of good health care delivery system , which will go a long way in creating excellent – patient – hospital – relationship.

Definition of patient satisfaction

Patient satisfaction is a multi – dimensional healthcare issue affected by many factors. It can be defined as fulfilment or meeting of expectations of a person from a service or product when a patient comes to a hospital, he has a preset image of the various aspects of the hospital as per the reputation & cost involved.

Although, their main expectation is getting cured & going back to their work, but there are other factors which affect their satisfaction. Patient satisfaction is a parameter for assessing the quality of patient care services.

Quality service increases the confidence of the patient about the hospital care. Patient satisfaction and health care service quality can be increase by using a multi-disciplinary approach that combines patient inputs as well as expert judgment . Patients carry certain expectations before their visit and the resultant satisfaction or dissatisfaction is the outcome of their actual experience.

ADVANTAGES OF PATIENT SATISFACTION



AIM

To study satisfaction of the patients admitted in alchemist hospital panchkula regarding :-

- Patient care provided in the hospital.
- Behaviour of medical, nursing, guards and supportive staff.
- Availability of essential services and amenities within the hospital.
- To study the overall functioning and quality of the hospital.

OBJECTIVES

- To measure the level of patient satisfaction through feedback forms.
- To determine loop holes and ways to prevent them.
- To determine major causes of dissatisfaction and possible actions to improve them.

To identify challenges and take remedial action where possible

METHODOLOGY

SAMPLE SIZE – 100

SAMPLING TECHNIQUE	Convenient and Random sampling
STUDY AREAS	General OPD
	Lifestyle OPD
	Cardiac OPD
	ENT And Dental OPD
STUDY TOOL	Feedback forms
METHOD USED	Questionnaire that consisted of 18 questions covering all the important aspects.

QUESTIONNAIRE

Date: _____

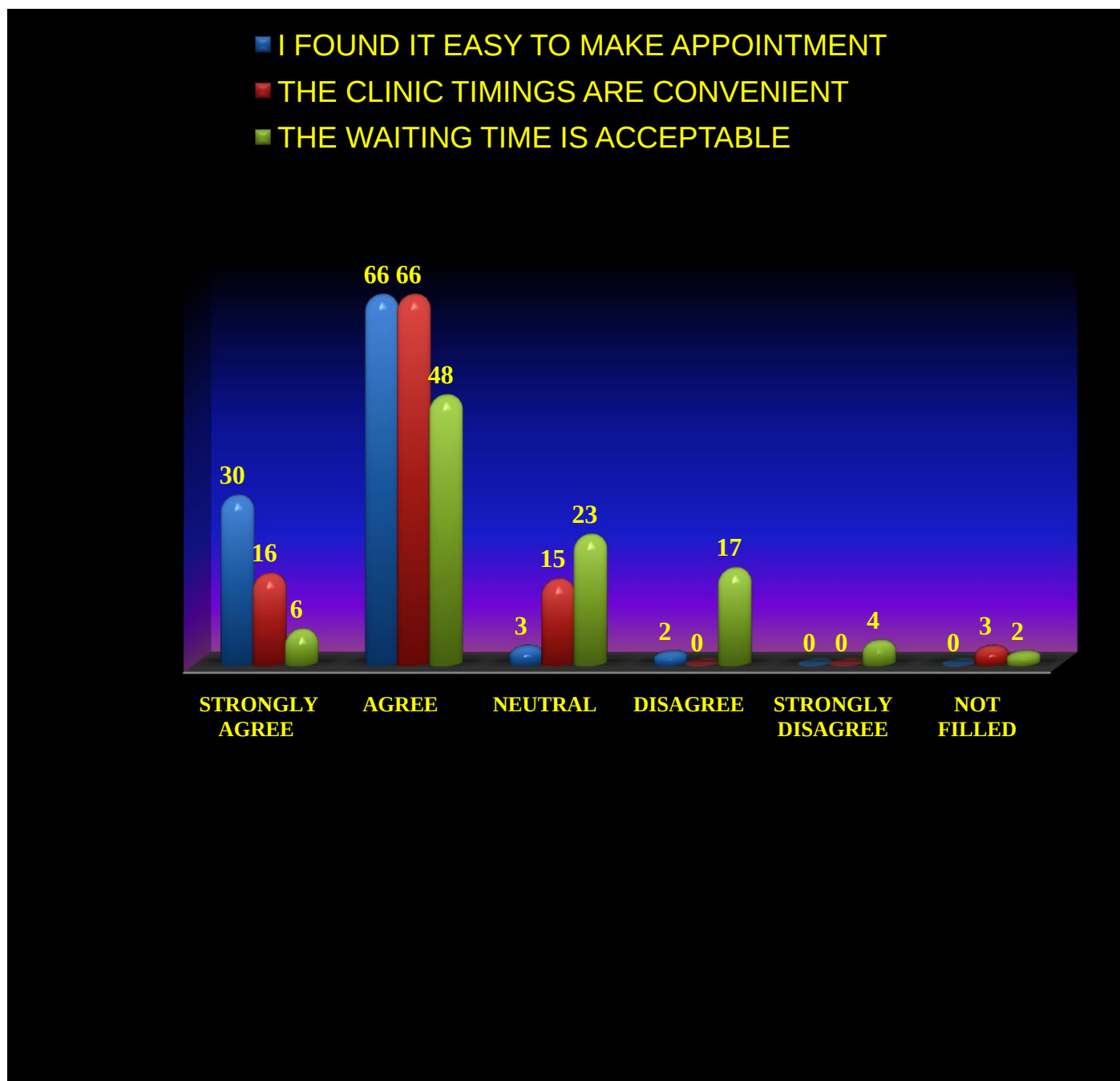
Department Visited: _____

Primary Consultant: _____

S No.	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I found it easy to make appointment.					
2.	The clinic timings are convenient.					
3.	The waiting time is acceptable.					
4.	The physician was helpful and professional.					
5.	The physician explained my medical condition and treatment well to me.					
6.	I was able to communicate my needs to the staff.					
7.	The nurse was helpful and professional.					
8.	The reception staff was helpful and professional.					
9.	The Pharmacist was helpful and professional.					
10.	The Radiologist was helpful and professional.					
11.	The Lab technician/ sample collection staff was helpful and professional.					
12.	I found Token System convenient.					
13.	The medication nurse was helpful and professional.					
14.	Was the free Valet car parking services helpful in parking your vehicle?					
15.	Were you happy with the Cafeteria?					
16.	The signage and directions were easy to follow in the hospital.					
17.	Overall I was satisfied with the quality of service.					
18.	I will recommend Alchemist Hospital to my friends and relatives.					

DATA ANALYSIS

APPOINTMENTS AND WAITING TIME – This segment deals with the first point of contact with the hospital. The questions in it cover the satisfaction level in relation to waiting area, waiting time and appointment procedures.



PHYSICIANS AND NURSES – This segment covers the aspect of physicians and nurses and how much satisfied are patients with care provided to them.

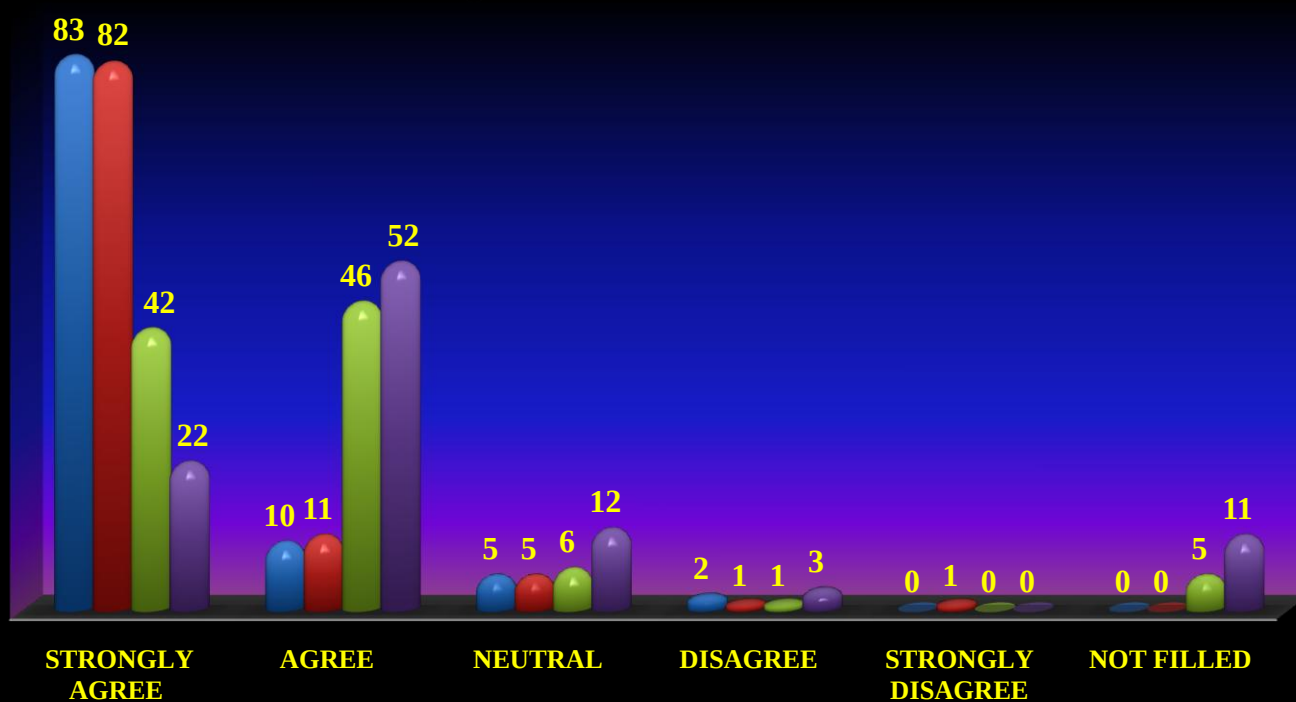
Overall the patients satisfaction level is high in this segment.

■ THE PHYSICIAN WAS HELPFUL AND PROFESSIONAL

■ THE PHYSICIAN EXPLAINED MY MEDICAL CONDITION AND TREATMENT WELL TO ME

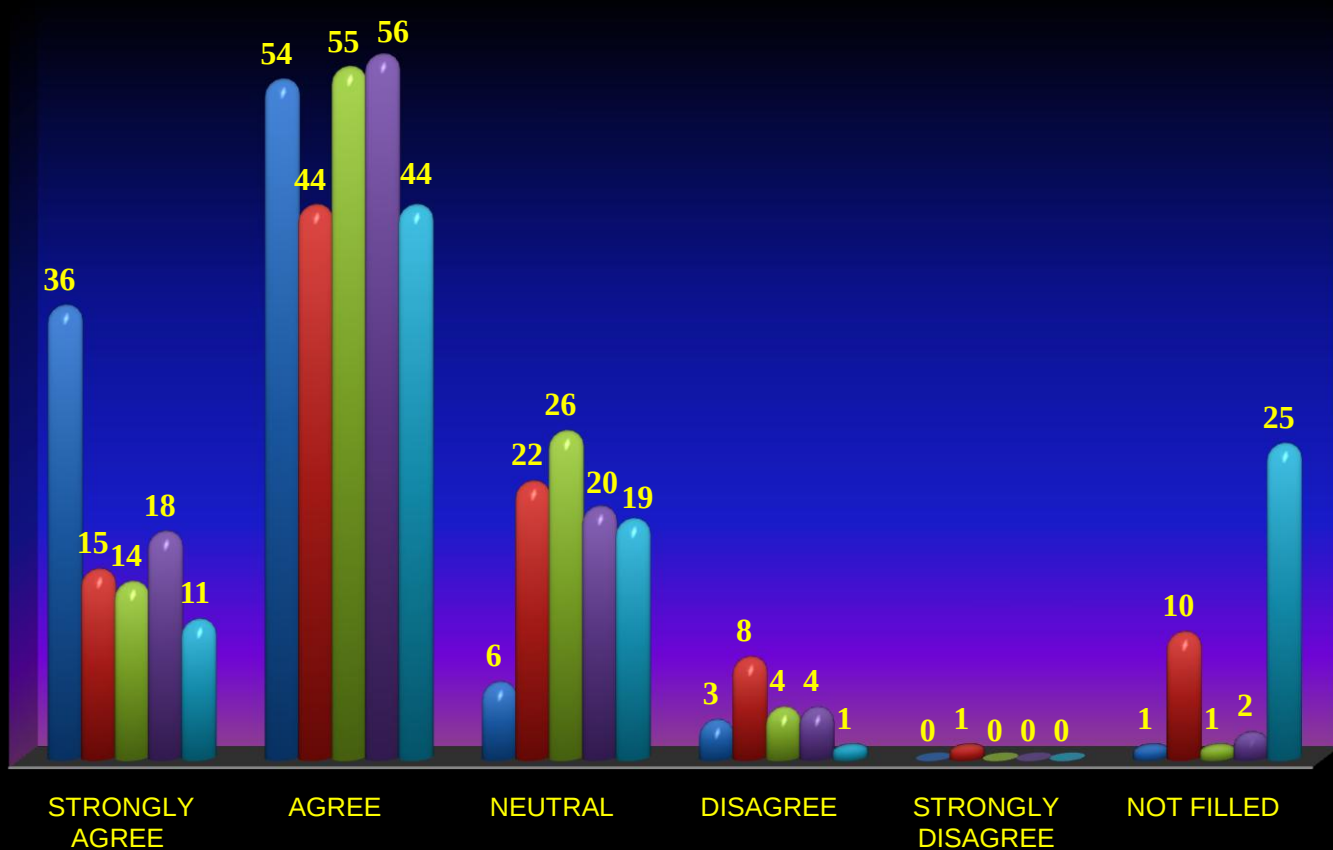
■ I WAS ABLE TO COMMUNICATE MY NEEDS TO THE STAFF

■ THE NURSE WAS HELPFUL AND PROFESSIONAL

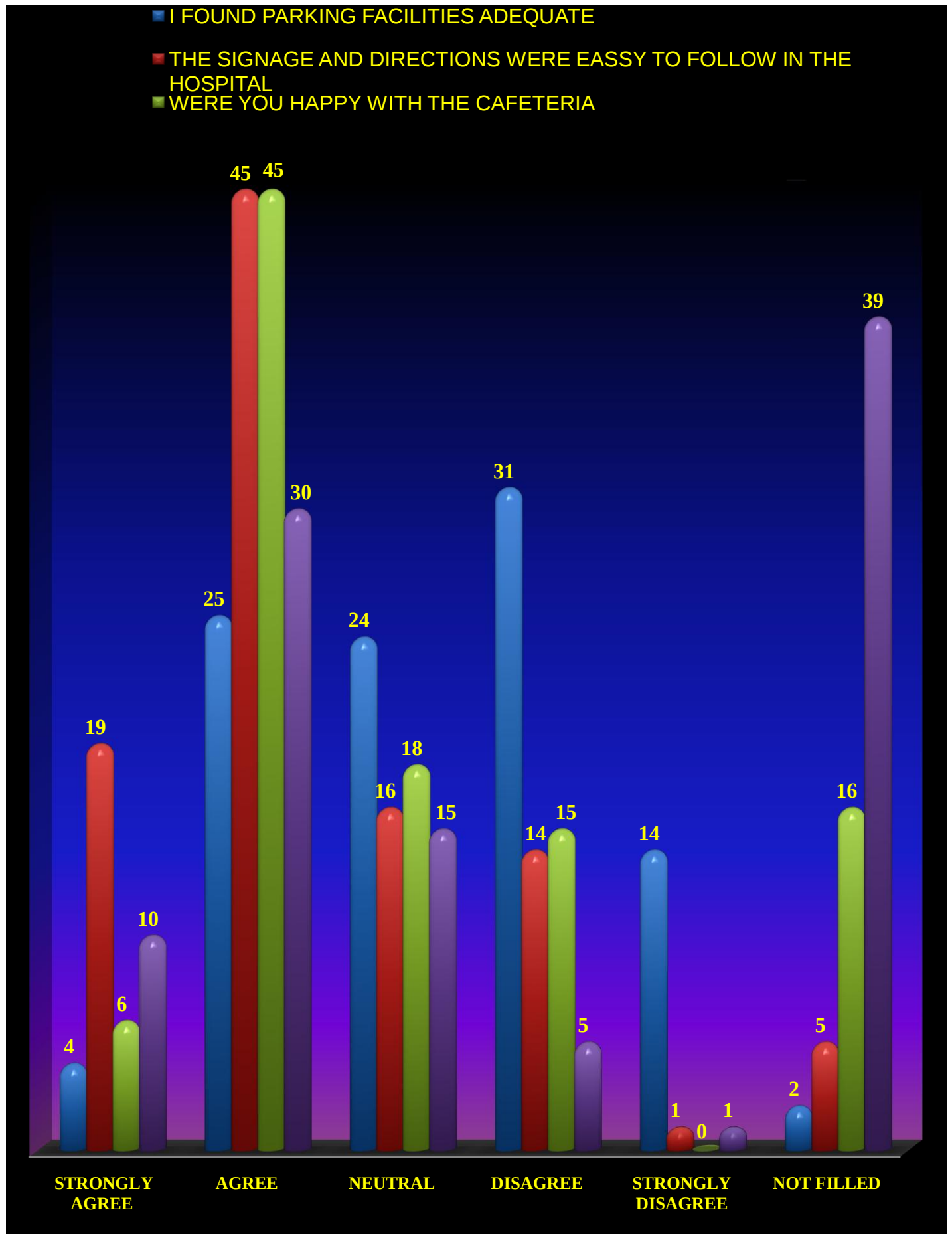


CONTACT PERSONNELS – The segment comprises of the satisfaction level of the patients with respect to the contact personnel's and how they perceive them.

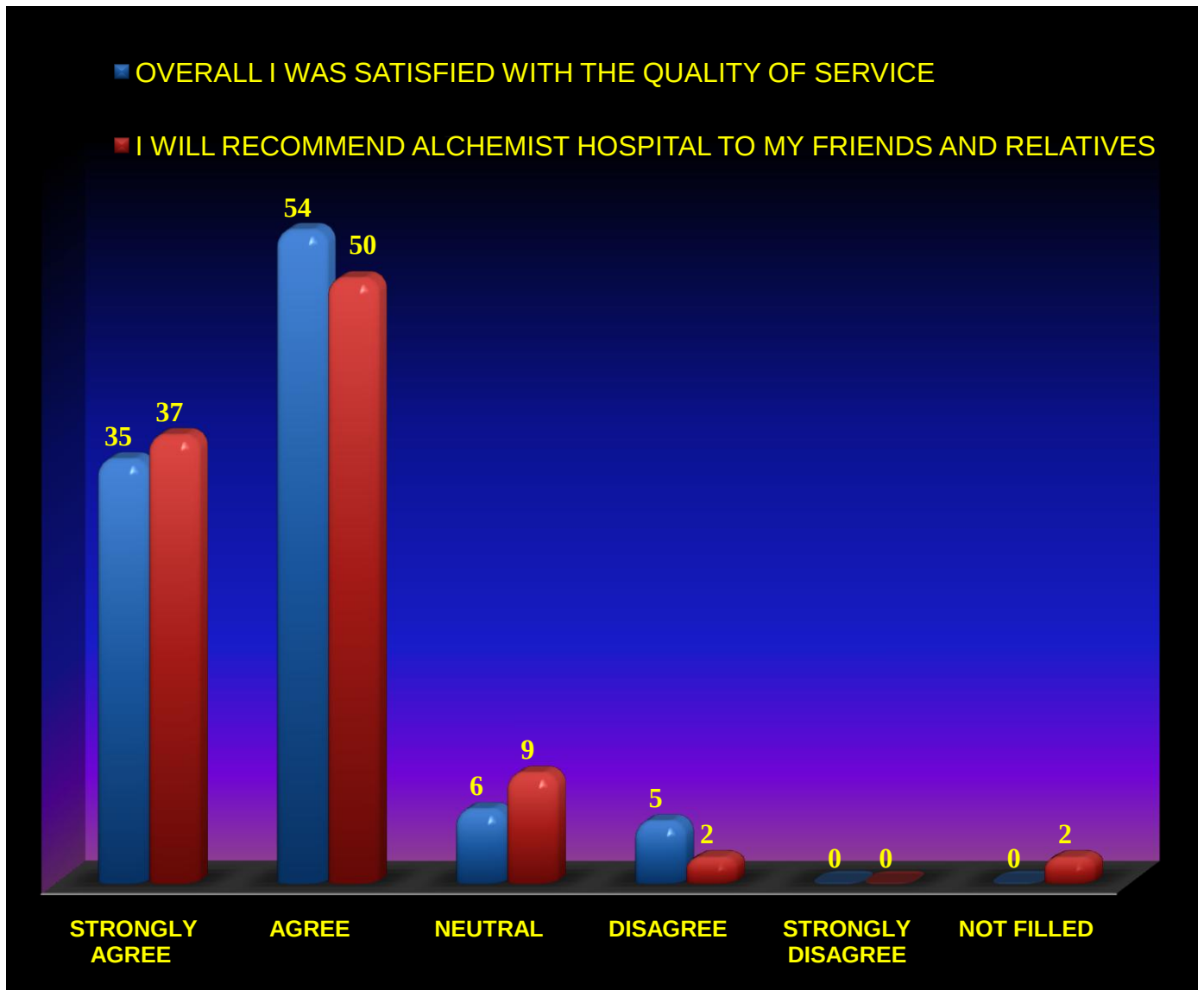
- THE RECEPTION STAFF WAS HELPFUL AND PROFESSIONAL
- THE PHARMACIST WAS HELPFUL AND PROFESSIONAL
- THE RADIOLOGIST WAS HELPFUL AND PROFESSIONAL
- THE LAB TECHNICIAN /SAMPLE COLLECTION STAFF WAS HELPFUL AND PROFESSIONAL
- THE MEDICATION NURSE WAS HELPFUL AND PROFESSIONAL



FACILITIES AND SERVICES – This segment comprises of questions dealing with the basic infrastructure and user friendliness of the hospital environment.



OVERALL – This segment deals with the overall general satisfaction level in relation to the services provided by the alchemist hospital.



RECOMMENDATIONS

- People to be made more aware of token system and valet parking.
- Innovative parking solutions.
- Signage can be improved.
- Medicines , tests and cafeteria to be made cost effective.

CONCLUSION

Patient satisfaction is an attitude. Though it does not ensure that the patient will remain loyal to the doctor but it is still a strong motivating factor. It is an indicator of the quality of doctor or hospitals performance. It leads to increased productivity that can be improved by –

- Understanding needs of patients.
- Reducing malpractice costs.
- Increasing patient referrals.
- Considering patient as priority.

REFERENCES

www.alchemisthospitals.com

www.alchemisthospitals.co.in



PROJECT REPORT

PROJECT 2 – Study of HOSPITAL INFECTION CONTROL (HAI)

Project Guide – Dr Garima Gupta

Mentor – Dr Abhishek Garg

INTRODUCTION

Health care associated infections (HAI) are infections that are acquired by the patient while he/she is in the hospital either from other patients, hospital environment or members of the hospital staff.

They were earlier referred as **Nosocomial / Hospital-acquired /hospital associated infections**.

These infections are not incubating at the time of admission and usually manifest after 48 hours of admission or hospital contact. They also include infections acquired by patients in the hospital or facility but appearing after discharge, and occupational infections among staff.

EXTENT OF THE PROBLEM

Hundreds of millions of patients are affected by health care associated infections worldwide each year. In every 100 hospitalized patients at any given time, 7 in developed and 10 in developing countries will acquire at least one healthcare associated infection. In high income countries, approximately 30% of patients in intensive care unit (ICU) are affected by the least one health care associated infection. In low and middle income countries the frequency of ICUs infection is at least 2-3 fold higher than in high income countries; device associated infection densities are up to 13 times higher than in the USA. New-borns are at higher risk of acquiring health care associated infection in developing countries, with infections rates three to 20 times higher than in high income countries.

EFFECT OF HOSPITAL ACQUIRED INFECTIONS ON THE HEALTH CARE

The outcome of diseases is adversely affected by hospital associated infections which increase morbidity and mortality. In addition to this the average length of stay of patients and the cost of health care increases significantly. These lead to loss of effectiveness and productivity of the hospital services.

It is advisable to formulate an infection control programme with the following thrust areas:

1. Development of policies and procedures to reduce the risk of hospital acquired infection.
2. Development of an effective surveillance system.
3. Maintenance of a continuous education programme for hospital personnel.

OBJECTIVE:

Management of health-care waste is an integral part of hospital hygiene and infection control. Health-care waste should be considered as a reservoir of pathogenic microorganisms, which can cause contamination and give rise to infection. If waste is inadequately managed, these microorganisms can be transmitted by direct contact, in the air, or by a variety of vectors. Infectious waste contributes in this way to the risk of nosocomial infections, putting the health of hospital personnel, and patients, at risk.

What factors put patient at risk of infection in health-care settings?

Several factors can cause health care-associated infections such as: -

- ▶ prolonged and inappropriate use of antibiotics;
- ▶ presence of invasive devices
- ▶ high risk and sophisticated procedures;
- ▶ immune-suppression and other severe underlying patient conditions;
- ▶ insufficient application of standard and isolation precautions.

Some determinants are more specific to settings with limited resources.

- ▶ inadequate environmental hygienic conditions and waste disposal;
- ▶ poor infrastructure;
- ▶ insufficient equipment;
- ▶ understaffing;
- ▶ overcrowding;
- ▶ poor knowledge and application of basic infection control measures;
- ▶ lack of procedure;
- ▶ lack of knowledge of injection and blood transfusion safety

High risk areas in hospitals are nurseries, intensives care units (ICU), dialysis unit, organ transplant units, oncology wards, operation theatres (OT), delivery rooms and post op wards.

SOURCES OF HAI:

Endogenous sources: are body sites, such as the skin, nose, mouth, gastrointestinal (GI) tract, vagina that are normally inhabited by microorganisms.

Exogenous sources: are those external to the patient, such as patient, such as patient care personnel, visitors, patient care equipment, medical devices, or the health care environment.

STANDARD PRECUATIONS:

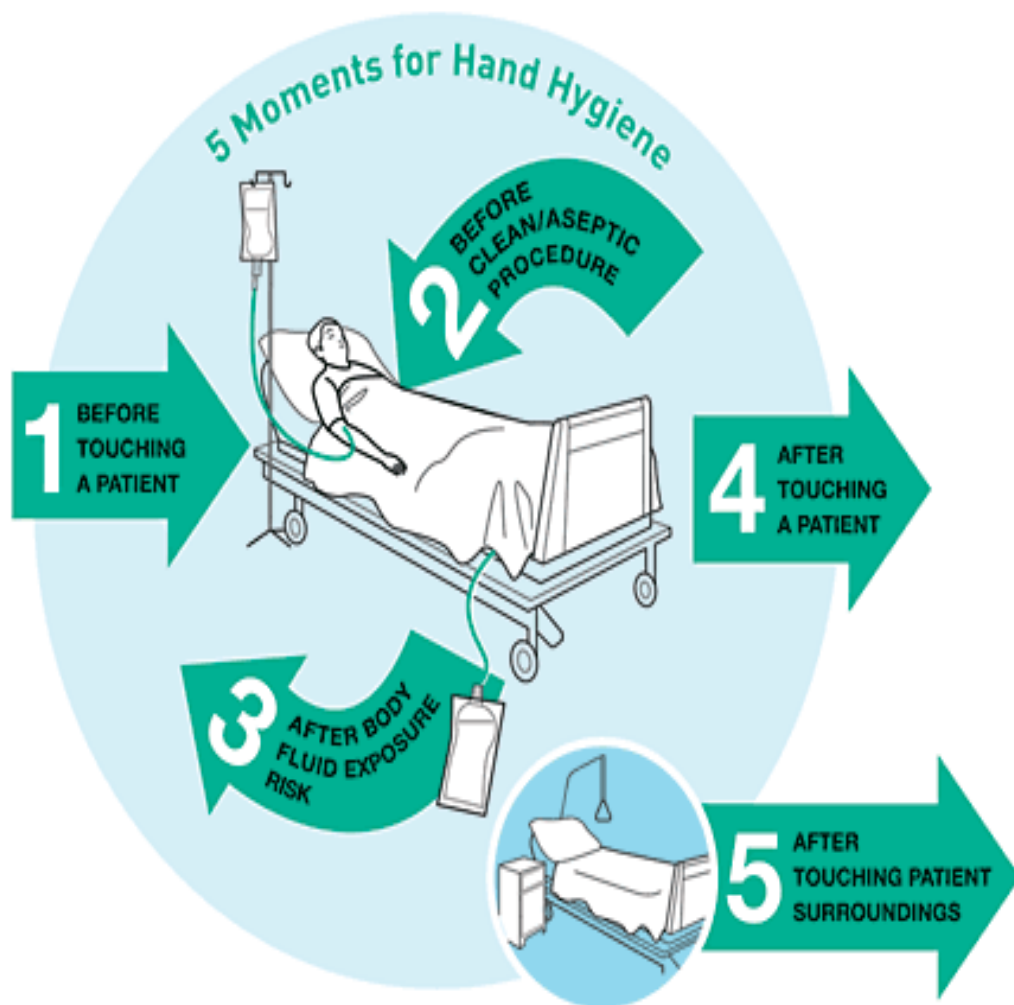
Standard precautions are intended to be applied to the care of all patients in all healthcare settings, regardless of the suspected or confirmed presence of an infectious agent. Implementation of standard precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and healthcare personnel.

Transmission based precautions are for patients who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens, which require additional control measures to effectively prevent transmission . Since the infecting agent often is not known at the time of admission to a healthcare facility. Transmission based precautions are used empirically, according to the clinical syndrome and the likely etiologic agents at the time, and then modified when the pathogen is identified or a transmissible infectious etiology is ruled out.

1. Health-care workers are to consider all patients as potentially infected and to adhere rigorously to infection control precautions for minimizing the risk of exposure to blood and body fluids of all patients.
2. All health-care workers are expected to follow basic infection control standards to ensure their own safety, and that of other workers and patients.
3. Health-care workers are defined as persons, including employees, physicians, students, trainees, contract workers and volunteers whose activities involve contact with patients or with blood or other body fluids and tissues from patients in a health-care setting.

HAND HYGIENE:

- ➡ Hand hygiene at the right times saves lives.
- ➡ Health-care problems, like HAI's which are often invisible but nevertheless still occur, are political and social challenges that we must address now.
- ➡ Infections can be stopped through good hand hygiene. Alcohol-based hand rub can prevent HAI and millions of deaths every year.
- ➡ Embedding specific moments for hand hygiene action into health worker work flow makes it easier to do the right thing every minute, every hour, everyday.
- ➡ Hand hygiene is core to all interventions, whether inserting an invasive device, managing a surgical wound or giving an injection.
- ➡ The social epidemic has already begun to spread with SAVE LIVES: Clean your hands, a successful global campaign promoting hand hygiene action at the point of patient care.



HAND WASHING STEPS



STEP 1
Rub palms together.



STEP 2
Rub the back of both hands.



STEP 3
Interlace fingers and rub hands together.



STEP 4
Interlock fingers and rub the back of fingers of both hands



STEP 5
Rub thumb in a rotating manner followed by the area between index finger and thumb for both hands.



STEP 6
Rub fingertips on palm for both hands.



STEP 7
Rub both wrists in a rotating manner. Rinse and dry thoroughly.

HAND HYGIENE COMPLIANCE

OBJECTIVES

- ▶ To minimize the risk of infection to patients , staff and visitors.
- ▶ To identify the roles and responsibilities of key personnel involved in the prevention and control of infection.

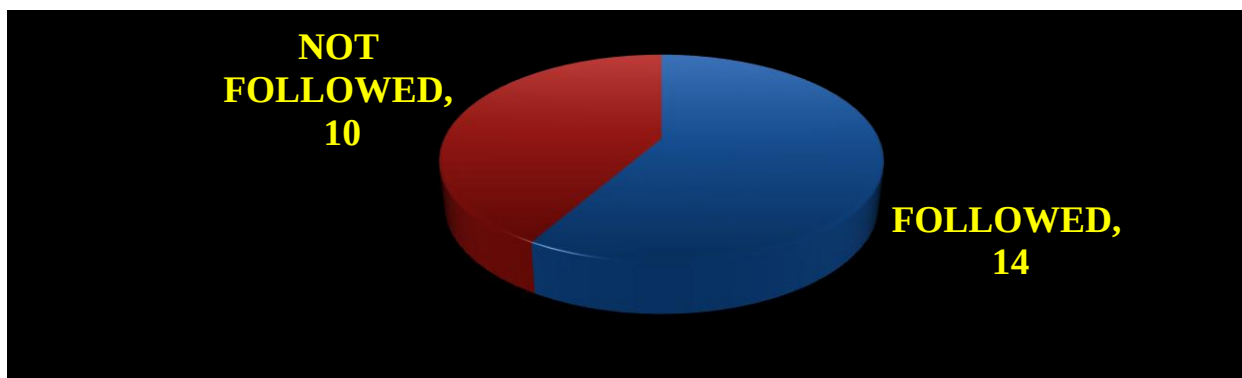
METHODOLOGY

- ▶ Study area – ICU , CCU , GENERAL WARD
- ▶ Study timings – 10:00AM to 12:00 noon & 2:30PM to 4:00PM
- ▶ Study technique – observation of doctors and staff

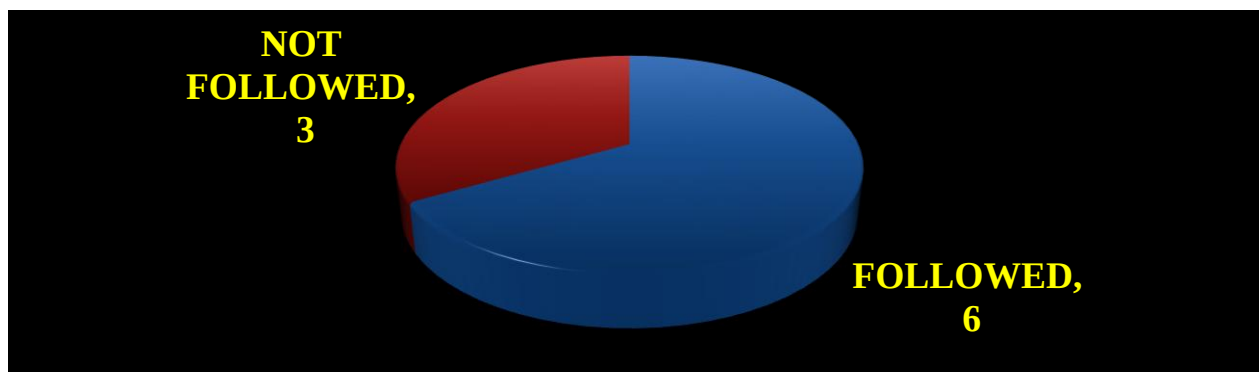
FINDINGS (3 Days in each department)

DEPARTMENT - ICU

NURSES - 24

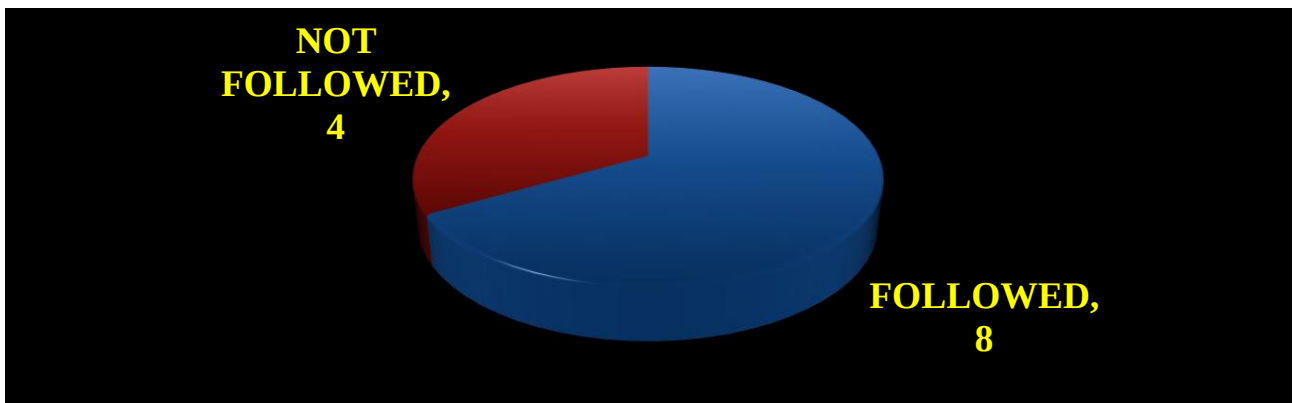


DOCTORS – 9

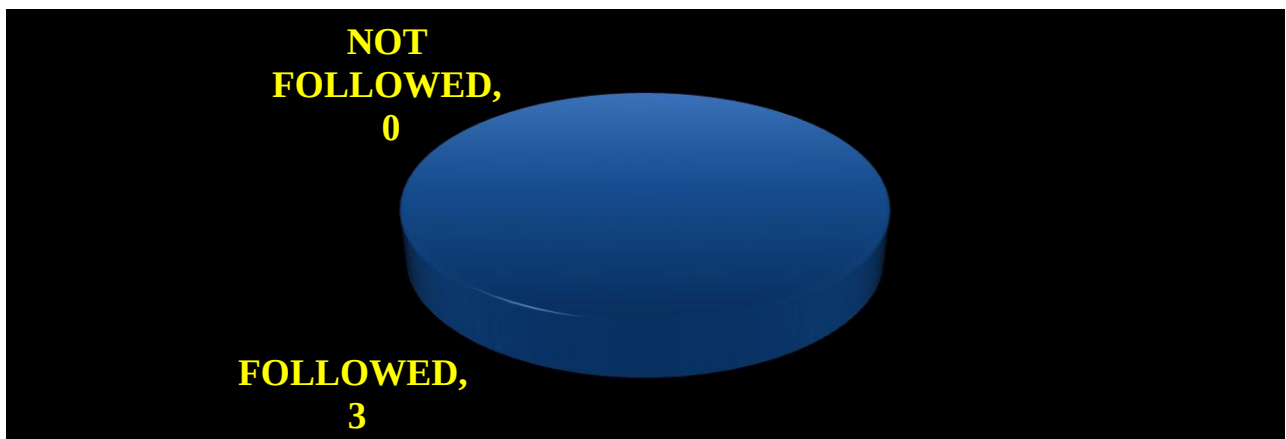


DEPARTMENT - CCU

NURSES – 12

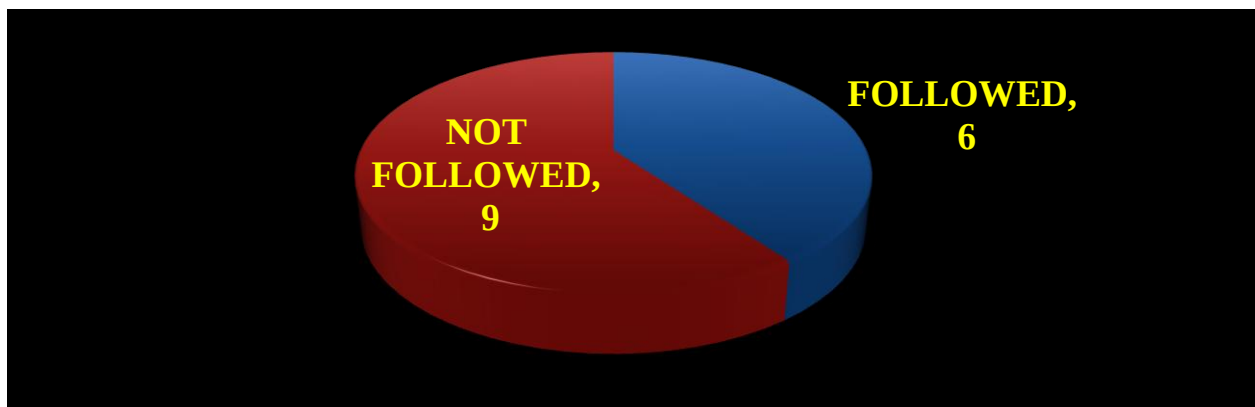


DOCTORS – 3

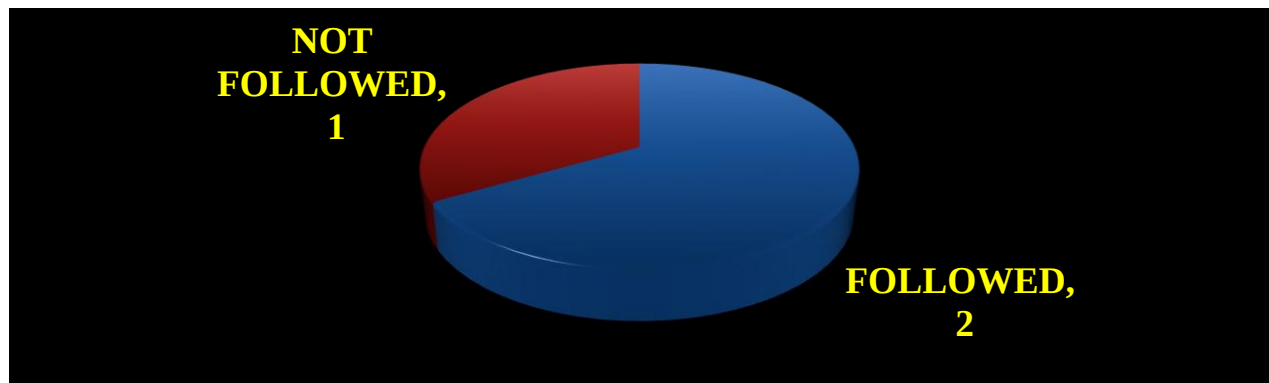


DEPARTMENT - GENERAL WARD

NURSES – 15



DOCTORS – 3



RECOMMENDATION-

Doctors and nurses should strictly follow hand hygiene practices in order to prevent hospital acquired infections.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

These precautions are designed to protect from exposure to infectious material and reduce the risk of transmission of organisms from patient .

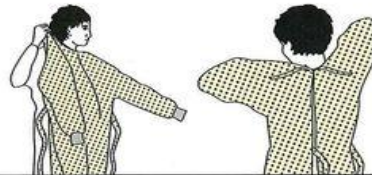
1. Gloves
2. Gowns
3. Protective eye wear
- 4.Mask or Respirator

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



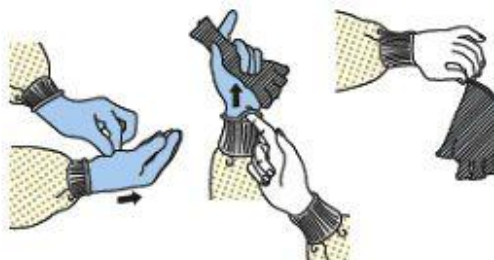
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HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:**

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in an infectious* waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container



3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in an infectious* waste container



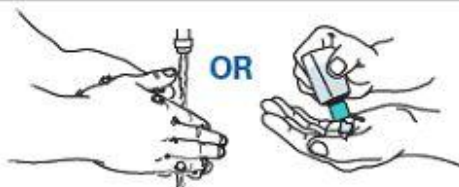
4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in an infectious* waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE

* An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



BIOMEDICAL WASTE MANAGEMENT

YELLOW

HUMAN ANATOMICAL WASTE

- Human tissues
- Organs
- Body parts
- Foetus below viability period

SOILED WASTE

- Items contaminated with blood, body fluids like dressings, cotton swabs, bags containing residual blood and blood components.

EXPIRED OR DISCARDED MEDICINES

- Pharmaceutical waste like antibiotics, cytotoxic drugs along with glass or plastic ampoules, vials etc.

CHEMICAL WASTES AND LIQUID WASTES

- Discarded disinfectants
- Silver X-ray films
- Discarded formalin
- Infected secretions
- Liquid from labs and floor washings
- Discarded linen, mattresses, beddings contaminated with blood and fluids.

MICROBIOLOGY, BIOTECHNOLOGY AND OTHER CLINICAL LAB WASTE

- Blood bags, lab cultures, live or attenuated vaccines, toxins.

RED

CONTAMINATED WASTE (Recyclable)

Wastes generated from disposable items such as:-

- Tubing
- Bottles
- IV tubes and sets
- Catheters
- Urine bags
- Syringes (without needles and fixed needle syringes)
- Vacutainers with their needle cuts
- Gloves

WHITE (TRANSLUCENT)

Waste sharps including metals

- Needles
- Syringes with fixed needles
- Needles from needle tip cutter or burner
- Blades
- Any other contaminated sharp objects that may cause puncture and cuts e.g. contaminated metal sharps.
- Scalpels

BLUE

GLASSWARE

- Broken or discarded glass
- Contaminated glass including medicine vials and ampoules

METALLIC BODY IMPLANTS

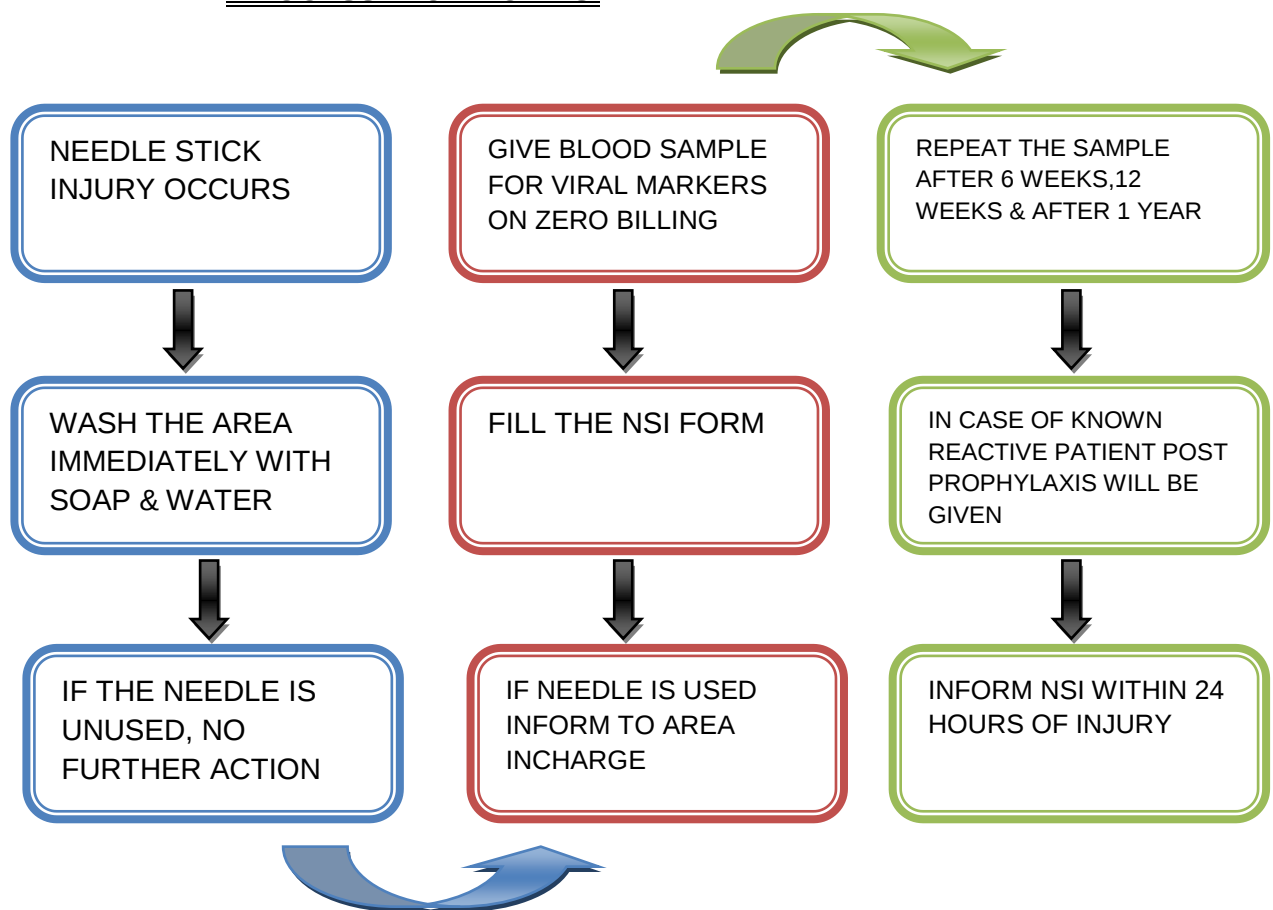
PREVENTION OF NEEDLE STICK INJURY (NSI) & POST EXPOSURE PROPHYLAXIS

Sharp injuries describe any incident in which a healthcare worker is stuck by a needle or any other sharp instrument which penetrates the skin and which is contaminated with potentially infected blood.

PREVENTIVE MEASURES FOR NSI :-

- ➡ Do not recap needle.
 - ➡ Always throw sharp immediately in a puncture proof container.
 - ➡ Increase awareness among healthcare workers.
 - ➡ Engineering control to reduce the risk.
 - ➡ Pre & post prophylaxis measures strictly followed.
-
- ✓ Every needle stick injury should be reported within 24 hours.
 - ✓ Always try to identify the source of injury.

PROCESS FLOW FOR NSI



CLEANING & DISINFECTION OF PATIENT EQUIPMENT

CLASSIFICATION	EXAMPLE	PROCESS
CRITICAL	All the equipment , all dressing sets	Autoclave/E.T.O
SEMI-CRITICAL	Endoscopes, laryngoscope	High level disinfection (Cidex / Opa)
NON CRITICAL	B.P. apparatus, monitor accessories, stethoscope	Wash with soap & water/wipe with alcohol swab

COUGH ETIQUETTES

COVER YOUR COUGH – Stop the spread of germs that can make you and others sick.

Serious respiratory illnesses like influenza H1N1, Severe acute respiratory syndrome(SARS) are spread by –

- ▶ Coughing or sneezing
- ▶ Unclean hands

TO HELP STOP THE SPREAD OF GERMS -

- ▶ Cover your mouth and nose with tissue when cough or sneeze.
- ▶ Put used tissue in waste bin.
- ▶ If you don't have tissue, cough or sneeze into your sleeve or elbow, not your hands.
- ▶ You may be asked to put on a facemask to protect others in certain cases.
- ▶ Wash your hands often with soap and water.
- ▶ If soap and water are not available, use an alcohol based hand rub.



ISOLATION PRECAUTIONS

Separation of a ill person who has a communicable disease (e.g., measles, chickenpox, mumps, SARS) from those who are healthy. Isolation prevents transmission of infection to others and also allows the focused delivery of health care to ill patients. The period of isolation varies from disease to disease, isolation facilities also be extended to patients to fulfil their individual, unique needs .

Special precautionary measures practice and procedures used in care of patients with contagious or communicable diseases by wearing nonporous articles such as gloves, gown, mask and eye shield.

AIRBOURNE PRECAUTIONS

Use air born precautions for a resident infected with micro-organism transmitted by droplets that can remain suspended in air for a long period of time and can disperse with air changes.

For infectious agents with droplet nuclei < 5 microns

E.g. Swine flu & Tuberculosis

Precautions to be taken :

- ▶ Patient isolation in a negative pressure room with designated staff.
- ▶ Hand hygiene before and after every contact with patient.
- ▶ Use N95 mask.
- ▶ Dispose of waste and linen like infected material.
- ▶ All standard precautions

DROPLET PRECAUTIONS

Use droplet precautions for a resident infected with micro-organism that can be generated by the resident during coughing, sneezing or talking.

For infectious agents with droplet nuclei > 5 microns

E.g. Bacterial Meningitis

Tuberculosis

Whooping cough

Precautions to be taken :

- ▶ Patient isolation in a private room (no negative pressure required).
- ▶ Hand hygiene before and after every contact with patient
- ▶ Use of clothes and gown.
- ▶ Room surfaces are thoroughly cleaned and disinfectant
- ▶ All standard precautions
- ▶ Dispose of waste and linen like infected material

CARE OF IMMUNOCOMPROMISED PATIENT FOR PREVENTION OF INFECTION

- ▶ Use of hand rub before and after touching patient (use of soap and water if visibly soiled)
- ▶ Daily sponge bath with chlorhexidine to provide good skin care
- ▶ Daily mouth care
- ▶ Minimise the number of visitors
- ▶ Minimise the use of procedures involving the use of tubes, tapes and instruments as they may be a source of infection

- ▶ Reverse barrier nursing (cap, mask, glove and gown)
- ▶ In case of fever, promptly collect culture samples followed by empirical antibiotics.

PROTOCOLS FOR BARRIER NURSING

The aim is to erect a barrier to the passage of infectious pathogenic organism between the contagious patient and the other patients and staff in the hospital, and thence to the outside world. The nurses wear gowns, masks and gloves and they observe strict rules that minimise the risk of passing on infectious agents.

- ▶ Put pink stickers on file, invasive lines and samples as identification
- ▶ Keep separate dustbin and sharp box to discard the waste separately
- ▶ Use PPE for each contact with blood and body fluid
- ▶ Send used linen in yellow bag separately
- ▶ Send used articles to CSSD separately

EMPLOYEE IMMUNIZATION

All the employees who are involved in the care of the patient and who are at risk of exposure to patient's blood and body fluids must take Hepatitis B vaccine.

Dosage schedule: one ml/M in deltoid region at following intervals

STEPS

- ▶ Hand hygiene before and after every contact with patient.
- ▶ Use surgical mask.
- ▶ Room surfaces should be thoroughly cleaned and disinfectant.
- ▶ All standard precautions.

CONTACT PRECAUTIONS

Use contact precautions for specified residents infected or colonized with important micro-organisms such as Chickenpox .

SPILL MANAGEMENT

The basic principles of blood and body fluid/substance spill management are :

- ▶ Standard precautions apply, including use of PPE as applicable.
- ▶ Spill should be cleared up before the area is cleaned (adding cleaning liquids to spills increases the size of spill and should be avoided.
- ▶ Generation of aerosols from spilled material should be avoided.

MINOR SPILLS (<30ml)

Procedure :

- ▶ Block the area, contain the spill and avoid generation of aerosols.
- ▶ Cover the area with any absorbent material such as cotton, tissue paper, gauze etc.
- ▶ Bring the spill kit.
- ▶ Put 1% hypo chloride solution and leave the area for 5-10 minutes.
- ▶ Again after cleaning, rinse the area with hypo chloride solution.
- ▶ Dry the surface and discard the waste.
- ▶ Wash hands

MAJOR SPILLS (>30ml)

Procedures :

- ▶ Block the area, contain the spill and avoid generation of aerosols.
- ▶ Cover the area with any absorbent material such as cotton, tissue paper, gauze etc.
- ▶ Call the Hazmat team for management.
- ▶ Fill up the incidence form and inform ICN.

CENTRAL STERILE SUPPLY DEPARTMENT (CSSD)

All instruments are sterilized in CSSD department by autoclaving or ETO sterilization. Shelf life of these packs is as follows:

- ▶ Linen pack : 7days
- ▶ Sealed paper packs : 3 months
- ▶ ETO packs : 6 months

It's mandatory to check the expiry date on the pack label before it is used for patient.

REFERENCES

www.who.com

www.cdc.com

www.naco.com