

**Summer Training at  
Max Super Specialty Hospital, Saket, New Delhi  
(April 3 to June 2, 2017)**

- **Study on Patient Education Need and Assessment**
- **Study on Safety Measures for Employees Working in Radiology and Laboratory Department**
- **Study on Medication Turn Around Time in IPD Setting**

**By  
Astha Dwivedi**

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

**MBA Hospital & Health Management  
2016-2018**

  
**Institute of Health Management Research  
The IIHMR University, Jaipur  
2017**

**CERTIFICATE**

This is to certify that **Dr. Astha Dwivedi** has undergone summer training in **Max Super Speciality Hospital Saket, New Delhi** from **3<sup>rd</sup> April to 2<sup>nd</sup> June 2017**.

The candidate herself completed the project assign to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.



**Col. (Dr.) Ashok Kaushik**  
**Dean (Academic & Student Affair)**  
**The IIHMR University, Jaipur**

  
23/6/2017

**Mentor**  
**Dr. Mohan Lal Bairwa**  
**Assistant Professor**  
**The IIHMR University, Jaipur**



## CERTIFICATE OF COMPLETION

This is to certify that

*Dr. Astha Dwivedi*

has been associated as an

INTERN

with the department of

MEDICAL ADMINISTRATION

for a period of

3rd April 2017 to 2nd June 2017

at

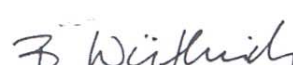
Max Super Specialty Hospital,  
Saket

"The Internship/Observership course is a Max certified course not  
affiliated to any National/International society".

  
Head of the Department

  
Dr. Shubnum Singh

Dean - Nursing, Allied Health, & Wellness Programs  
Max Healthcare, New Delhi

  
Ms. Brigitte Wuethrich

General Manager  
Max Institute of Medical Excellence  
Max Healthcare

## **ACKNOWLEDGMENT**

The internship opportunity with Max Super Specialty Hospital, Saket was a great chance for learning and professional development. I am also grateful for having a chance to meet so many wonderful people and professionals who led me through this internship period.

I am highly grateful and would like to express my deepest gratitude and special thanks to my mentor, Dr. Sandeep Mor, Deputy Medical Superintendent at Max Super Specialty Hospital, Saket, who in spite of being extraordinarily busy with his duties, took time out to hear, guide and keep me on the correct path and arranging all facilities to make life easier and allowing me to carry out my project at their esteemed organization during my summer internship. I choose this moment to acknowledge his contribution gratefully.

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to Dr. Surbhit Sharma (Manager- Medical Quality), Dr. Devesh Tiwari (Manager- Medical Quality), Dr. Yashi Kapoor (Assistant manager- Medical Administration), Dr. Ashish Tripathi (Assistant Manager- Medical Administration) & & Dr. suchismitha Adhikari (Assistant manager- Medical Administration), and all of the support staff at Max Hospital, Saket, for their careful and precious guidance which were extremely valuable for my study both theoretically and practically. I would Also like to thank Dr. Monica Deo for being my support all throughout my internship.

I perceive as this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way.

Sincerely,

Dr. Astha Dwivedi

Dr. Sandeep Mor

DMS (Deputy Medical Superintendent)

Max Super Specialty Hospital, Saket

Place: New Delhi

Date: 1<sup>st</sup> June 2017

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### ABBREVIATIONS

| <b>ABBREVIATIONS</b> | <b>Meaning</b>                                  |
|----------------------|-------------------------------------------------|
| ALOS                 | Average Length of Stay                          |
| COW                  | Computer on Wheels                              |
| CPRS                 | Computerised Patient Record System              |
| CTVS                 | Cardiac Thoracic Vascular Surgery               |
| EMR                  | Electronic Medical Record                       |
| ERCC                 | Emergency Response Coordination & Communication |
| ERT                  | Emergency Response Team                         |
| ICS                  | Incident Command System                         |
| IRT                  | Initial Response Team                           |
| ERT                  | Emergency Response Team                         |
| MAMBS                | Minimal Access, Metabolic & Bariatric Surgery   |
| MD                   | Doctor of Medicine                              |
| MDDF                 | Max Devki Devi Foundation                       |
| MLC                  | Medico-Legal Case                               |
| MPH                  | Master in Public Health                         |
| MSSH                 | Max Super Specialty Hospital                    |
| NABH                 | National Accreditation Board of Hospitals       |
| NABL                 | National Accreditation Board of Laboratories    |
| PAC                  | Pre-Anaesthetic Clearance                       |
| PCP's                | Primary Care Physicians                         |
| PPE                  | Personal Protection Equipment                   |
| RRT                  | Rapid Response Team                             |
| SCR                  | Security Control Room                           |
| TAT                  | Turn Around Time                                |
| TSSU                 | Thermal Sterile Supply Unit                     |
| TTI                  | Transfusion Transmitted Infections              |
| WHO                  | World Health Organisation                       |

## OBSERVATIONAL LEARNING

### INTRODUCTION

Max Healthcare is committed to the highest standards of medical & service excellence, ‘Patient Centered Care’, scientific knowledge and medical education. The country’s leading comprehensive provider of standardized, seamless and international class healthcare services. Max has successfully implemented the “Medical Excellence Model” through its clinical team of expert physicians and nurses who work together in an integrated manner, assessing patient needs, ordering tests, planning treatments, scheduling surgeries, monitoring progress and planning for early discharge to home.



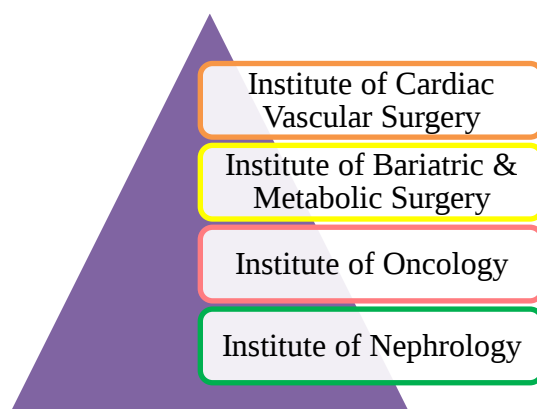
The pillars of this model include:

- Clinical governance
- Credentialing and clinical privileging of physicians & nurses
- Use of standardized, evidence based protocols
- Patient and staff safety
- Infection control

- A culture of audit and continuous professional development

Every department of the hospital was observed carefully for its working, staff, hierarchy, physical set up and major challenges faced by them and suggestions were made to overcome those challenges.

The hospital has four key areas of specialties:



## MODE OF DATA COLLECTION

Data collection involved discussions with the Administrative staff, the HODs on the managerial issues, communicating with the other staff and going through the records.

### Sources of Data

#### ➤ Primary

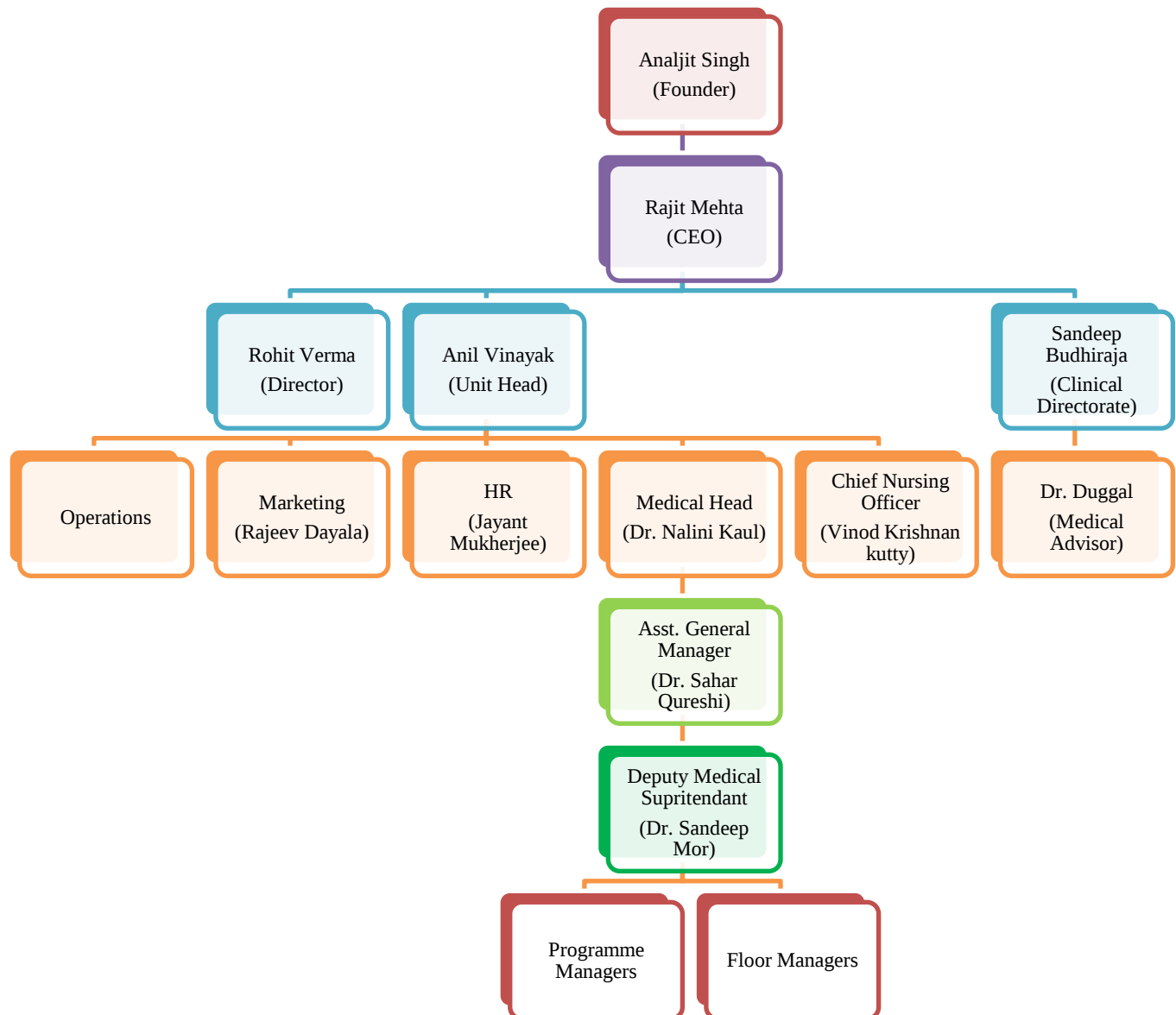
- By interacting with the HODs, executives, Doctors, Nursing staff and other valuable employees of the hospital.
- Through direct observations.

#### ➤ Secondary

- Through registered records
- Through website of the hospital
- Literature available about the hospital like magazines, pamphlets, brochures, CDs, written documents

## GENERAL FINDINGS

### ORGANIZATIONAL CHART



## **FRONT OFFICE**

- **First contact point** between the patients / their attendants coming to the facility.
- Gives directions to them about the locations of various departments.
- Performs in patient and out- patient registration.
- Does appointment scheduling of the patients.
- Makes doctors' available summary.
- Insurance management.
- Does registration and scheduling of preventive health check-ups.
- Helps in planning timely discharge a day before by inquiring about the same from the concerned consultants.

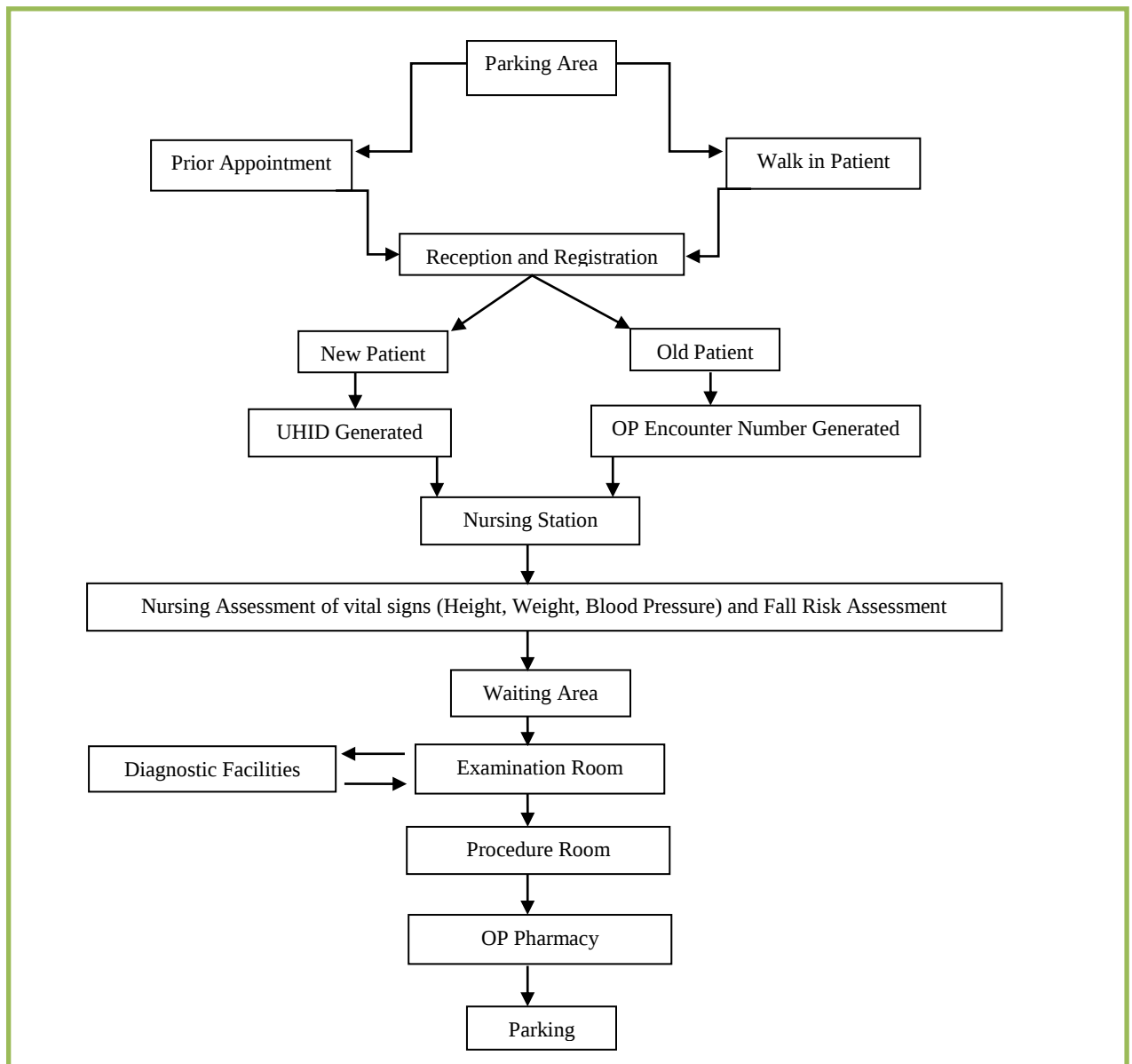
### **Challenges**

- Shortage of staff
- Huge rush during peak hours, 9:00 am-12:00 pm.

## **OUT-PATIENT DEPARTMENT**

- Each INSTITUTE of Max hospital, Saket has its own OPD area as well as IPD area / day-care area wherever applicable with doctor's chambers and procedure rooms.
- Every OPD has a procedure room and its own Front Desk.
- Appointments are centralized and are recorded on the Hospital Information Management System. As soon as appointments are fixed, a text message is sent to the patient confirming the appointment, and a reminder message is sent on the day before the appointment. No walk-in patient is turned away, and the staffs try to accommodate these patients between the appointments already scheduled for the day.
- Each OPD waiting area has the capacity to handle 70-100 patients waiting.
- In case of a new patient, registration is done which is valid pan-Max and for life time of the patient and a UHID is created which becomes a unique identification for all his health-related information.
- For Chairpersons and senior doctors, a junior doctor does the initial assessment of the patient, which not only reduces the workload of the senior doctors (whose slots are always overbooked), but it also gives the junior doctors an opportunity to learn from the best brains in the industry.

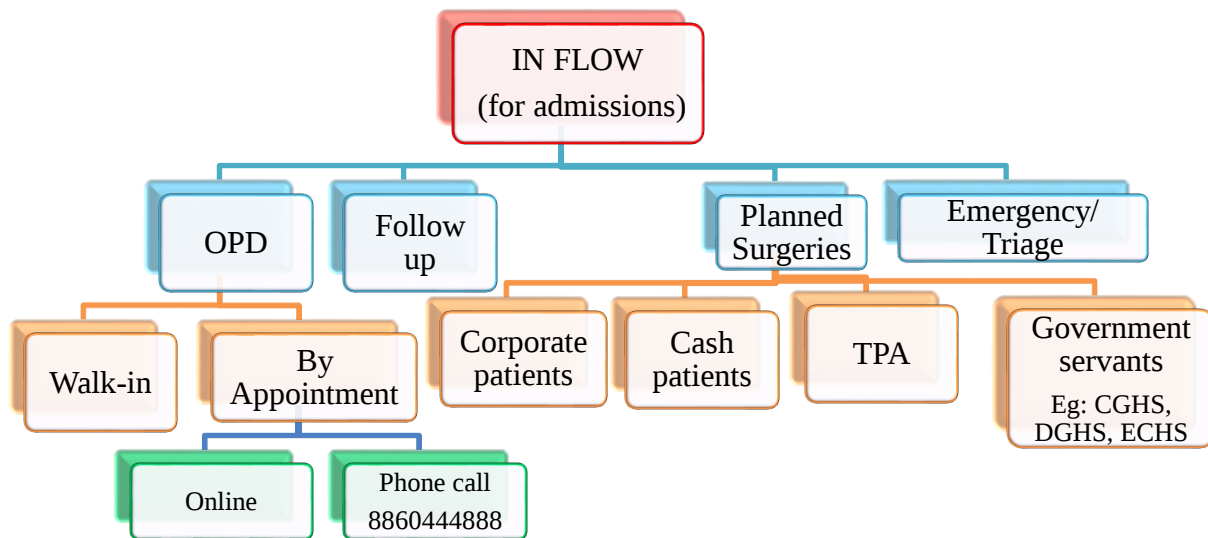
The general process flow that is followed in all the OPDs is as follows:



### **ADMISSIONS DESK**

- If the patient has to be admitted to the hospital, he/she first reports to the admissions desk wherein all the paperwork is completed, do's and don'ts as well as patient's rights and duties are explained to him. An initial token amount is deposited here by the patient which is according to his preference of the room (be it economy, single, double, classic deluxe or suite)
- In case of TPA patients, the admission has to be reported to the insurance company within 24 hours.
- STAFF – 70-80; work in shifts with TPA staff working only from 5-5.

ISSUES- Huge departmentalisation which causes co-ordination problems



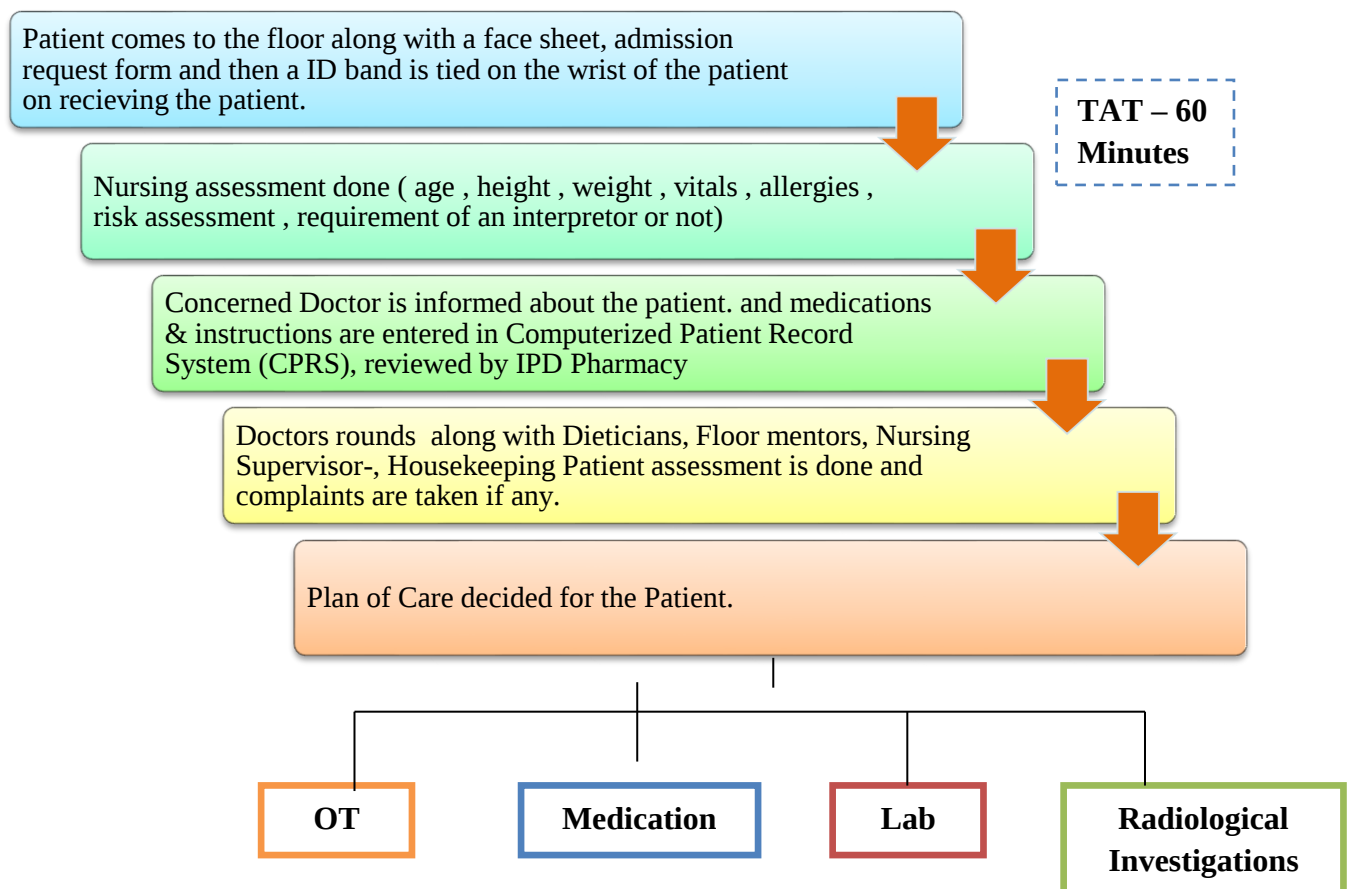
## Hierarchy



## IN-PATIENT DEPARTMENT (IPD)

- IPD is distributed over Six floors (G.F., 2<sup>nd</sup>-6<sup>th</sup>) in the east and Five Floors (2<sup>nd</sup>-6<sup>th</sup>) in the west wing of Max hospital including a total number of 314 beds in East & 211 beds in West.
- Every bedside has:
  - Details of Consultant, Nurse and Mentor written at the top of every bed
  - Room equipment checklist – Side rails, Oxygen, Suction, “**Safety First Bell**”
  - Important Instructions
- The rooms available in IPD have the following structure of beds per room:
  - Economy room – 4 beds per room.
  - Double – 2 beds per room
  - Single Deluxe
  - VIP suite
- Every floor has a central nursing station with
  - Information Board covering:
    - Designation & Contact numbers of
      - Duty doctor

- Administration Staff
- Floor Mentor
- Support Staff
- Ward Secretary
- Bed Manager
- Nurses' names with shift timing and designation (8-10 nurses per shift) and allotted Room Numbers.
- Crash Cart parked next to the nursing station
- Computer on wheels (COW) - 4
- Cupboards with forms- down time form, investigation track sheet, blood request form, PAC sheet, informed consent, inventory files and registers
- Medication rooms – 2; Pantry – 1
- Records room
- Biomedical Waste Disposal
- Nurse to bed ratio = 1:5 or 1:6
- General Duty Assistants (GDAs) = 2-3 in every shift
- Average Length of Stay (ALOS) for normal Laparoscopic surgeries = 2-3 days
- Quality Indicators are: Patient Fall, Hypoglycemia, Needle stick Injury
- Process of admission of new patient to IPD



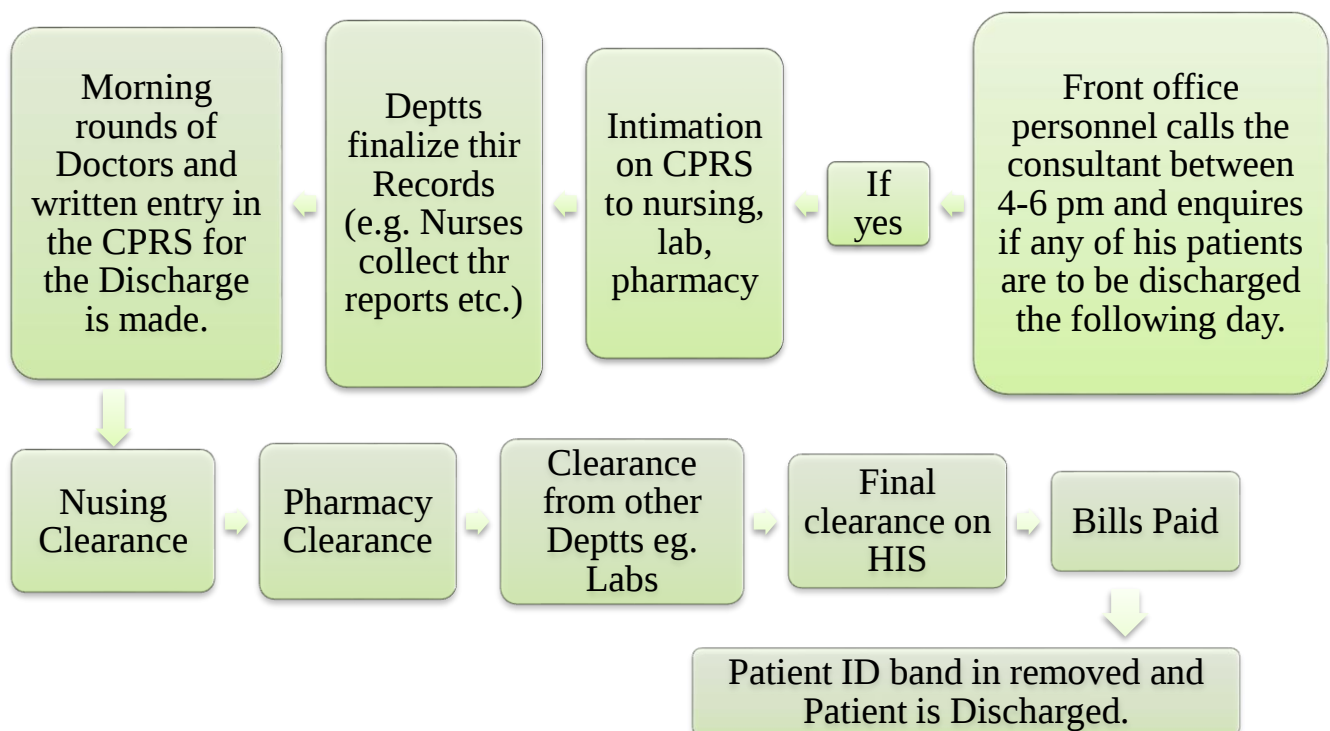
- **BARRIER NURSING-**

Isolation of the patient in case the blood or urine culture of the patient has been tested positive for any infection so that the infection doesn't spread to others.

- **REVERSE BARRIER NURSING-**

Done in cases where patient is immuno-compromised so that infection doesn't travel to him from others.

- **Discharge** Process flow of patient from IPD



- Documents included in Discharge of a patient- Discharge Slip, In-patient Bill (Summary + Detailed), Discharge Summary, Pre-authentication approval letter (in case of TPA), Doctor's Clarification and reports of the patient.
- Delay in Discharge is seen due to Final Bill clearance, TPA approval, finalizing discharge summary.

## **EMERGENCY DEPARTMENT**

Due to the unplanned nature of patient attendance, this department provides initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention, except for major burns. It is located at the ground floor with its own dedicated entrance from outside and to inside of the hospital and operates for 24 hours a day.

Ambulance - 2 ACLS (with CCTV camera for telemedicine, Suction Cardiac Monitor, Defibrillator, Oxygen Pump) and 2 BCLS (Ferno Stretcher, Oxygen Pump)

Patients are either transferred to other departments or are discharged within 4 hours. Max Super Specialty Hospital, Saket has made a world record for management of MI patient in emergency department from entrance to the balloon time in Cath lab, in less than 35 minutes.

**Response time:**

- EMO response time <1 min
- Consultant response time <60 min
- Code blue response time <3min
- Ambulance response time <10 min

**Infrastructure:**

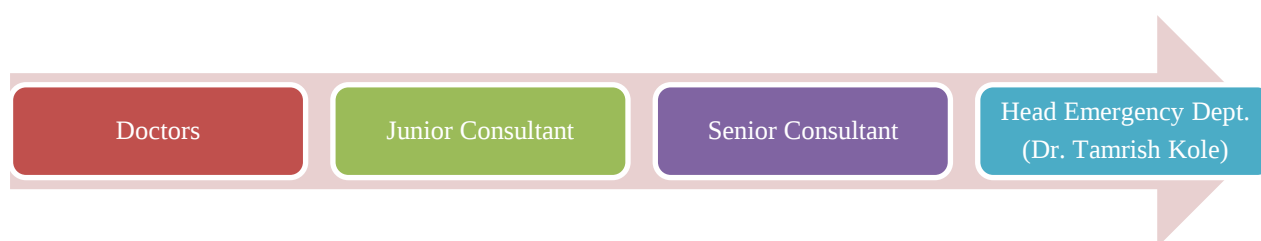
Total 27 bedded

- Resuscitation suite -1 bed
- Urgent care area – 2 beds
- Observation area – 21 beds
- Triage – 3 beds
- Doctors work station-is located in the centre of the urgent care area
- Store room- is located behind the reception. Medications are filled twice a day and stock of two days is kept in advance for Sunday. Narcotics are also available and kept in double lock and key system.
- Hospital information system and CPRS
- COWS (computer on wheels)
- Waiting area for patient's attendants is outside the department.

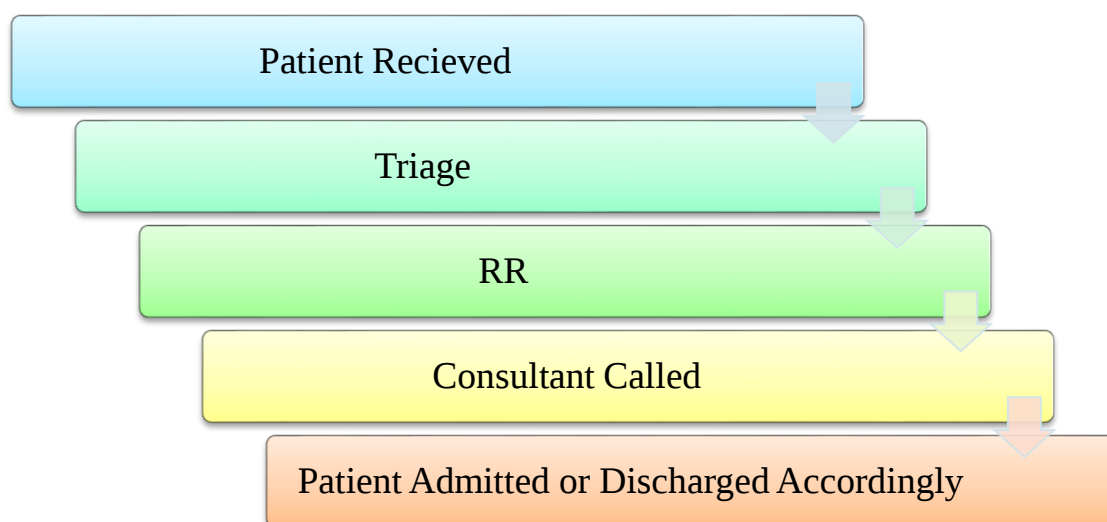
**Staffing:**

1. Senior consultant (Emergency medical officer)
2. 4 doctors
3. Team leader
4. Emergency physicians - 3
5. Nurses: 32 (8 nurses per shift)
6. 2 personnel at reception
7. Paramedical staff for ambulance
8. 4 GDA per shift
9. Outsourced staff: security personnel.

## Hierarchy



## Process Flow



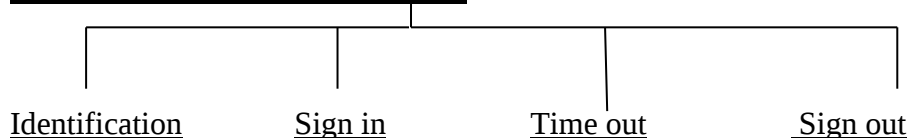
## OPERATION THEATER COMPLEX

Operation theatre complex of East wing is located on first and second floor. Operation theatre complex has 11 operation theatre assigned to various departments. Cardiac, oncology, bariatric laparoscopic, ENT and plastic surgeries are performed in these operation theatres. Operation theatre complex of west wing is located on first floor. It has 8 operation theatres for various departments. Orthopaedic, neurology, Brain Suite intervention, general and robotic surgeries are performed here.

**Organization of staff:** The staffs of Operation Theatre are organized into four groups: Anaesthetist- Surgeon, Nursing staff, Technician and Supportive staff.

- Nursing Station – 1
- Pre-Op Beds and Recovery Beds – 4 each
- Scrub Station - 2
- Average number of cases done per day – 20-25 in each wing, 15-16 Robotic Surgeries per month
- Temperature - 21 approx
- Humidity – 50-55
- Light – 2000 lux in the centre of OT table and decreases on moving farther

- OT booking is done through online. 2 types of surgeries are performed – *Elective*: surgeon gets PAC done and gives an appointment; *Add on*: manual booking of OT in case there is cancellation of the scheduled cases due to any reason.
- Each OT complex has a separate material store and a TSSU (Theatrical Sterile Supply Unit, TAT-45mins).
- Staffing ratio- Nurses: patients – 4:1(pre-op) ; 2:1(post-op)  
Technicians: patients- 1:1
- OT Utilization – average is 70%
- Max super specialty hospital recently got a GREEN OT certificate which signifies minimal amount of pollution caused by OT gases and acceptable standards of practices being followed here.
- Sterilization is done by ETO (12 hrs); autoclave. Fumigation is done twice a day in the morning and evening.
- Bio medical waste disposal is done every 2 hours.
- Surgical safety check list includes



- Quality indicators: wrong patient, wrong surgeon , wrong surgery , return to OT(within 7 days) , waiting time for OT

## **INTENSIVE CARE UNIT (ICU)**

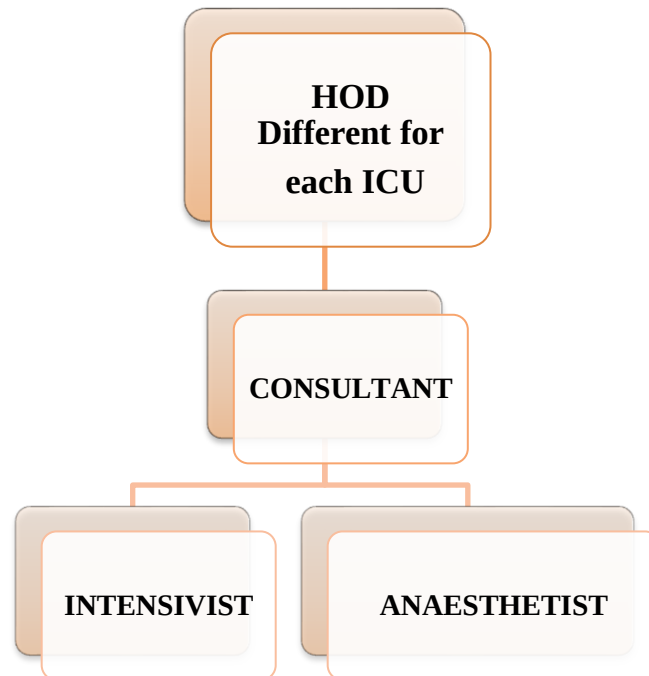
Max Saket has a total of 13 Intensive Care Units and 5 High Dependency Units in the Hospital:

| Floor                 | East                                                      | No. of Beds       | West                                            | No. of Beds       |
|-----------------------|-----------------------------------------------------------|-------------------|-------------------------------------------------|-------------------|
| G.F.                  | Apex Coronary Care                                        | 16                |                                                 |                   |
| 1 <sup>st</sup> Floor | CTVS<br>Cath Recovery<br>Paediatric CTVS                  | 17<br>14<br>11    | Surgical<br>Neuro-Surgical<br>Neuro-HDU<br>ISCU | 11<br>9<br>9<br>4 |
| 2 <sup>nd</sup> Floor | Onco-Surgical<br>Onco-Medical<br>CTVS- HDU<br>Cardiac HDU | 9<br>12<br>4<br>4 | Stroke and Neuro                                | 8                 |
| 3 <sup>rd</sup> Floor | Medical                                                   | 8                 | Neonatal (a)<br>Neonatal (b)                    | 8<br>6            |
| 4 <sup>th</sup> Floor |                                                           |                   | PICU                                            | 8                 |
| 5 <sup>th</sup> Floor |                                                           |                   | Ortho HDU                                       | 8                 |
| 6 <sup>th</sup> Floor |                                                           |                   | Medical                                         | 8                 |
|                       |                                                           | <b>95</b>         |                                                 | <b>79</b>         |

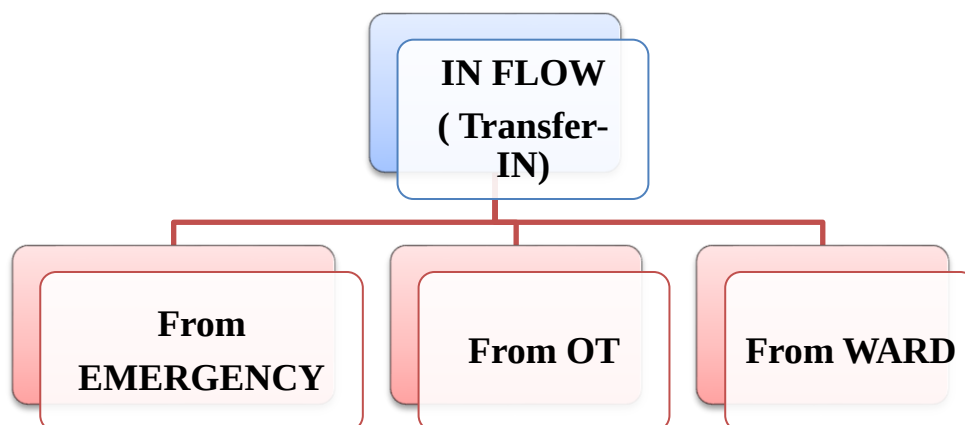
All Intensive Care Units have a 24-hour service of Intensivist and an Anaesthetist.

- Each ICU has 1 medication room, 1 Nursing Station, 1 Dr. room

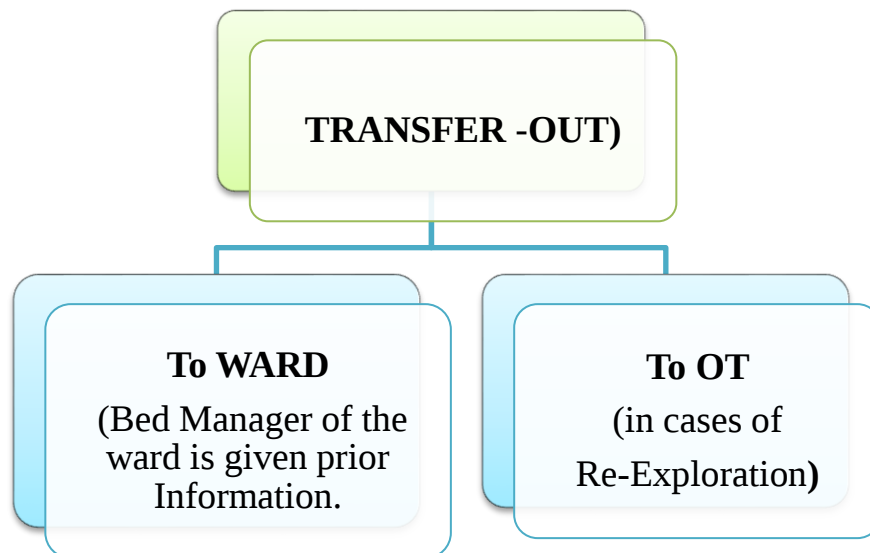
## Hierarchy



## Patient Flow



Beforehand information is given on call to the ICU for *transfer-in* of the patient.



- Patient: nurse – 1:1(for all patients)
- Patient counselling – done throughout the day; Family Meeting – done twice a day by the Intensivist.
- Protocol for infected patients –
  - Isolation
  - Visitor's policy- no visitor allowed inside the isolation room
  - Aseptic policy
  - Full PPA
  - Separate linen disposal in separate bags
  - Separate dressing trolley
  - Separate housekeeping material- dusters, mops etc
- Quality indicators-
  - Patient falls
  - Bed sores
  - Medication error
  - Nosocomial infections

All the Quality indicators are duly noted in “Quality Flash” and it is audited time to time and measures are taken to reduce the number of incidents.

## **CATH LAB**

**Catheterization laboratory** or cath lab is an [examination room](#) with [diagnostic imaging](#) equipment used to visualize the arteries of the heart and the chambers of the heart and treat any stenosis or abnormality found.

Diagnostic procedures performed here are:

- Angiography
- Electrophysiology study (EPS)
  - Cath study

Out of these 3 angiographies, angioplasty and cath study is done in cath lab 1 and EPS is done in cath lab 2.

Other procedures are:

- Percutaneous Transluminal Coronary Angioplasty
- Peripheral Transluminal Angioplasty
- Radio Frequency Ablation
- Permanent Pacemaker Implantation
- Intra Cardiac Defibrillation
- Cardiac Resynchronisation Therapy Defibrillator Device
- Cardiac Resynchronisation Therapy Pacemaker
- Left and right sided pressure studies
- Closure of some [congenital heart defect](#)

Slots are booked for everyday as per the doctors' and patients' convenience. About 70% of the slots booked are treated everyday

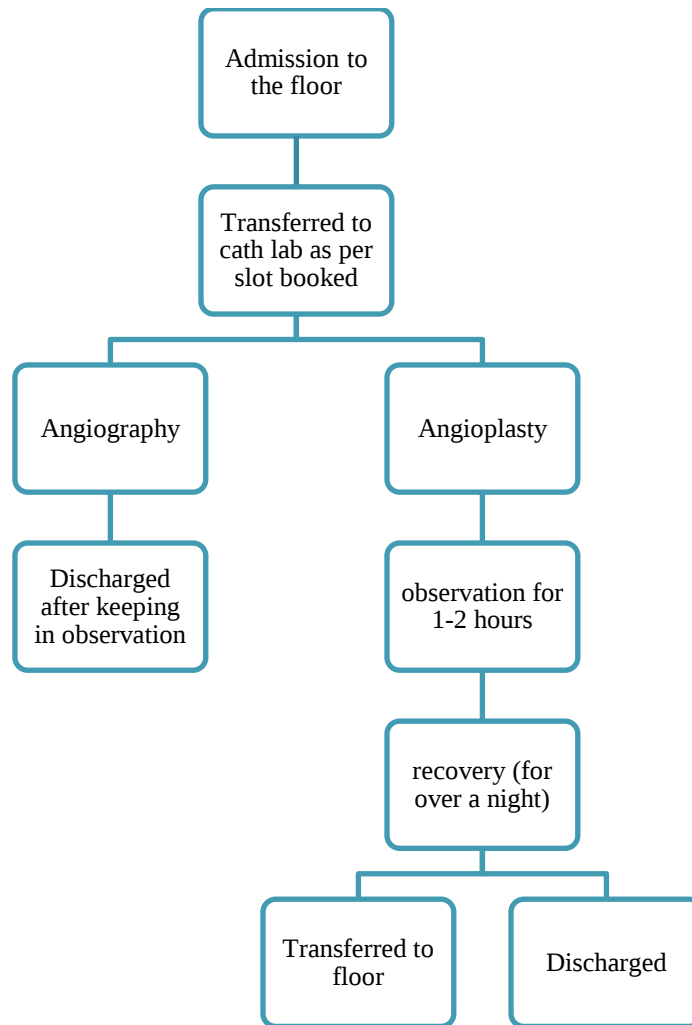
### **Units of cath lab:**

1. Cath lab 1
2. Cath lab 2
3. Technical room
4. Observation area
5. Technician room
6. Store room and utility room
7. Observation area-3 Beds
8. Instrument washroom

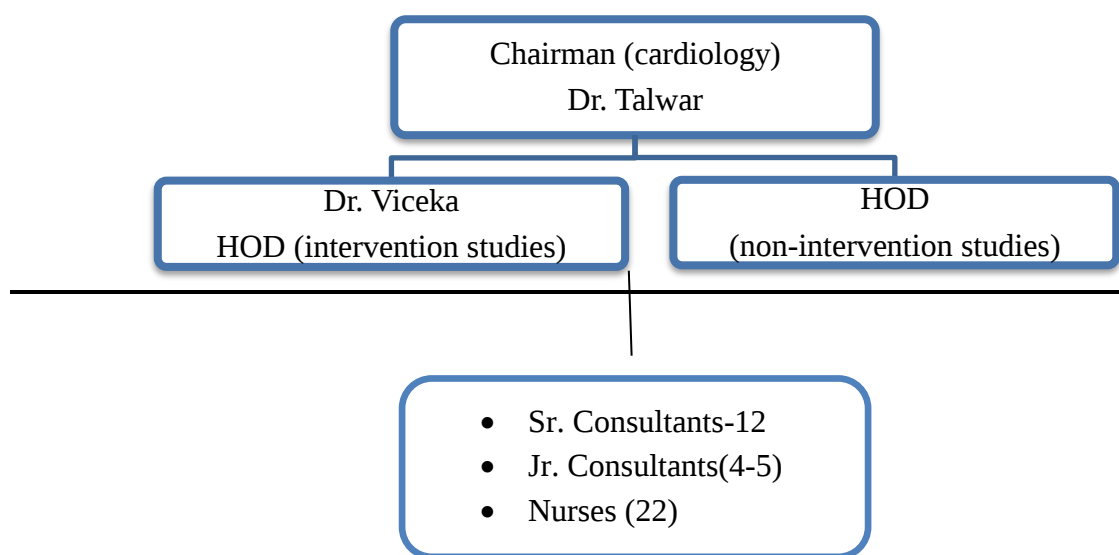
**Location:** Cath lab is located on the first floor with the vicinity areas as

- Emergency department
- Operation theatre
- Cath recovery-12 Beds
- Coronary care
- CTVS
- SICU
- PICU
- MICU

## Process Flow of Patients



## Staff



## DEPARTMENT OF LAB SERVICES

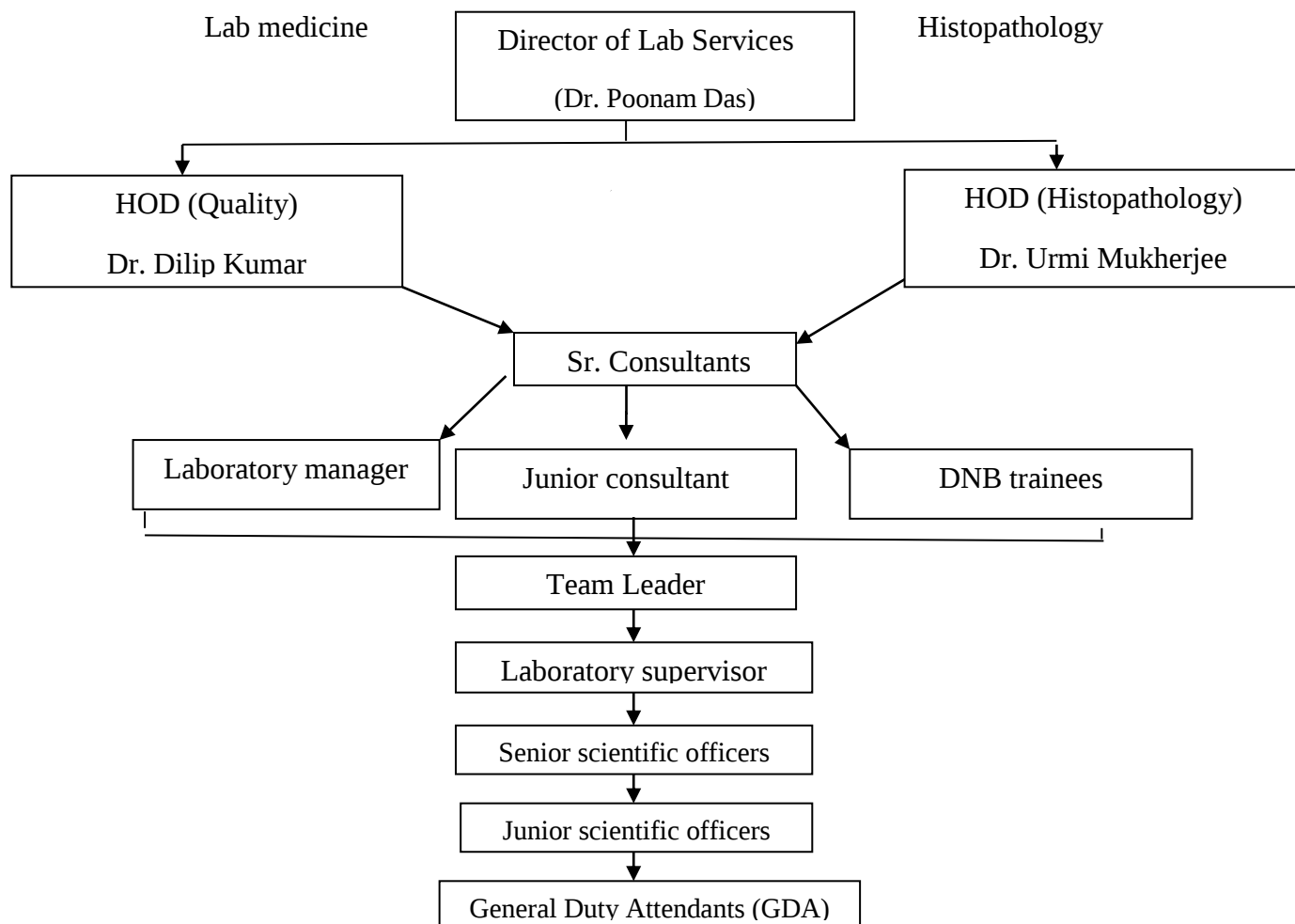
### INTRODUCTION-

An ISO: 15189 certified and NABL accredited lab, it is open 24 hrs a day. It's a high-tech lab with fully automated instrument which are directly interfaced with ***hospital information system*** and ***laboratory information system***. Facility of stat tests (emergency) and sample collection from home is also available.

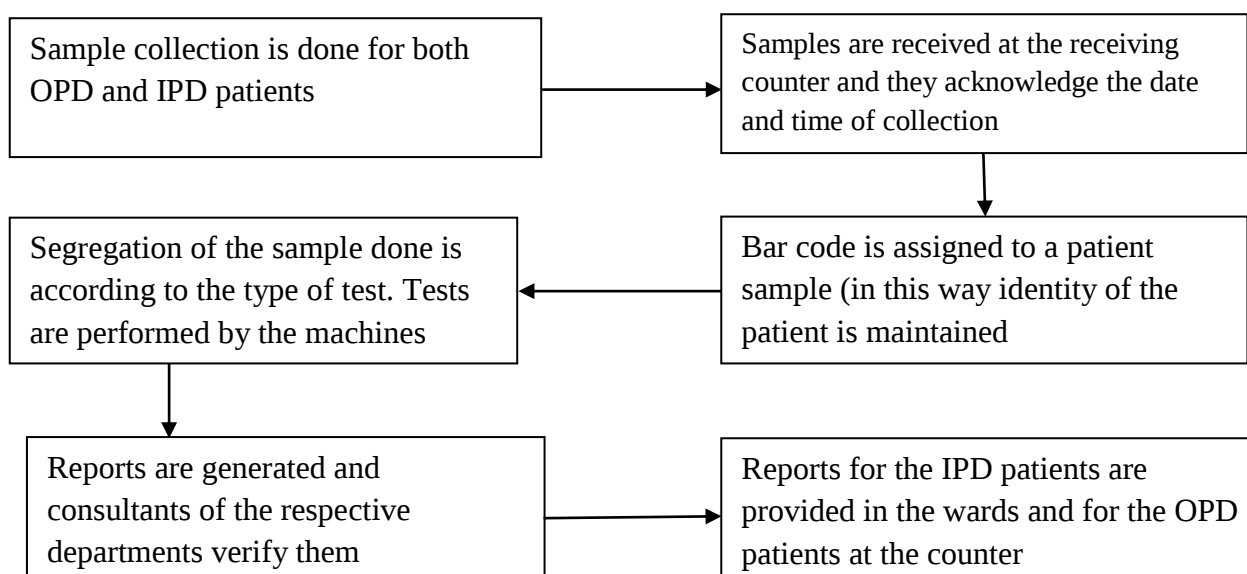
### LABORATORY COMPRISES OF THE FOLLOWING DEPARTMENTS-

- Biochemistry
- Hematology
- Immunoassay
- Histopathology
- Clinical pathology
- Serology
- Microbiology
- Cytology

### HIERARCHY- The Department of Lab Is Broadly Divided In Two Departments



### **PROCESS FLOW-**



**LABORATORY INFORMATION SYSTEM-** It is connected with hospital information system

- Sample received- red color
- Samples acknowledged- yellow color
- Test done- blue color
- Result verified- green color
- Billing done- pink color
- **Indemnity Insurance-** Insurance policy to protect employees when they are found to be at fault for a specific event such as misjudgment.

### **RADIOLOGY DEPARTMENT: -**

- Situated at the ground floor of the west wing of the hospital.
- The Department is headed by Dr. Sonia Dhal
- The total staffs working in the Radiology Department are 60.

#### **Procedures done in the department: -**

##### **(1) Routine X-Ray studies**

- (a) Plain - e.g. chest, spine, etc
- (b) Routine fluoroscopic procedures e.g. Barium studies

##### **(2) Routine ultrasound studies**

- (a) Ultrasonography - e.g. Abdomen, Pelvis
- (b) Doppler studies peripheral (B/W & color) e.g. 2 D echo, vascular studies, etc

3) Mammography

4) Dexa scan (Bone Densometry)

5) Special imaging techniques

(a) CT Scan (Computerized Axial Tomography)

(b) MRI (Magnetic Resonance Imaging) - 1.5 Tesla, 3 Tesla

**Divided into two parts: -**

1) For Ultrasonography, mammography, Dexa scan

2) For CT scan, MRI, X-ray, fluoroscopy

Consist of: -

1) Reception: -Counter for appointment and billing

2) Waiting room with general facilities like toilets, drinking water, air conditioning

3) Diagnostic room

4) Counseling room

5) Changing room

6) Film processing room

7) Radiologist office

8) Report collection room

There are two MRI and one CT scan machine in the department.

**Timings for OPD patients:** 8am to 8pm

In between this IPD and Emergency patients are also taken.

**Main OPD hours:** - 8am to 6pm and after 8pm only IPD and Emergency patients are taken

**Report collection:** - If the scan is done before 12pm, reports are ready by the evening and can be collected in the same evening. And if done after 12pm, report will be delivered next day.

Patient who comes in the radiology department either walks in or takes the appointment.

Appointment patients are given preference whereas walk in patients have to wait. Emergency, doctor's referred patients or ICU patients scan is done as soon as possible.

### **Process flow in radiology department (OPD)**

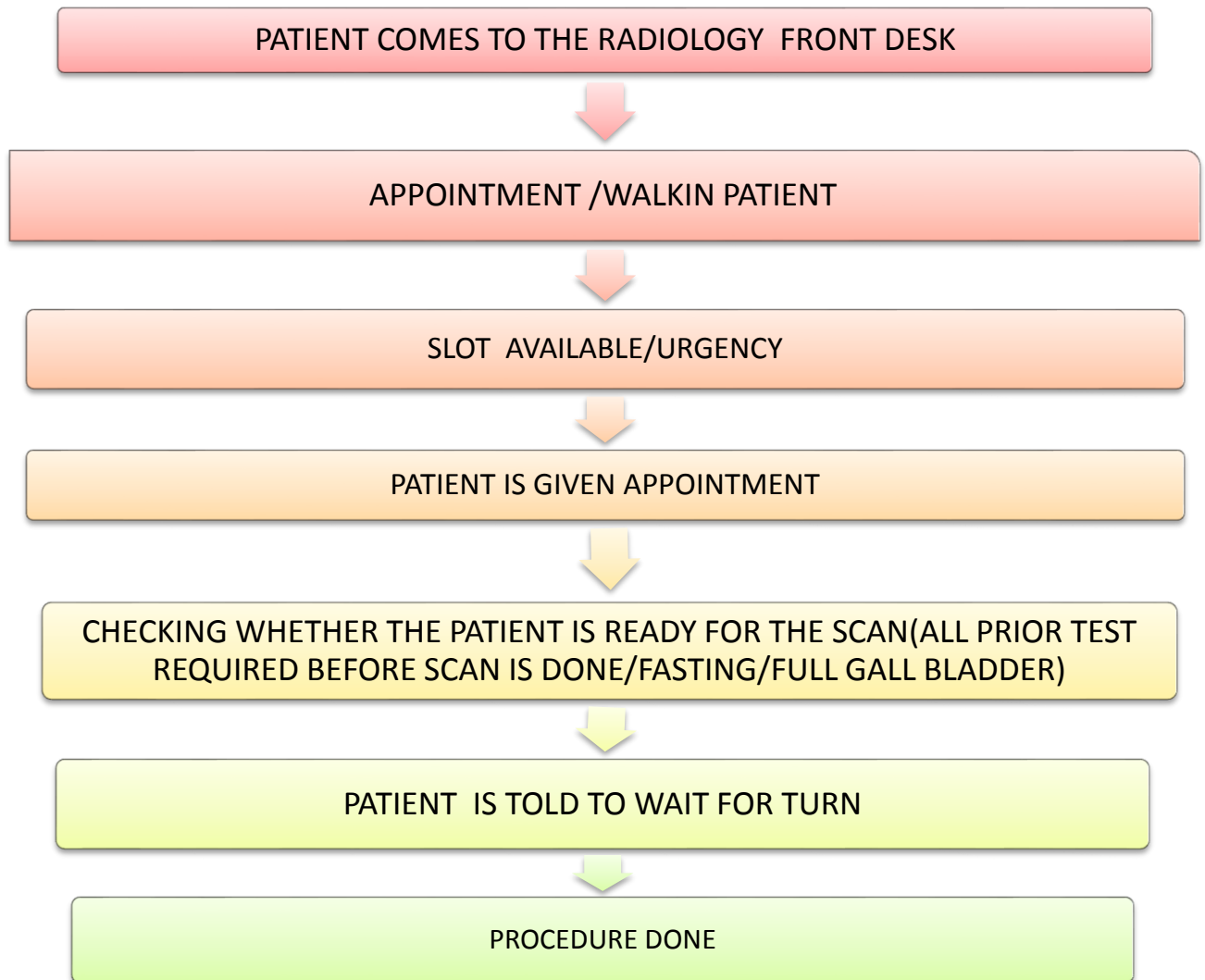


Figure: -Process flow in radiology department for outpatients.

Firstly, the patient comes to the radiology front desk after been prescribed by doctor for the scan; patient is either taken prior appointment or walk in patient. The availability of the slot required is then checked for the walk-in patient by the front desk. Once the slot is checked, the requirements for the scan i.e. condition of the patient required to undergo the scan is checked (E.g. Proper Creatinin level for renal patients). After that the patient is given the appointment and told to wait for his turn. Finally, the procedure is performed.

Warning sign with Red light is on when the procedure is going on in the room.

- Emergency patients especially with a critical diagnosis – highlighted in the register and the consultant is immediately informed about the findings.
- Procedures wherein contrast is to be given, for example MRI, consent of the patient is taken prior to the procedure.

## **BLOOD BANK**

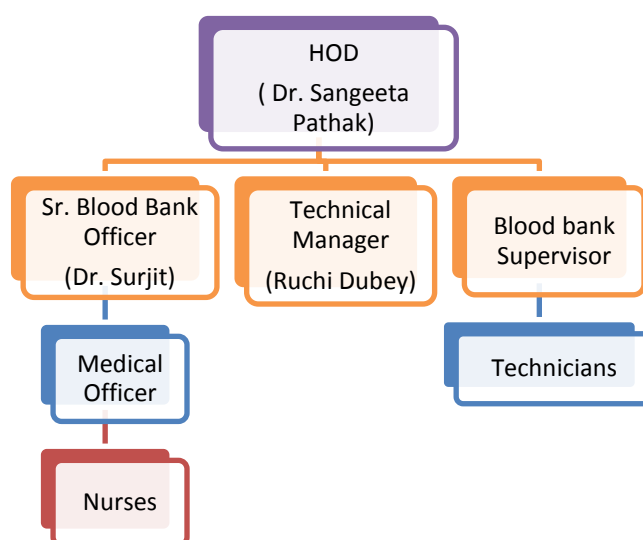
Max super specialty hospital has its own blood bank. All blood groups are available. It is mandatory for the in-patient attendants to donate blood or do replacement of the blood.

Blood bank consists of:

1. Sample collection area / reception area: In reception area a form is given to the attendant of the patient regarding their details before he/ she donates the blood.
2. Aphaeresis area: Blood has several components including red blood cells, platelets and Plasma. Donor aphaeresis is a special type of blood donation in which a specific component- platelet is withdrawn from donor.
3. Component room: In component room the whole blood is separated into packed cells (2-6° C), FFP (-80°C) and platelets (22°C). Packed RBC can be stored for 42 days, Platelets for 5 days and FFP for 1 year.
4. TTI room: It is to diagnose transfusion transmitted infections. If donor is detected positive for TTI status it means donor have the potential to transmit the infection to their partner and children.
5. Issue room: This room is to issue the screened blood bags.
6. Quarantine Area: The untested units are stored in this area for 1 day after component separation. This area is also for nucleic acid testing (NAT)
7. Serology Room- Patient and donor's blood processing is done in this area.
8. Refreshment Area- The donors are provided refreshment after donating blood in this area.

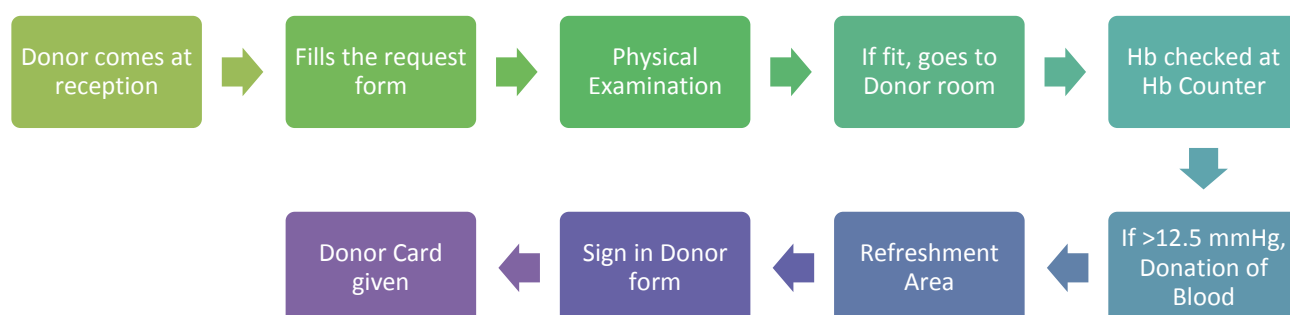
Staff of blood bank consists of 1 HOD, 2 blood bank officers, 1 technician supervisor, 16 technicians, 2 staff nurse, 2 computer executives, 4 GDA.

## Hierarchy



- The blood donation timings are from 9am to 5pm. Blood can be donated after every 3 months.

## Process Flow



- Voluntary Donor Card is valid for 1 year and Replacement Card is valid for 3 months.
- Record Maintenance – Both manually and digital (Acuren Software)
- Post-Donation Testing is done for and informed to all the donors.
- Report is given only to the patient, if patient cannot come, then the reports are emailed to them.

# **CENTRAL STERILIZATION SUPPLY DEPARTMENT**

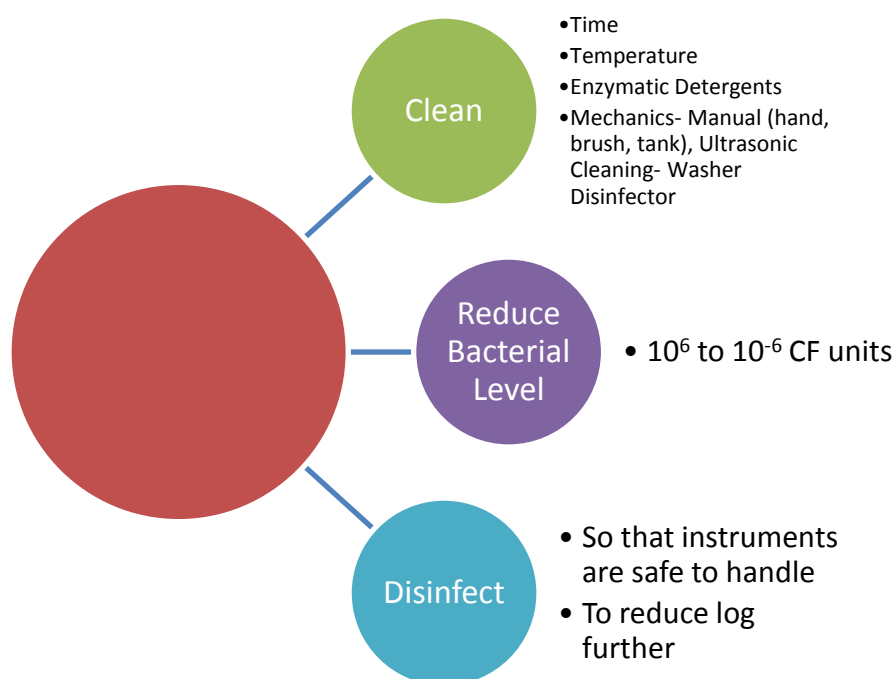
## **INTRODUCTION-**

CSSD is the heart of the hospital infection control and the most important unit of the clinical support services. CSSD role lies in receiving, cleaning, packing, disinfecting, sterilizing, storing and disinfecting instruments as per well-delineated protocols and standardized procedures.

CSSD department in Max Healthcare, Saket is a centralized department and the location of the department is in the basement.

***The main aim of the CSSD department is to reduce the level of micro-organisms from  $10^6$  to  $10^{-6}$  CF Units.***

## ***Objective of CSSD:***

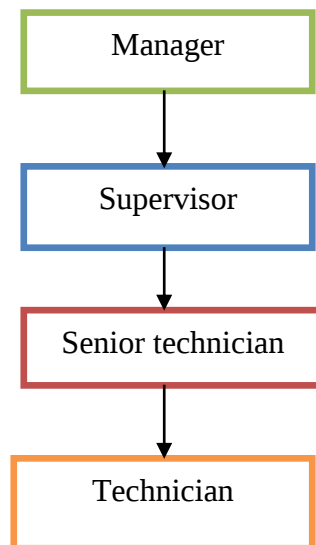


## **Types of Sterilization-**

- Steam- uses saturated steam (heat + water) at  $138^{\circ}\text{C}$  for 4minutes
- Ethylene Oxide
- Plasma

Size of CSSD- should be 10 sq feet per bed, for a 500-bedded hospital.

### HIERARCHY OF THE DEPARTMENT-

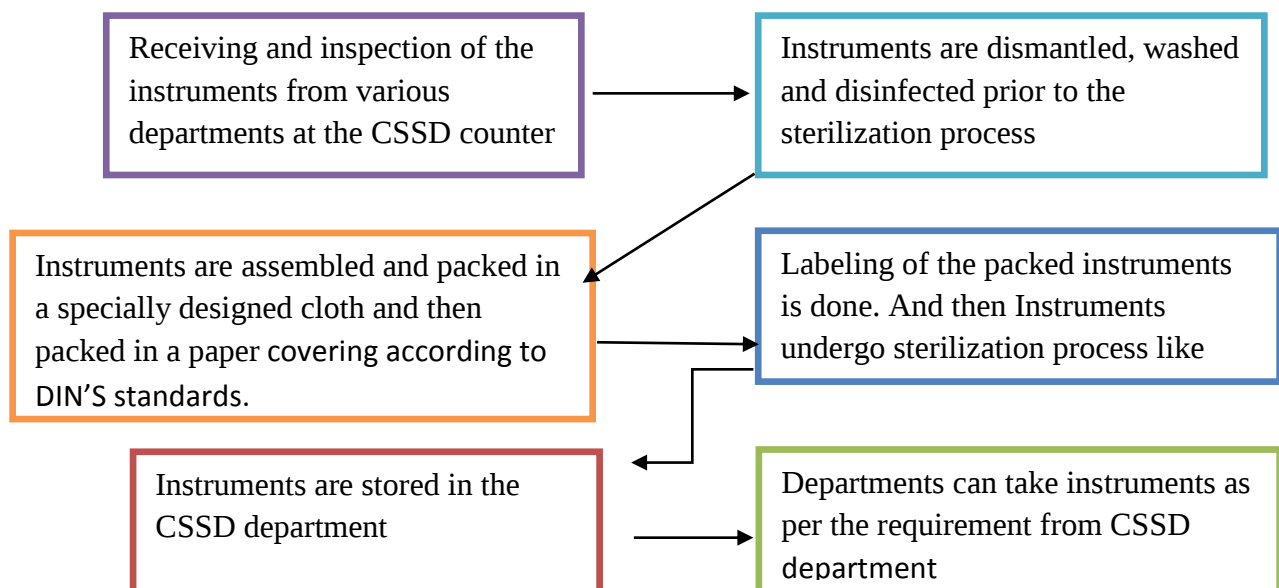


The Department is headed by Dr. Sanjeev Bhatia.

### ZONES PRESENT (with color coding)-

- Decontamination Area
  - Clean Zone
  - Sterile Zone- Temperature- 18° to 20° C
- 18° to 22° C

### PROCESS FLOW-



- At the time of receiving the instrument at the CSSD department, the instruments are counted, checked for any damage, segregated according to the method of sterilization required for the instrument.
- Instruments used for the washing of the instruments are fully automated and according to the European standards.
- For packing of the instruments SMS (Stem-Mid-Stem bond) paper and cloths are used which are specifically designed for the purpose (they have a zig -zag pattern).
- Once sterilized and packed instrument can be used within 6 months.

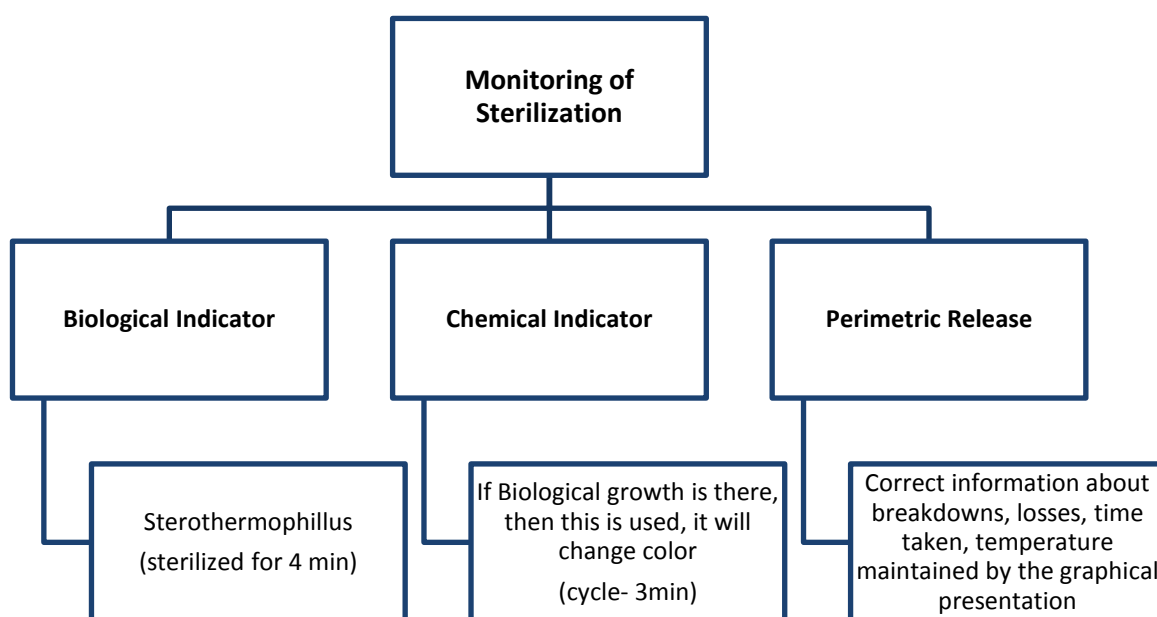
#### EQUIPMENT LIST-

- Washer
- Autoclave
- Plasma sterilizer
- ETO sterilizers
- Dryers
- Air-guns
- Water-guns
- Ultrasonic cleaners

#### QUALITY INDICATORS-

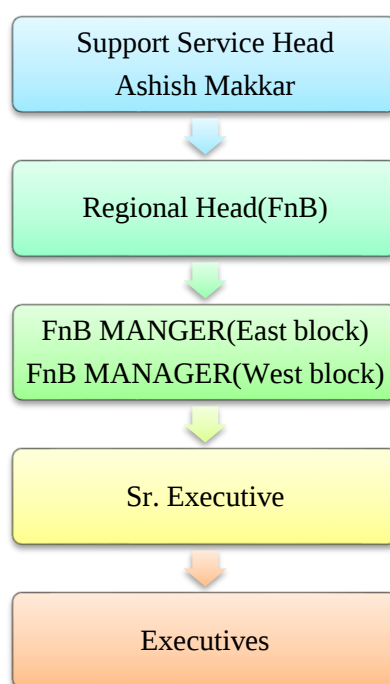
Various quality indicators used in CSSD are-

- **Batch monitoring strip-** a yellow colored strip which is attached to every lot which on exposure to right temperature and pressure turns black



## **FOOD & BEVERAGES**

- Food & Beverage department is responsible for the supply of food to the in-patients and sometimes their attendants (if required) and also for arranging food during various meetings and conferences in the hospital.
- It is approved by NABH and works on ISO 9000: 2008.
- The department has been outsourced to Sodexo Pvt., ltd., however, the management and supervisory staff is in-house.
- Staff- 230 (outsourced); 11 (Max in house)
- Hierarchy

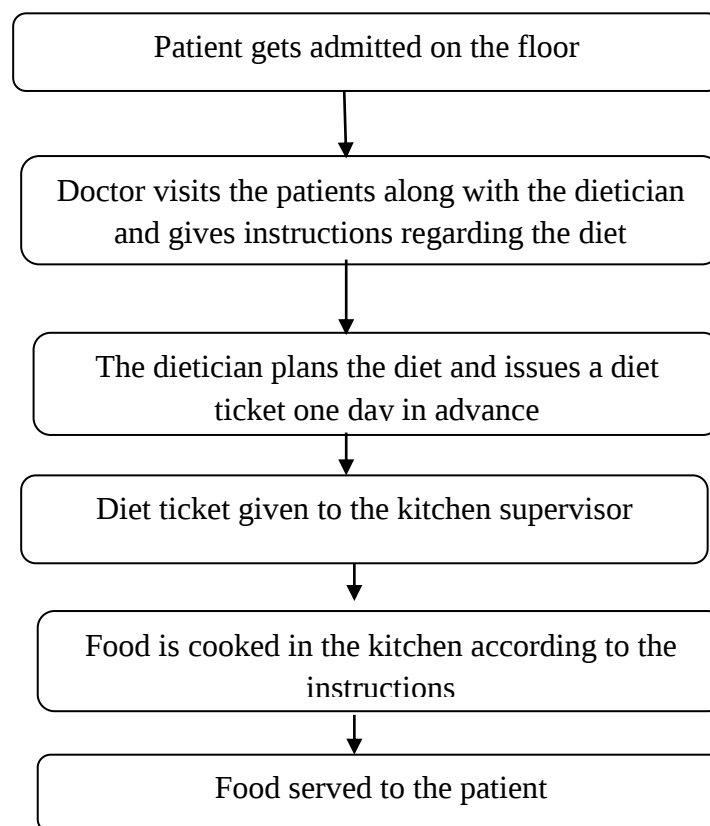


Time table for the diet of the patient: (7 meals/day)

|               |                     |
|---------------|---------------------|
| 7-8AM         | Breakfast           |
| 10:30-11:30AM | Morning Tea<br>Soup |
| 1-2PM         | Lunch               |
| 4-5PM         | Evening tea         |
| 6-7PM         | Soup                |
| 8-9PM         | Dinner              |

- If the patient is on Liquid diet, it is provided every 2 hours, 10 liq. Diet/day.
- Dinner of the same day, breakfast and lunch of the next day are decided prior in the evening and diet tickets are issued by the dietician and given to the chef.
- Apart from these if patients want to have something extra, those can be provided to the patient after consulting dietician and calling on 4030 from their room, no extra charges.

- Different menus offered are:
  - Continental
  - Afghani – for middle east patients
  - No onion and garlic – for middle east patients
  - Indian
- **Process flow** of the department

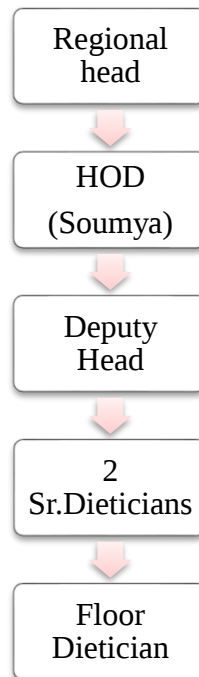


Quality Indicators for F n B department: Food Receiving, Food storage, Staffing

- The raw material is received everyday between 6:30-7am, washed and stored. The cutting is done on color coded chopping boards separately for Veg., Non-Veg. and Sea food.
- The food sample is tested for any infection every 15 days.

## **DIETETICS**

- The department plans diet for all IPD patients in accordance with the primary consultant's opinion on the same.
- Staff- 13 in total.
- Hierarchy

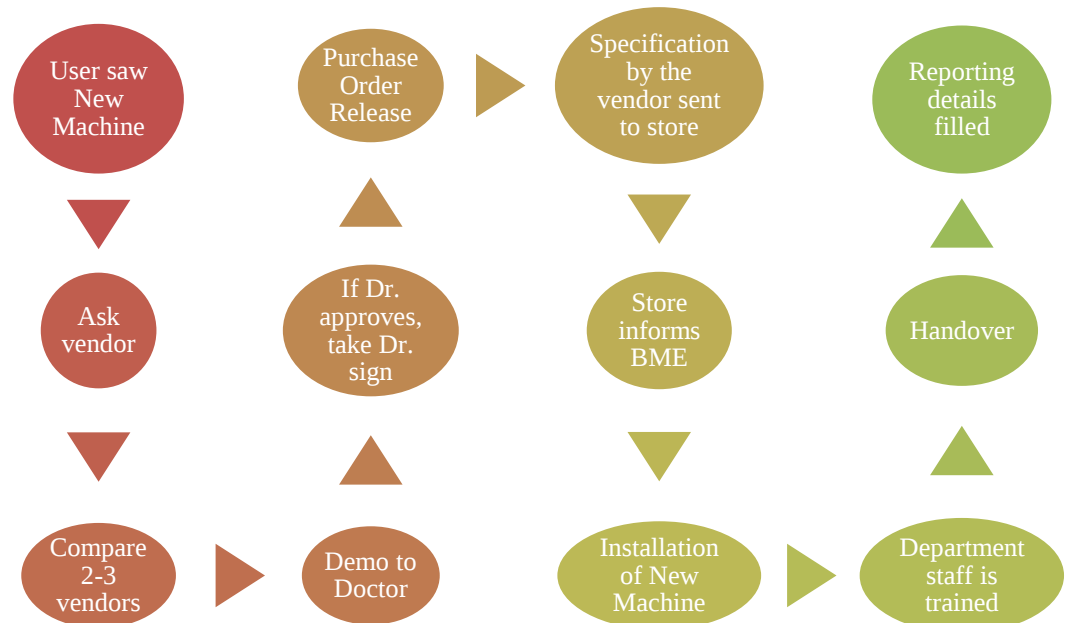


- Dietician: patient – 1:50
- Assessment of each patient to be done within 24 hours of admission and thereafter every 8th day after initial assessment.
- Scoring – Normal, Soft, Liquid Diet
- For enteral nutrition, all commercial supplements for each disease are available.
- Diet Note is put on CPRS on daily basis.

## **BIOMEDICAL ENGINEERING**

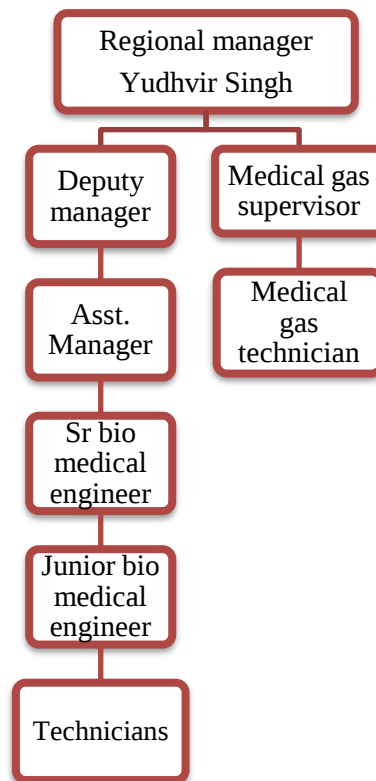
- This department deals with purchase, installation and commissioning, training on operating, handling and maintenance of medical equipment in all departments of the hospital.
- Looks after running equipment and new equipment.
- For Running equipment

- Preventive maintenance (PM) is done – to prevent breakdown, maintenance is done.
- Calibration is done – i.e. to check how accurate an equipment is functioning  
There are white stickers on every machine that tells when the last PM and Calibration was done.
- Breakdown call is checked for
- Depreciation is measured
- For new equipment-
  - Installation and commissioning is done.



- Criteria for Up gradation-
  - i. The company supplying the equipment has been obsolete and BME recommends new machine
  - ii. The staff suggests a new machine, BME checks the budget of the department, if budget allows, and then procedure for procurement is done.
- AMC and CMC records are maintained.
- CAPEX (Capital Expenditure) and OPEX (Operating Expenditure) registers are maintained.
- Equipment Incident report is made in case of any physical damage – it is filled mentioning how the damage did happened. Thereafter replacement or repair whatever is required is done.

- Organizational chart



- Gas Manifold Department- Gas manifolds are also handled by this department and Max is awarded green OT certificate because of the efficient dispersion of OT gases. It maintains the supply of Oxygen, Air, Vacuum, Suction (-ve pressure).
- Compressors- in basement, for +ve and –ve pressure.

## **PHARMACY**

Max pharmacy is self-owned with Central Pharmacy situated at corporate office, Okhla. There are 2 In-patient pharmacy stores, 2 Out-patient stores and 1 EWS pharmacy in the hospital.

### **PURCHASE**

- Auto purchase requisition is given to central purchasing team which is forwarded to vendor (outsourced).
- For purchasing the items ABC method is followed.

A (mostly used drugs), B (Less used), C (Least Used)

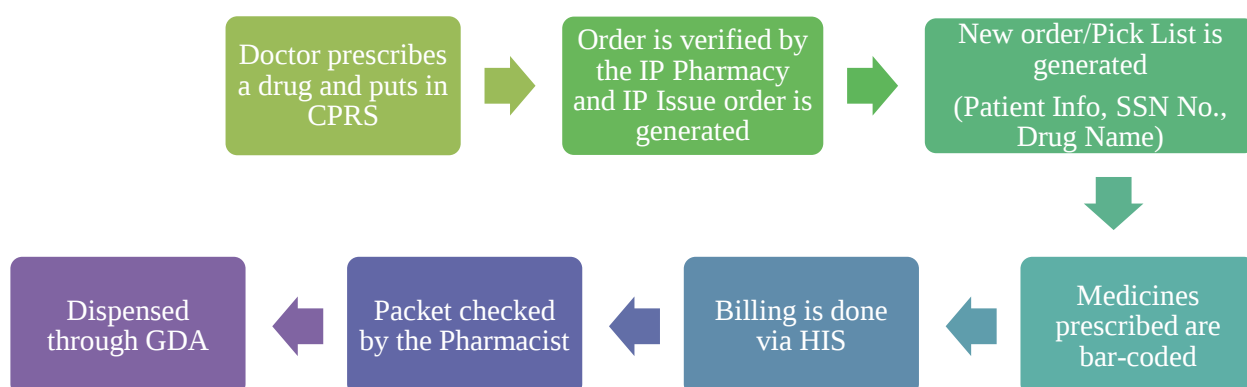
- Weekly requisition is done, and vendors take minimum 3 days for delivery of drugs to hospital.

## STORING OF DRUGS

Medicines are arranged according to VISTA (e-care) in Client patient record system via generic name in alphabetic order in racks, shelves, cupboards and drawers. Oral, parenteral and topical items are stored separately. Near expiry (expiry within 3 months) is stored in separate designated area to expedite the consumptions.

## INDENT AND DISPENSE OF MEDICATIONS.

In patient pharmacy-



The **Stat orders** required immediately are dispensed within 30 minutes. The **Now order** is dispensed within 1 hour and routine order (White color) is delivered by 1 round per day.

## NARCOTICS DRUGS

They are kept in double lock and key system with a label “High Alert Medicines”. Documentation of narcotic drugs is appropriately maintained.

Narcotics drugs under statutory regulation being used in max hospitals includes: injection and transdermal patch of Fentanyl and injection and tab. of Morphine.

## LOOK ALIKE AND SOUND ALIKE DRUGS

Look alike and sound alike medications have high medication error due to similarities in nomenclature and packaging.

In the main pharmacy stores, (SALA Medications) are stored separately in 2 adjacent racks with blue colored **sound alike** and pink colored **look alike** medications warning stickers to avoid confusion while dispensing.

Medication Recall: If a drug is found to be defective, it is reported to the Okhla office where the records for that particular series of drugs dispensed is checked and verified for medication recall.

Licenses acquired by Max hospital pharmacy -

- 1) Pharmacist License
- 2) Narcotics License

#### INVENTORY MANAGEMENT PARAMETERS

- I. ABC Class
  - A Items: 7 days
  - B Items: 10 days
  - C Items: 15 days
- II. EOQ - (economic order quantity)
- III. LEAD TIME – Time from ordering to delivery of drugs
- IV. VED – Vital Essential Desirable (According To move of drugs)

**Staff-** In-patient pharmacy- 9 (Pharmacist) + 1 (Executive) + 8 GDA, 5 Data Entry Operator

Out-patient pharmacy-

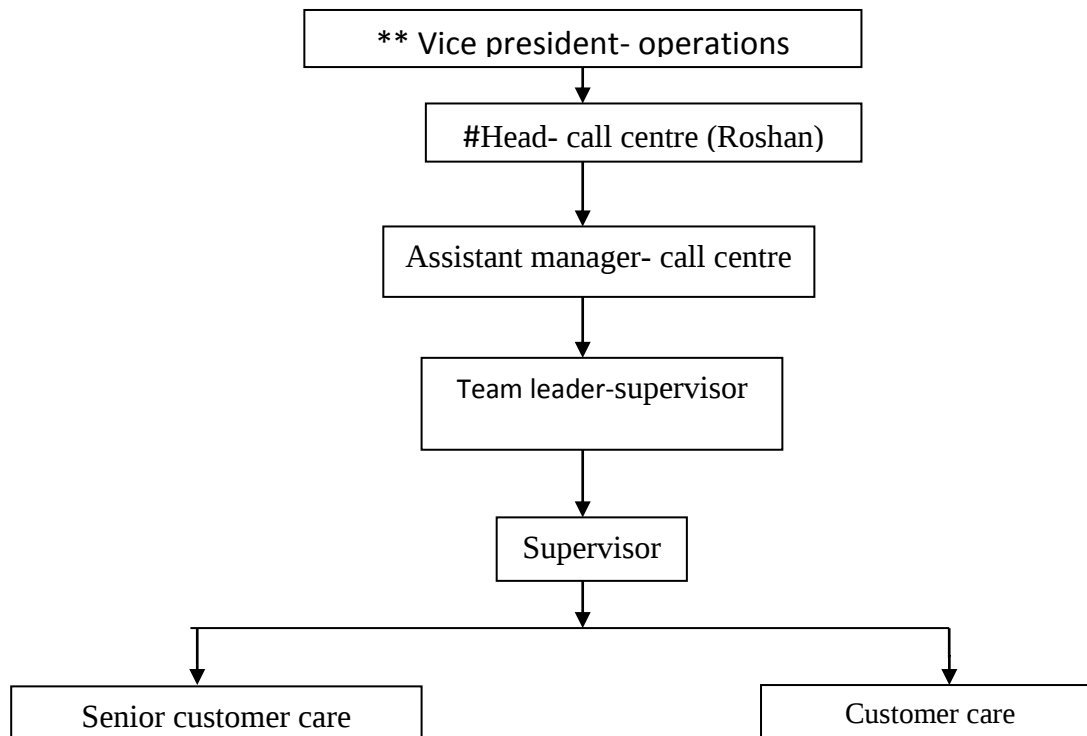
### **CALL CENTRE (in-house)**

Call centre of Max hospital, Saket operates at 24\*7. It is centralized patient contact centre for Saket. It can be used as an information centre for all customers.

Call centre deals with:

- Doctor's appointment
- Health check ups
- Radiology and diagnostic appointments
- Patient's information
- Doctor's information
- Employee's information
- Specialty information
- Other department information
- In-patient requests, ext. no. 4000
- It handles internal emergency e.g. at ext. no. "11" -Blue code, RRT, Code Yellow, Code Pink, at ext. no. "14", Code Red, Code Black
- Main board line number is: 26525050
- Ambulance Services

### Organization chart:

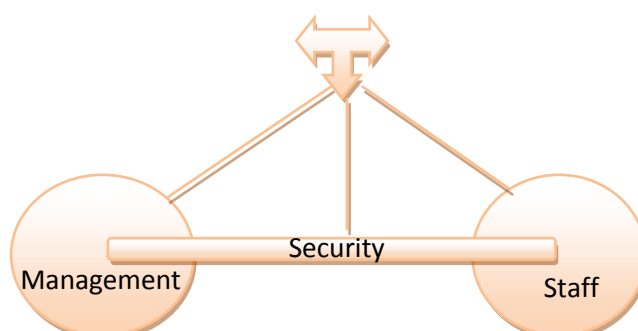


### Ticket Process Flow



- If complaint is resolved, it closes automatically in 4 hours.
- Escalation Matrix- If any request is not fulfilled in appropriate time, this matrix enables a message on duty mobile of the department supervisor and so on, i.e. it escalates the unresolved issue to the higher authority concerned.
- All the HODs are messaged daily about the calls and the Turn Around Time (TAT) of the calls.

### SECURITY DEPARTMENT



The security department is an eye and ear of every organization acting as a liaison between the management and staff. The control room of Security Department is located on B1 (basement) of East Wing, Max Saket.

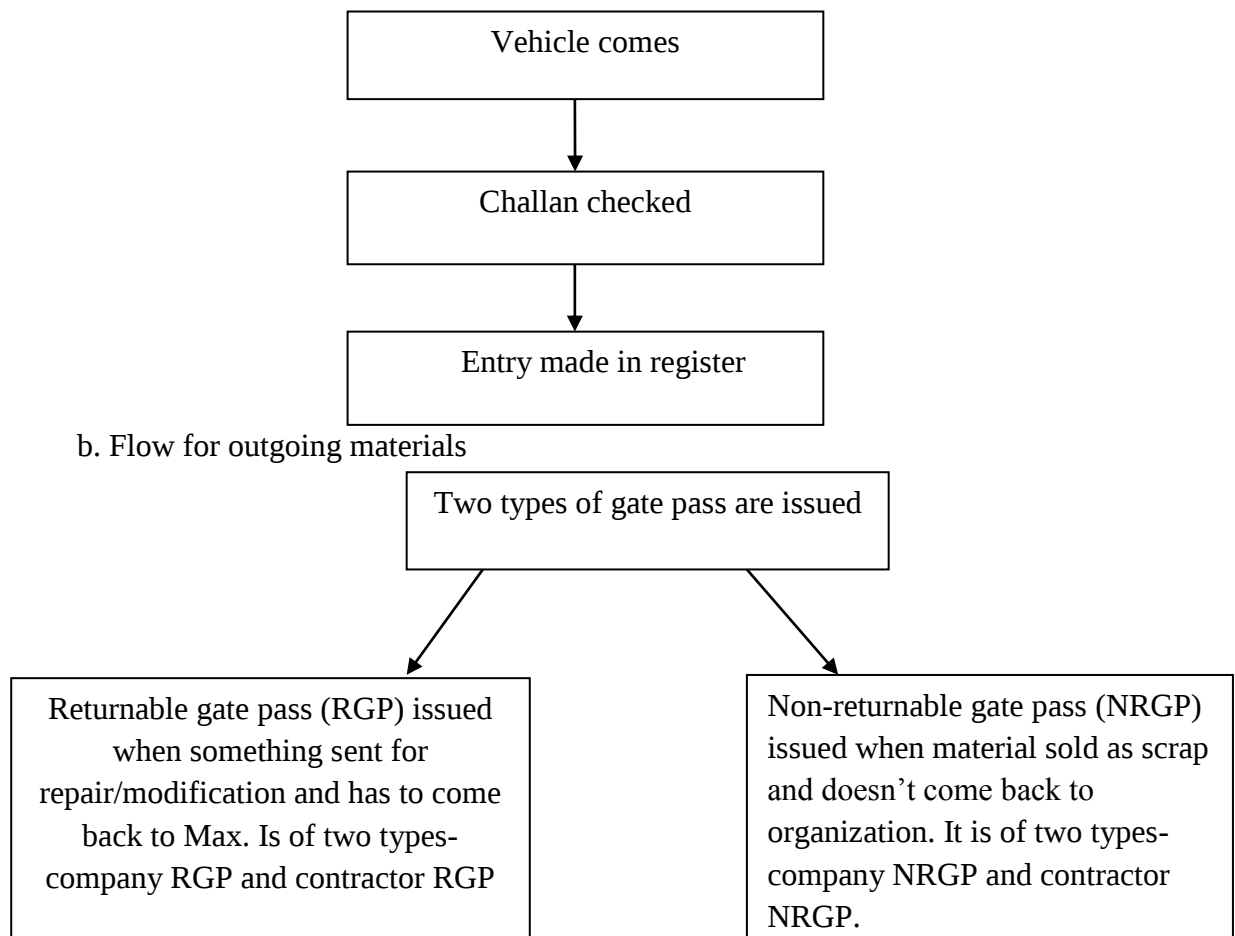
Functions of Security Department: -

**1. Security management: -**

- Selection of people (guards and supervisors)
  - Deploying of security staff to different floors and departments
  - Checking of people entering hospital- Frisking
  - Turnout and grooming of security staff
  - Death handling
  - Training of security staff
  - MLC handling- filling MLC intimation and re-intimation (if any) form  
Re-intimation is made when a MLC patient gets admitted again within 10 days of the discharge.
  - Dispute handling
- There are 192 CCTV Cameras recording every action in the hospital premises.
- Two Teams- IRT (Initial Response Team) and ERT (Emergency Response Team)
- ERCC system- Emergency Response Coordination and Communication system sends a voice message (1000 messages on 1 go) on the duty mobile number in an emergency.
- Security divides the RRT in 4 teams to act in an emergency
1. Action taking
  2. Rescue Team
  3. Salvage Team- to remove important documents from that area.
  4. Cordon off Team- to not to allow anybody inside the threat zone.
- If emergency occurs during an occupied OT, Security has put up a provision for OT to run for 45min on UPS, so basic stabilization of the patient can be done.
- There is a secret entry for the VIP security in the hospital.

**2. Material management:-**It includes management of both incoming and outgoing materials.

a. Flow for incoming materials: -The incoming materials are received either from a company or a contractor to Max. The process flow is as under: -



## 1. Disaster management: -

There are six emergency codes: -

1. Red- **Fire**
2. Black- **Bomb threat**
3. Blue- **Cardiac arrest**
4. Yellow- **External disaster** like earthquake
5. Violet- **Violent patient**
6. Pink- **Missing patient**

The SOP's and disaster management plans are prepared by the Security Department. Fire management system includes smoke detectors, sprinklers fitted on ceiling and fire shafts in all corridors.

Walkie talkies are an important source of communication.

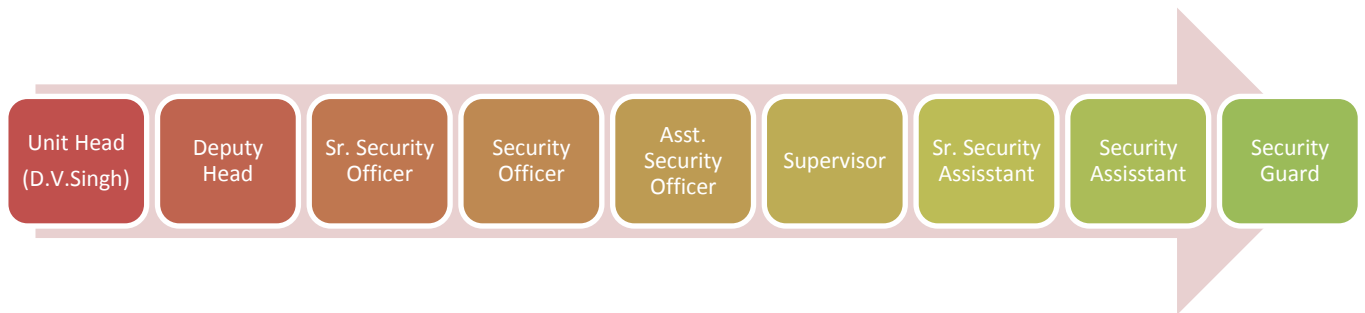
Other disasters include floods, water logging, terrorist attacks.

#### 4. Valet management: -

- Helps internal and external customer to optimally utilize the parking space.
- Within a time frame of maximum 7 minutes, vehicle is handed over to customer when asked for in porch.

### Staffing

The Security department in Max Healthcare, Saket consists of 26 on- roll staff and 144 outsourced staff.



### HUMAN RESOURCE MANAGEMENT

**Human resource management (HRM or simply HR)** is a function in designed to maximize employee performance in service of their employer's strategic objectives. HR is primarily concerned with how people are managed within organizations, focusing on policies and systems.

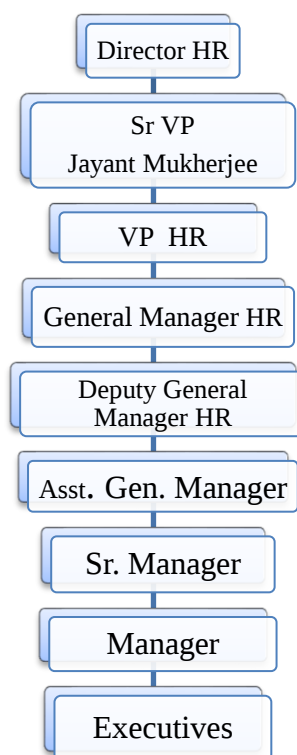
#### ***Core Values of HR: Excellence, Credibility and Seva bhavna***

Following are the policies undertaken by the Human Resource Management Department: -

- Human Resource Planning Policy.
- Job Profile Format.
- Recruitment policy.
- Training and development policy.
- Induction and Orientation policy.
- Performance appraisal Policy.

- Complaint & Grievances Redressal Policy.
- Disciplinary Policy.
- Medical Discount Policy.
- Annual Medical Check-up Policy.
- Clinical credentialing and privileging Policy.
- Nursing Credentialing and Privileging Policy.

### **HR Hierarchy**



**Staff-** Manpower of 15 staff is handling the HR system of Max Healthcare, Saket



### **INTERNATIONAL PATIENT SERVICES (IPS) DEPARTMENT**

It takes a lot to be a world-class health care services provider and as per patient registration data, over 11 Lakh overseas patients have been helped to get back to their normal lifestyle. This department, situated in East wing, is exclusively dedicated for the services of international patients.

#### **Contact Procedure:**

- Patient sends a query and/or reports
- IPS Team consults the relevant consultant and provides diagnosis, proposed treatment and estimate
- If required, a telephonic meeting may also be arranged
- Patient confirms if he wants to have treatment at Max Healthcare to provide Visa Facilitation Letter
- Patient confirms the arrival date and time
- IPS Team, in the meantime, books room, OT etc. for the patient
- Patient is received at the Airport and then, brought to the Hospital/Guest House/Hotel

Also, another contact procedure is as follows:

- Max hospital conducts free outreach OPDs in other countries, at least 1-2 per year
- Max hospital also has tie ups with different hospitals in these countries

International patients avail treatment in India mainly because these facilities or treatments are not available in their respective countries, and are available at a much cheaper price in India than other countries such as US, UK or European countries.

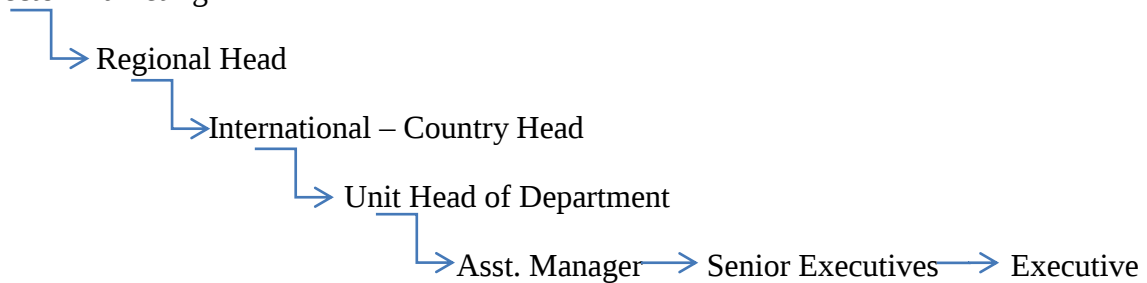
The countries from where patients come to seek treatment most commonly are Afghanistan, Iraq, African countries (Nigeria, Congo), Oman, Uzbekistan, Nepal, and Bangladesh.

The hospital provides:

- Various Regional Translators such as Arabic, Persian, Iraqi, Bangladeshi and Russian (In house interpreter).
- Assistance in ground transportation such as finding a shuttle, hiring a car or choosing any other mode of transportation within the city.
- Relationship Managers, who closely work with over 50 Diplomatic Missions and numerous Expat bodies to ensure that international patients have a comfortable and memorable stay in India.

Staffing:

Director Marketing



## CONCLUSIVE LEARNING

1. There is an information board on every nursing station which includes all the details of on-duty staff, is updated on daily basis.
2. Some of the Nursing station information board has Positive Thoughts (e.g. MAMBS recovery area, 2<sup>nd</sup> floor, East wing) and some have Good morning and smiling face smiley (e.g. 4<sup>th</sup> Oncology department)
3. The Emergency area is not designed within easiest reach, as it is not easily visible from the main entrance of the hospital.
4. The board depicting Emergency department does not has a good contrast background. “Emergency” is written with very light color on a bright background, difficult to read.
5. There are no directions in the hospital to reach Emergency department.
6. The Doctors feel very difficult to put notes in CPRS immediately, as they cannot find any system free. Some doctors also suggested of keeping Transcriptors for the same.

## **Project-II**

### **Assessment of Need of the Patient Education related to their treatment and hospital stay**

|                                 |
|---------------------------------|
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## **INTRODUCTION**

Patient education is the process by which health professionals and others impart information to patients and their caregivers that will alter their health behaviours or improve their health status. Patient education is patient right and a health care providers responsibility.

Educational needs assessment can be defined as the gap between what is known and what should be known. The goal of continuing education is to improve patient care by maintaining or improving the knowledge, skills and attitudes of both the Healthcare professionals who deliver care and those receiving care. Education may be providing by any healthcare professional who has undertaken appropriate training education, education on patient communication and education is usually included in the healthcare professional's training.

Important elements of patient education are skill building and responsibility: patients need to know when, how, and why they need to make change. Group effort is equally important: each member of patient's health care team needs to be involved.

The patient education is valued because it can-

- Improve understanding of medical condition, diagnosis, disease or disability.
- Improve understanding of methods and means to manage multiple aspects of medical condition.
- Increase compliance- effective communication and patient education increases patient motivation to comply.
- Patient outcomes- patient more likely to respond well to their plan of care.
- Utilization- more effective use of medical services.
- Satisfaction and referrals- patients more likely to stay with your practice and refer other patients
- Informed consent- Delivering of proper and complete information results in development of trust with patient.

- Safety and prevention-Patient safety is a discipline that emphasizes safety in healthcare through the prevention, reduction, reporting and analysis of medical errors, falls and emergencies like fire that often lead to adverse effects.

Effective communication is essential for ensuring patient safety. The use of effective communication among patients and healthcare professionals is critical for achieving a patient's optimal health outcome and can aid in the prevention of adverse events.

Patient education and safety has emerged as a distinct healthcare discipline supported by a scientific framework. There is a significant trans-disciplinary body of theoretical and research literature that informs the science of patient education and safety.

It is generally agreed that it is part of the health professional's role to educate patients, but this is often not carried out in reality. Where it is done it is mostly unplanned and haphazard in manner and the effectiveness uncertain. There are many reasons cited why this is the case and many of these reasons relate to the inadequate education and training of health professionals for this role. Lack of time can also be one of the reasons for neglecting patient education.

The effective management of any disease depends upon the ability of patient to carry out the plan of care over time. Therefore, patient must be educated about these responsibilities. Logically, the preparation of the patient should start with an evaluation of existing knowledge so that the time of the patient and practitioner can be used to best advantage. Since care continues over time, periodic reappraisals of knowledge are indicated to adapt education efforts to changes in the patient's status and scientific advances; assure that past information has been retained; and identify areas needing reinforcement.

This study attempts to determine why patient education is necessary and why it should be a part of the health professional's role. Through this study, we can analyze the current awareness of the patient about their responsibilities related to their treatment and how to fill the gap, if existed, between existing knowledge and required patient education.

## **RATIONALE**

This report is intended to find out the patient's existing knowledge and the gap between patient existing knowledge and required education need related to patient's treatment and hospital stay in Max Hospital, Saket as main goal is to provide finest patient care. Therefore, IPD patient on discharge will be suitable ones to provide relevant information. Patient education is one of the major contributing factors that adds to the care and safety of the patients which they expect from the hospital. By providing patient education and safety in hospital can lead to significant increase in enhancing the hospital's image. Thus, this study was planned to assess the need of the patient education related to treatment and hospital stay.

## **REVIEW OF LITERATURE**

Patient education has become an integral part of care everywhere. The focus that was on content-based learning has been replaced by relationship-based education. This relationship-based education, as an patient-centric and empowering approach is showing effects on patient self-management and helps patients to self-manage their condition and can improve adherence to treatment. However, nurses need support from management to provide patient centered education using an inter-professional approach. [1]

Shared decision-making is a process in which clinicians and patients work together to select tests, treatments, management or support packages, based on clinical evidence and the patient's informed preferences. It involves the provision of evidence-based information about options, outcomes and uncertainties, together with decision support counseling and a system for recording and implementing patients' informed preferences. Effective shared decision-making is not yet the norm and many patients want more information and involvement in decisions about treatment, care or support than they currently experience. [2]

Provision of information should become central, so that patient becomes empowered to participate in their care. Well-designed studies are there to provide evidences that nurses can be effective as information providers to patients. [3]

In a study, there is development of a tool that provides a structured way of incorporating assessment of education needs into the routine delivery of health services. According to them such needs are first disclosed and can then be addressed. In their study they tried to catch the Attention towards this important, and often neglected, aspect of care which holds promise for improving treatment outcomes and health status. [4]

An online portal can be developed in response to an increased need for patient information. In a pilot project, they developed an online, evidence-based information portal that is supported by both patients and physicians. The information portal is being further developed and expanded to include all other major forms of diseases, translations into other languages, and a public information portal to serve patients' relatives and the general public at large. This portal ultimately concludes that patient education is must. [5]

A central plank of health care reform is an expanded role for educated consumers interacting with responsive health care teams. However, for individuals to realize the benefits of health education also requires a high level of engagement. Some other population studies have documented a gap between expectations and the actual performance of behaviours related to participation in health care and prevention. Interventions to improve self-care have shown improvements in self-efficacy, patient satisfaction, coping skills, and perceptions of social support. Significant clinical benefits have been seen from trials of self-management or lifestyle interventions across conditions such as diabetes, coronary heart disease, heart failure and rheumatoid arthritis. In their study with patient education, they have addressed three other issues that may be important in increasing the public health impact of patient education. The first is health literacy, which is the capacity to seek, understand and act on health information. Secondly, much patient education work has focused on factors such as attitudes and beliefs. These small changes in physical environments can have large effects on behaviour and can be utilized in self-management and chronic disease research. Choice architecture involves reconfiguring the context or physical environment in a way that makes it more likely that people will choose certain behaviours. Thirdly, better means of evaluating the impact of programs on public health is needed. [6]

## **OBJECTIVE**

### **GENERAL OBJECTIVE-**

- To Assess the Need of the Patient Education related to their treatment and hospital stay for IPD patients in Max Hospital, Saket.

### **Specific Objective –**

- To assess the patient's current knowledge about their condition of the illness and progress of the treatment.
- To identify the gap between patient existing knowledge and required education needs related to treatment and patient's hospital stay for IPD patients in Max Hospital, Saket.

## **RESEARCH METHODOLOGY**

- ⦿ **Study Design-** Descriptive study
- ⦿ **Study population-** IPD patients who were on discharge in Max Hospital, Saket.
- ⦿ **Study area-** The study was conducted in the IPD of different departments on different floors of Max Hospital, Saket. (East block and West block). The departments in which study was conducted were as follows:

### **West block-**

- Second floor- Neurology department
- Third floor- Urology department
- Fourth floor- liver transplant unit
- Sixth floor- Nephrology department

### **East block-**

- Ground floor- apex coronary care unit
- First floor- Cath recovery ward
- second floor- Paediatric care unit
- Third floor- CTVS and oncology department
- Fourth floor- Cardiology department
- Fifth floor- MAMBS department
- Sixth floor- MAMBS ward

☉ **Duration of study-** 2 months

☉ **Research Approach-** A cross sectional study with a quantitative approach on IPD patient on discharge in Max hospital, Saket was done using a structured questionnaire.

☉ **Sampling Technique-** Patient exit interview using convenience sampling technique. (Non-Probability Sampling)

☉ **Sample Size-** A sample size of 151 patients from different departments was taken during the study. This sample of 151 patients comprises of 30% of total patients getting discharged per day in Max hospital, Saket for 10 days.

☉ **Data Collection-**

➤ Primary data- Structured Questionnaire

Quantitative data was collected by interviewing patients who were on discharge from different floors and departments of Max healthcare hospital, saket using a structured questionnaire. Patient's UHID number, floor and department on which patient was admitted and patient's response regarding question was recorded on daily basis.

- The timings for collecting the sample size were from 9:00AM to 5:00PM for 10 days.
- Discharge list of patients from different floors was collected from the respective discharge secretary every morning.
- Data was collected by going in wards of patients who were on discharge for that day and interviewing them using structured questionnaire and their responses was filled accordingly.
- Before interviewing a brief idea was given to patients regarding this project. Every query of patients regarding questionnaire and this project was answered accordingly.
- Some patients denied responding due to time constraints, as their discharge formalities were done and they were leaving the hospital.

## ◎ DATA ANALYSIS-

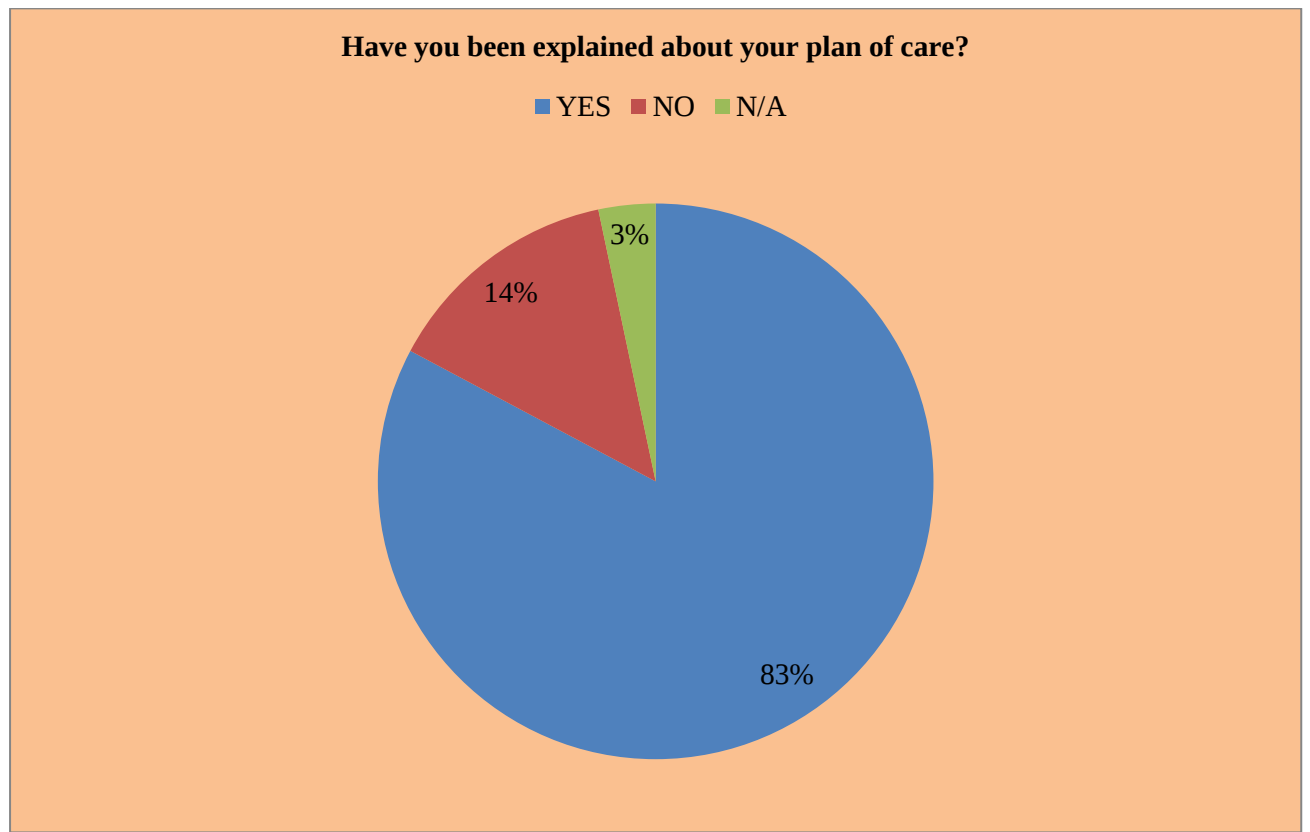
After collecting data, all the data was compiled and entered manually in MS Excel. Then data cleaning was done by entering the missing values and removing the incomplete data. Afterwards data analysis was done using pie charts, tables, graphs and pivot charts in MS Excel.

## **RESULT**

**Table1. Level of patient education**

| S.no. |                                                         | Title                                           | Level of knowledge |
|-------|---------------------------------------------------------|-------------------------------------------------|--------------------|
| 1     | Basic information regarding illness and treating doctor | Information regarding their identification      | 97%                |
| 2     |                                                         | Knowledge about doctor                          | 97%                |
| 3     |                                                         | Knowledge about their illness                   | 100%               |
| 4     |                                                         | Information regarding consent form              | 46%                |
| 5     | Knowledge about treatment and plan of care              | Medication                                      | 87%                |
| 6     |                                                         | Surgery and its success rate, side effects etc. | 88%                |
| 7     |                                                         | Estimated budget                                | 86%                |
| 8     | Information regarding hospital allied services          | Radiology department                            | 6%                 |
| 9     |                                                         | Laboratory services                             | 50%                |
| 10    |                                                         | Diet plan related services                      | 99%                |
| 11    | Information regarding their safety                      | Call bells, side rails, etc. in rooms           | 96%                |
| 12    |                                                         | Emergency fire exits                            | 5%                 |
| 13    | Information regarding discharge                         | Discharge procedure                             | 100%               |
| 14    |                                                         | Emergency contact number                        | 60%                |
| 15    |                                                         | Follow up                                       | 100%               |

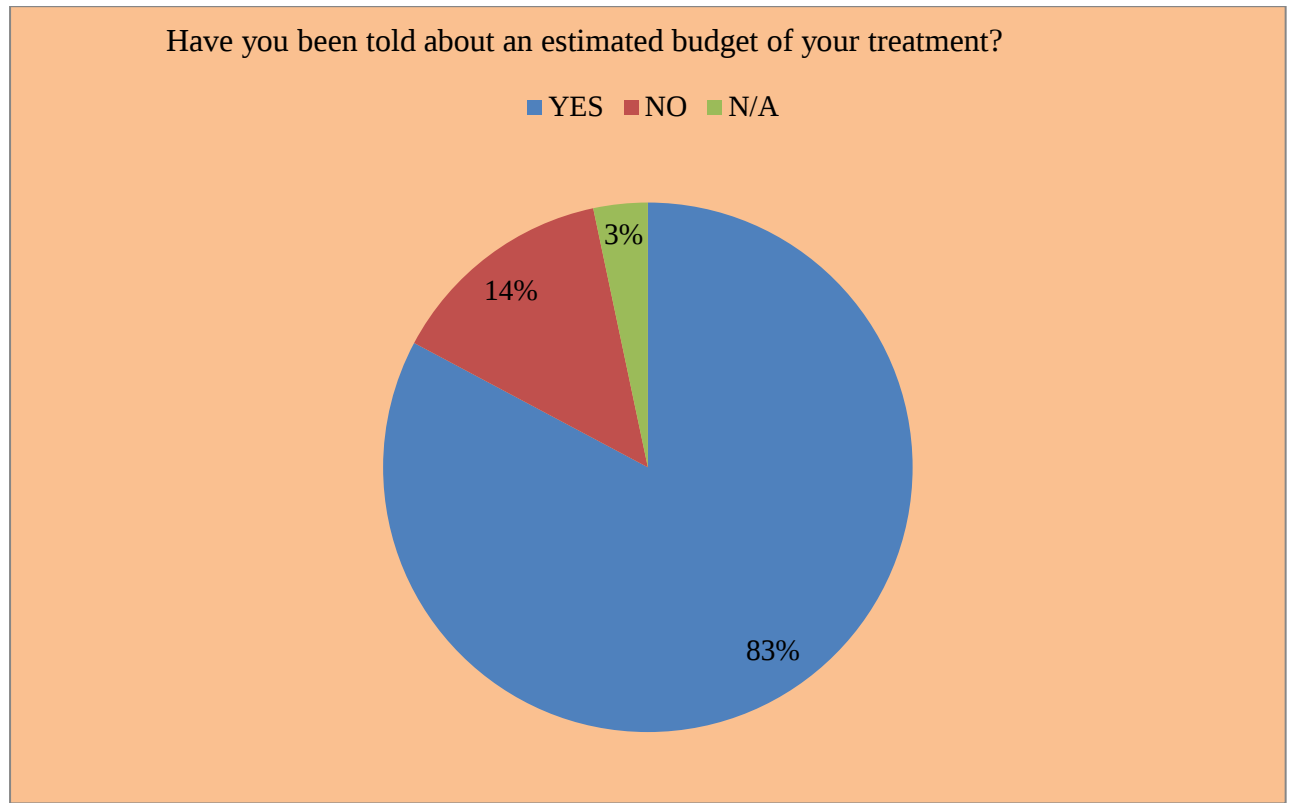
**FIGURE-1**



**INFERENCE-**

This pie chart depicts that 83% of patients were informed about their plan of care whereas 14% of patients had given their response as no. Out of total, 3% of patients were here for investigation purpose only.

**FIGURE -2**



**INFERENCE-**

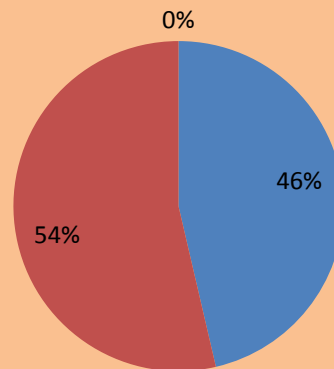
This pie chart depicts that 83% of patients were provided with information regarding their estimated cost of treatment whereas 14% of the patients had given their responses as no.

Out of total, 3% patient belongs to TPA or government panel group where there was no requirement to give budget plan as the payment was to be done by third party.

**FIGURE -3**

Were you explained about the information written in your consent form before getting it signed?

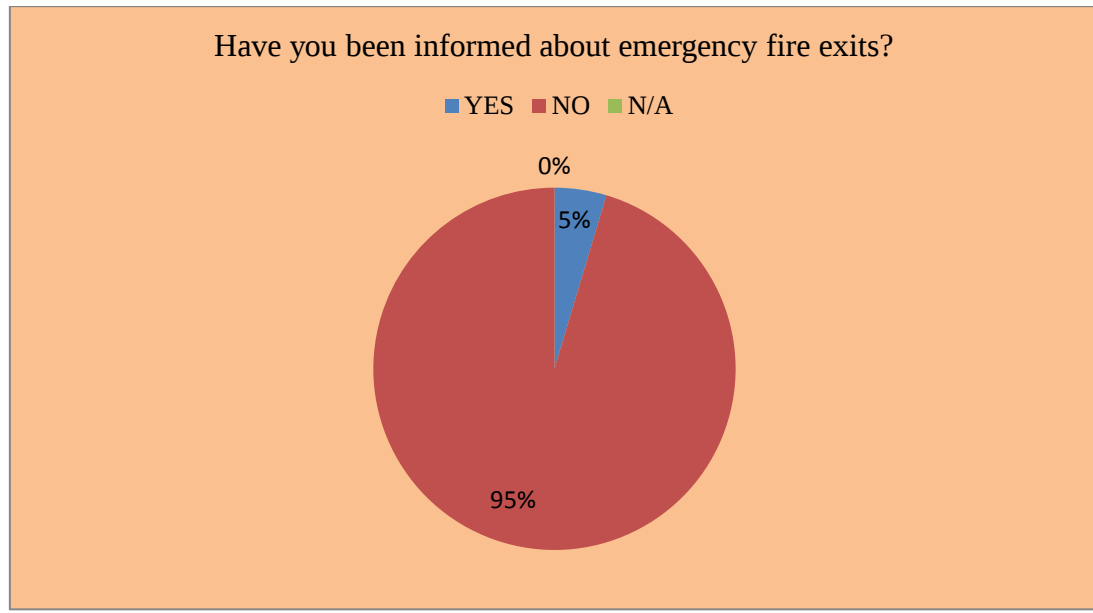
■ YES ■ NO ■ N/A



### **INFERENCE-**

The above pie chart reveals that 54% of patients were not provided with information regarding their consent form whereas 46% of patients said that consent form was explained to them.

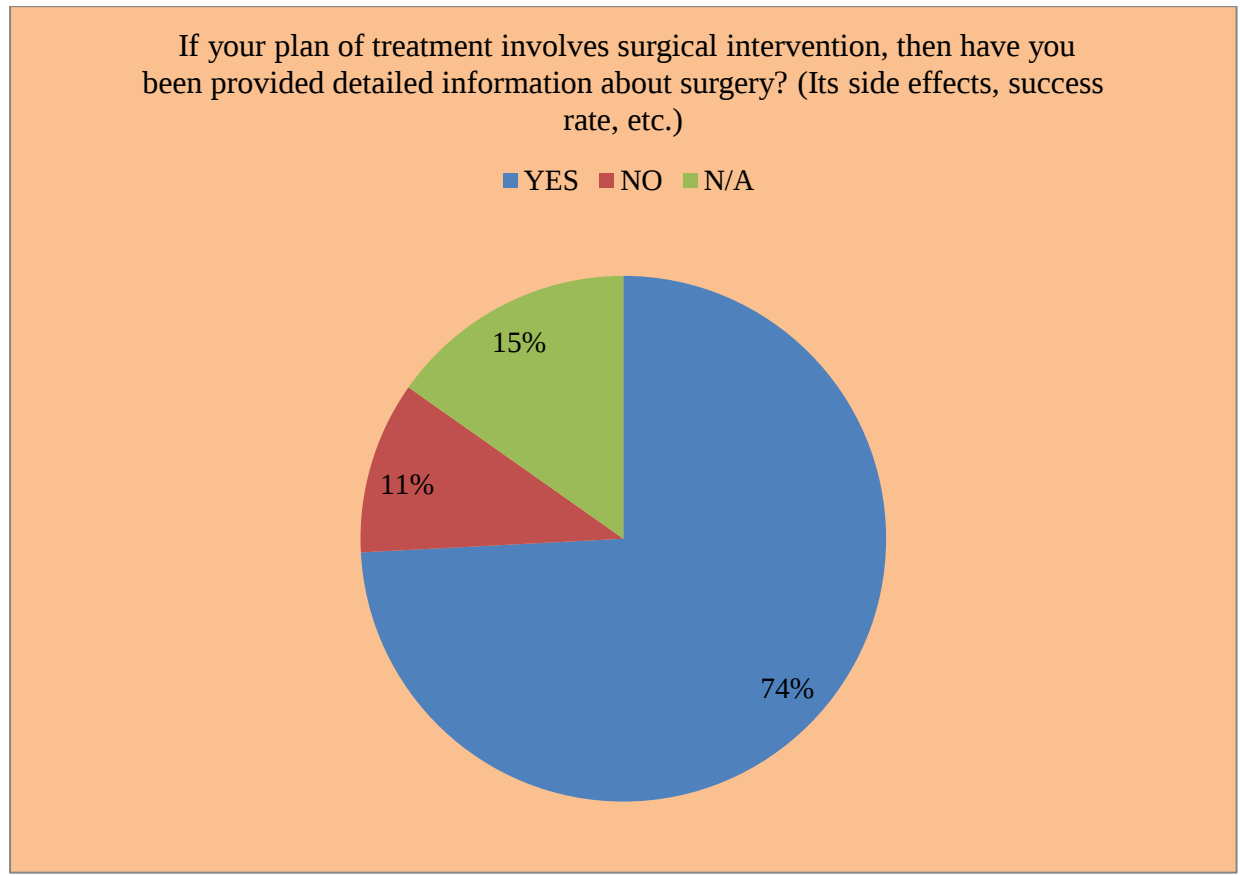
**FIGURE -4**



**INFERENCE-**

The above figure reveals that 95% patients did not have any information regarding emergency fire exits whereas 5% of the patient responded that information regarding emergency fire exits were given to them.

**FIGURE -5**

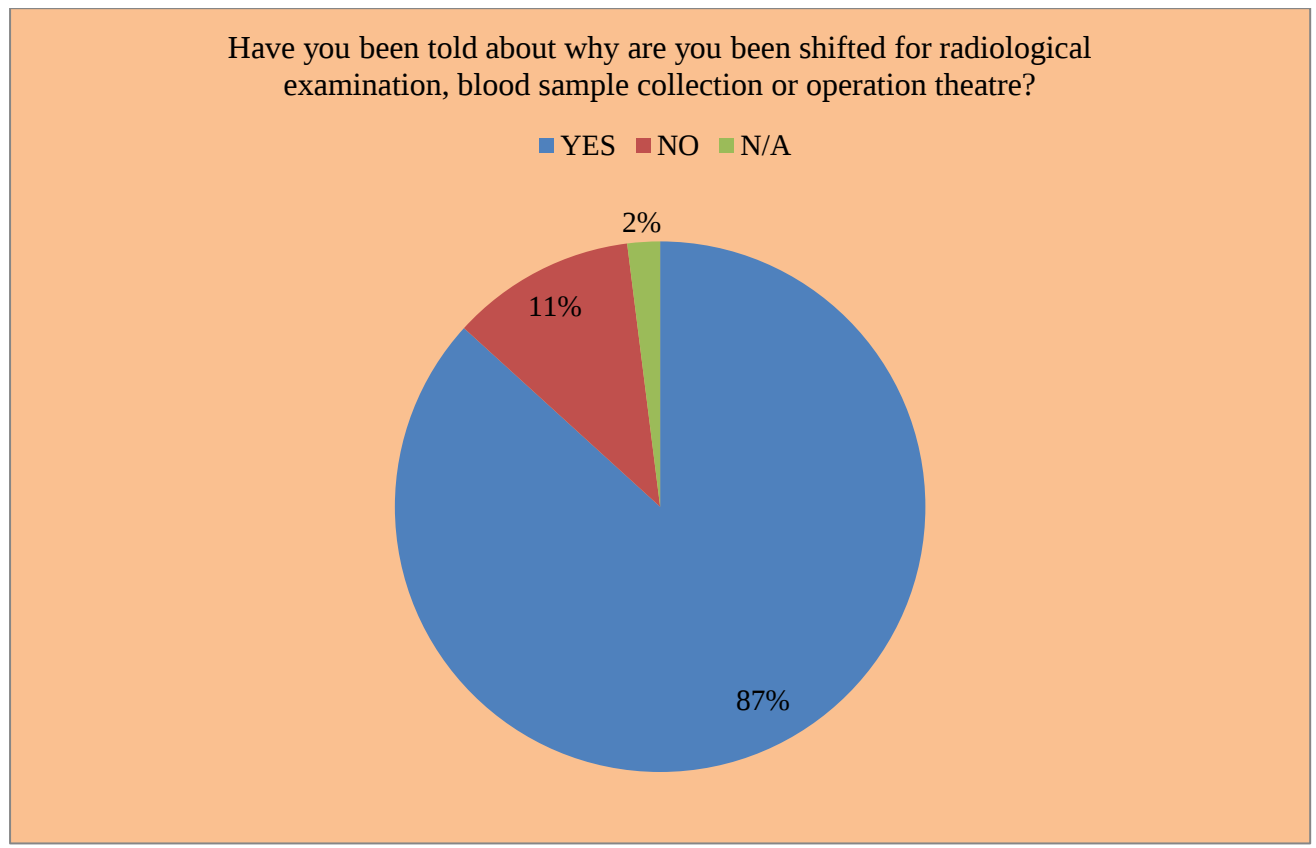


**INFERENCE-**

The above pie chart depicts that 74% of patient had been provided with all the relevant information regarding their surgical intervention whereas 11% of the patients had given their response as no.

Out of total sample, 15% are the patients who had not undergone any surgical procedures.

**FIGURE -6**

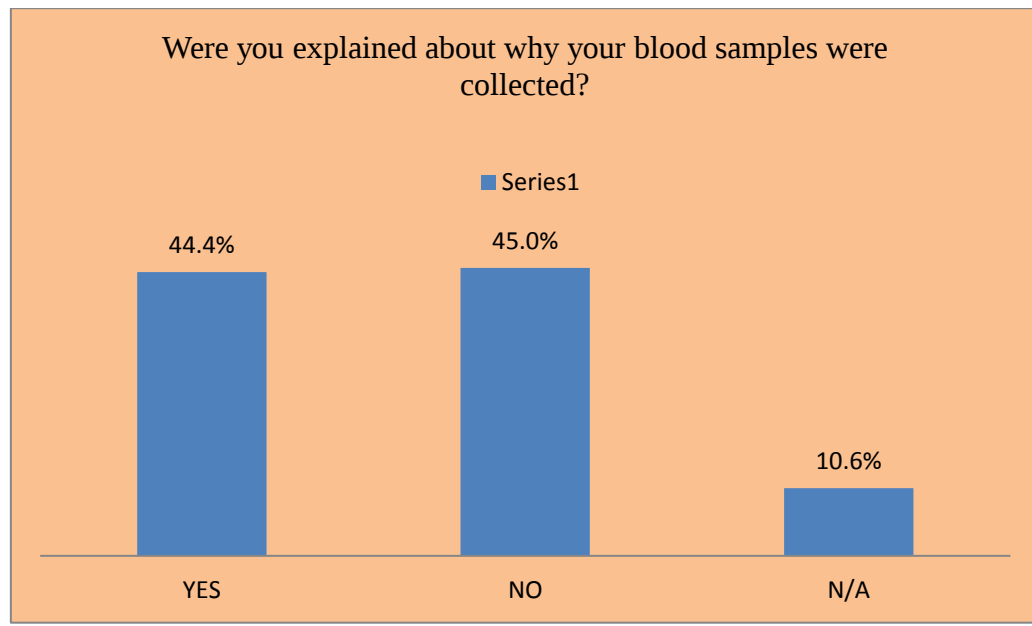


**INFERENCE-**

The above pie chart reveals that 87% of patients agreed that they were told about their shifting to OT or radiology, etc. whereas 11% of patients had given their response as no.

Out of total, 2% of the patients were those patients who had not undergone any surgery and radiological or laboratory tests.

**FIGURE -7**

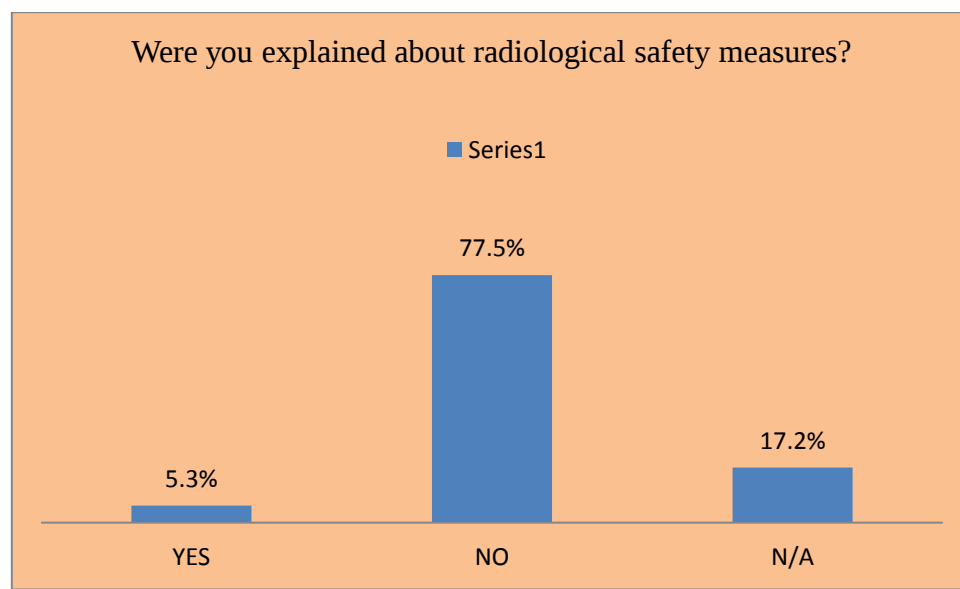


**INFERENCE-**

The above graph depicts that 44% of the patients had been told about why their blood samples were being collected and had been provided with basic information regarding their blood examination, whereas 45% said that they were not explained about why their blood sample was collected.

Out of total sample, 11% of patients were those who had not undergone any blood examination during their hospital stay.

**FIGURE -8**

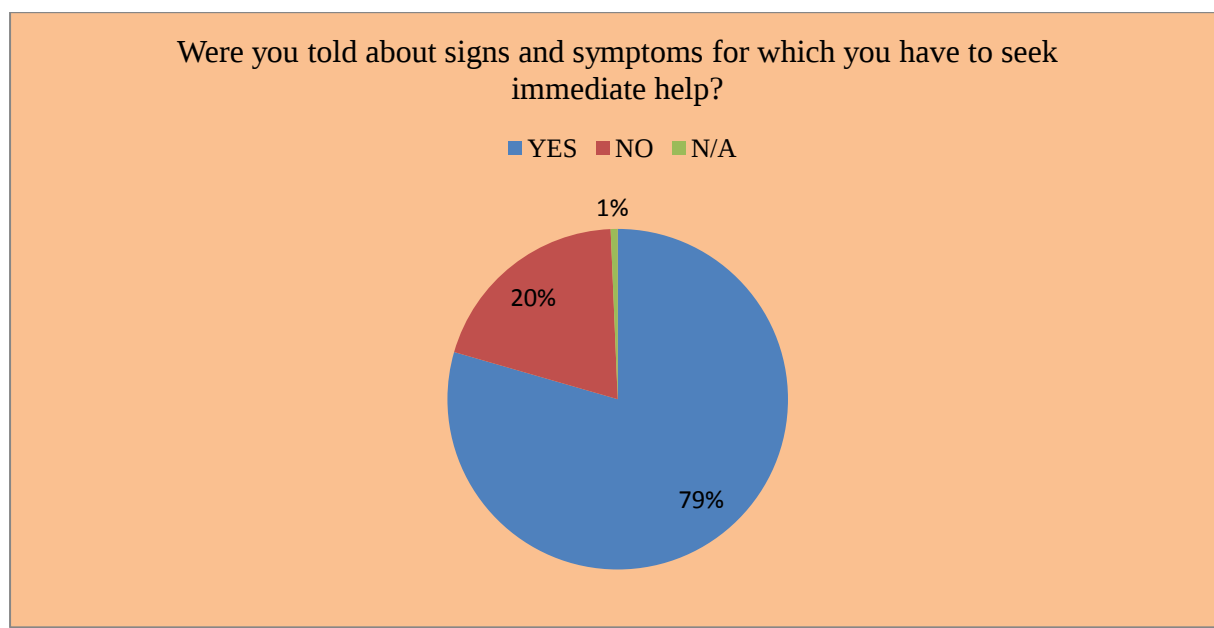


**INFERENCE-**

The above graph reveals that 78% of patients were not informed about radiological safety measures whereas 5% of the patients agreed that they had been provided with basic information regarding radiological safety measures.

Out of total, 17% of patients had not undergone any radiological examination.

**FIGURE -9**



**INFERENCE-**

The above pie chart reveals that 79% of patients agreed that they were told about signs and symptoms if persists post discharge, for which they have to seek immediate help whereas 20% had not been told about such signs and symptoms.

Out of total, 1% of the patients were those patients who were here for investigation purpose

**OBSERVATIONS AND FINDINGS**

- The guidance that is needed by patient was made available to them but that was not up to the mark.
- The patient education varies as per his/her interaction with different healthcare professionals at each level in hospital.

### **Positive observation-**

- The patient was identified by his/her name from healthcare professionals at every point of interaction that helps in reducing miscommunication of cases while rendering services.
- Patient was properly informed about his/her treating team, so as to avoid any confusion regarding roles of healthcare professionals.
- The patient was provided with information regarding his illness so as to make him/her aware about the time taken in recovery.
- The information regarding his/her plan of care was being communicated to the patients properly.
- Patients were told about the approximate budget of treatment so that they can be well aware about all the expenses during hospital stay.
- While undergoing any surgical intervention they have made well versed with all the positive and negative factors related to that surgery.
- Information regarding their medication was provided by nursing staff before administration.
- Patients have been informed about safety measures like call bells, bedside rails, etc. by nursing staff.
- Patient diet plan is discussed with them during their hospital stay and even they have been told about what they should take after getting discharged.
- Information regarding post discharge follow up was given to them.
- Patients were satisfied with the information and services provided by the doctors.

### **Area of improvement-**

- The information regarding consent form was not properly conveyed to the patients so somewhere patient feels left out in this matter.
- Patients were found to have limited information regarding washroom bell. Patients came to know about that by their own.
- Patients were found to have limited information regarding emergency fire exits in case of fire.

- Patients were not informed about the radiological safety measures; they had very limited information regarding this.
- Patient education lacks in case of their blood related or laboratory examination, as they were not provided with proper information.
- Patients were found to have limited information regarding when to seek emergency care post their discharges.
- Patients were not told about emergency contact number.

## **CONCLUSION**

Patient education can be defined as a series of deliberate information materials designed to improve knowledge, self-efficacy, and health behaviors. It is established that appropriate health information delivery can empower patients, improve health outcomes, and enhance quality of life. Therefore, continued development of education delivery is essential. Knowledge/recall is a vital component of patient information with the potential to improve shared decision making, health behaviors, and, ultimately, outcome. The challenge is clearly on how to help patients take care of themselves with coordinated support from professionals, particularly nurses, who comprise largest body of healthcare professionals worldwide. As yet, there is no “one size fits all” solution to patient education, an individualized information is most effective. By analyzing these gaps and with the help of developing technology, we can overcome the problems and can educate patient in a better way leading to improved health outcomes.

## **RECOMMENDATIONS**

- As patient education is an essential part of patient care, so it should be provided to the patient at every level of care.
- A proper patient education system should be designed.
- The system of categorizing the Patient’s education should be implemented depending upon the requirements of the patient.
- Starting from first point of contact, Patient comes in contact with the reception or front desk office first, so patient education should be started from that point.
- As proceeding further, when patient get admitted in ward. He/she should be made aware of every thing related to his/her safety.

- Here in hospital patient have been provided with information but few important usually missed out like in case of washroom bells, fire exits, etc.
- Today technology is the best source of information, taking advantage of that we can develop an online portal that will have all the relevant information regarding patient education.
- By determining patient's learning style, we can provide information by a variety of techniques. Like if patient learns best by watching or by reading, provide them with some visual aids or pamphlets with all the written materials regarding information required during hospital stay.
- To effectively educate a patient, there is need to stimulate the interest of patient about knowing that thing. It can be done by making them actively participate in decision making, asking about their preferences.
- While providing any information, involve their family members in patient teaching that will improve the chances that your information will be utilized.
- It is recommended that consent form should be explained to the patient/attendant well within time before surgery rather than getting it signed just before the surgery.
- It has been seen that due to lack of timing and too finish the task early some points are being missed. Here you can appoint one person who will look after for patient education at every point like he will be responsible to provide all the relevant information regarding treatment, plan of care, safety measures and at the time of discharge, he will explain the discharge summary including emergency contact number, etc.
- Sometimes all the instructions are given but patient may forget, in that case signs, poster, or pamphlets should be posted to make them remember all the necessary instructions.
- Few things can be taught by demonstrating.

### **Additional Recommendations**

- In some cases, language barrier may be reason of not reaching out of message to the patient. In that case Nurses should be trained more not to communicate in languages other than English & Hindi as it leads to communication barrier between the Nurses, Attendants, Patients & the other Staff who don't know that language.

## ANNEXURES

### 1. [patient education need data.xlsx](#)

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## **Project-III**

**TOPIC- SAFETY MEASURES TAKEN FOR THE EMPLOYEES WORKING IN  
RADIOLOGY AND LABORATORY DEPARTMENT**

## **INTRODUCTION**

Health and safety in clinical laboratory and radiology is becoming an increasingly important subject as a result of emergence of highly infectious diseases such as hepatitis and HIV. Employees in radiology department are exposed to multiple risk, including injuries due to radiation exposure, poor ergonomics, or repetitive stress; those caused by wearing lead aprons or moving heavy equipment's for portable studies; and in laboratory employees can face needle stick injury resulting in exposure to body fluid or they can come in contact with contaminated blood, fumes, toxic gases and harmful chemicals, etc. or we can say many more other hazards which may be found in laboratory as well as in radiology. Codes of practice and guidelines are documented which specify safe practices for particular task and occupation.

Radiology and laboratory are the area of healthcare, do complex work in which mistakes can cause great harm. In an effort to promote the employee safety and efficient health care delivery in radiology and laboratory department, hospitals are implementing the values of high-reliability organizations (HRO). Strategies to mitigate or prevent such risks include ergonomics and many others initiatives for radiologists and technologists, appointment of a safety officer to ensure compliance with radiation and laboratory precaution guidelines and policies, and use of equipment that prevents exposure to body fluids and injuries.

In addition, there are regulations and guidelines from various government bodies on occupational radiation dose limits, handling of isotopes and chemotherapy agents, contact with patients with airborne infections, needle stick injuries, come in contact with contaminated blood and harmful chemicals. A comprehensive staff safety program was developed for radiology and laboratory department to provide a framework for staff injury prevention and make them aware about the consequences. The important parts of a staff safety program are observational safety audits and walkabouts and a safety reporting tool for employees. Faculty education about workplace environmental risks and their consequences, compliance with policies and guidelines on environmental safety, and development of a culture that encourages surveillance, reporting, and prompt action will go a long way toward improving overall safety for all workers in a radiology as well as in laboratory department.

Training programs are organised for the employees in radiology and laboratory so that employees can easily identify the risk factors. The safety instructor not only help the

employees to understand the policies and guidelines they will also help them to get aware about the correct scenario of working so that they can easily identify the risk factors and the consequences and can understand the rules and regulation and make the employees aware about the terms used in radiology as well as in laboratory because if they will not be aware about the terminology with their meaning so they will not be capable enough to understand the policies and guidelines which are supposed to be followed for the working purpose as well as for the safety purpose and after learning all these things they implement their knowledge in a better way and protect themselves as well as others from several harmful hazards .

### **LIETERATURE REVIEW**

**OSHA guidelines**-This guidance document is not a standard and it creates no new legal obligations. It contains recommendations as well as descriptions of mandatory safety and health standard. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace. The occupational safety and health act requires employers to comply with safety and health standards and regulations promulgated by OSHA or by a state with an OSHA – approved state plan. In addition, the act general duty clause, section 5(a).1, requires employers to provide their employees with a workplace free from recognised hazards likely to cause death or serious physical harm.

Radiation may be defined as energy traveling through space. Non-ionizing radiation is essential to life, but excessive exposures will cause tissue damage. All forms of ionising radiation have sufficient energy to ionize atoms that may destabilise molecules within cells and lead to tissue damage

Radiation sources are found in a wide range of occupational settings. If radiation is not properly controlled, it can be potentially hazardous to the health of workers.

### **NABH guidelines –**

Accreditation of medical diagnostic services is the need of the hour. NABH accreditation for MIS is based on optimum standards and professional accountability, and encourages healthcare organisations to pursue excellence.

The formulated standards have focused on statutory compliance, patient and staff safety, improved workflow, learning, self-development, improved performance, and reduction of risk.

Its assessment relies on establishing management and technical competence in terms of accreditation standards, for delivering all the services within its scope. It goes beyond compliance and calls for the pursuit of excellence on a continuing basis.

### **NABL guidelines –**

NABL is a society which provides accreditation recognition of the technical competence of a testing or calibration medical laboratory for a specific task following ISO/IEC . It is associated with Asia Pacific Accreditation Corporation (APLAC) , Mutual recognition arrangements (MRA) , International laboratory accreditation cooperation (ILAC).

Its scope of accreditation extends to

- Testing laboratories  
Biological, chemical, electrical ,electronics , fluid , flow , mechanical , non – destructive , photometry , radiological and thermal .
- Calibration laboratory  
Electro – technical, mechanical, fluid flow, thermal and optical radiological.
- Medical laboratory  
Clinical biochemistry, clinical pathology, haematology, immunohematology, microbiology, serology, histopathology, cytopathology.

### **RATIONALE**

The basic focus of this study is the safety measures for the employee working in radiology and laboratory in hospital by which we can assess the modes of safety precautions for the employees and we can also assess that how much employees are following those safety protocols.

### **OBJECTIVE**

- To assess the knowledge of employees regarding safety precautions while doing work in laboratory and radiology department.
- To acquire the information needed to recognise and control hazards in the laboratory as well as in radiology.

### **RESEARCH METHODOLOGY**

**STUDY DESIGN-** Observational study.

**RESEARCH APPROACH** – Qualitative and Quantitative

**SAMPLE TECHNIQUE-** simple random sampling

**LOCATION** – radiology and laboratory department of Max, saket, hospital.

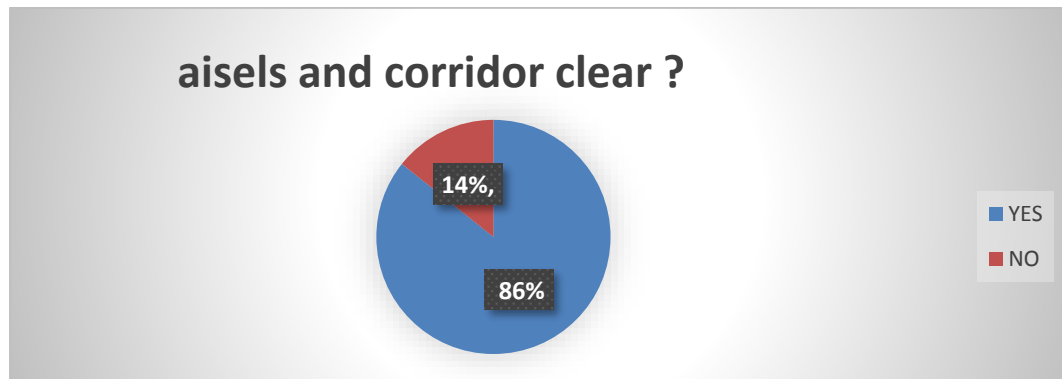
**PRIMARY DATA** – structured checklist

**SECONDARY DATA** – Research papers, articles and guidelines

## DATA ANALYSIS AND ITS INTERPERATION

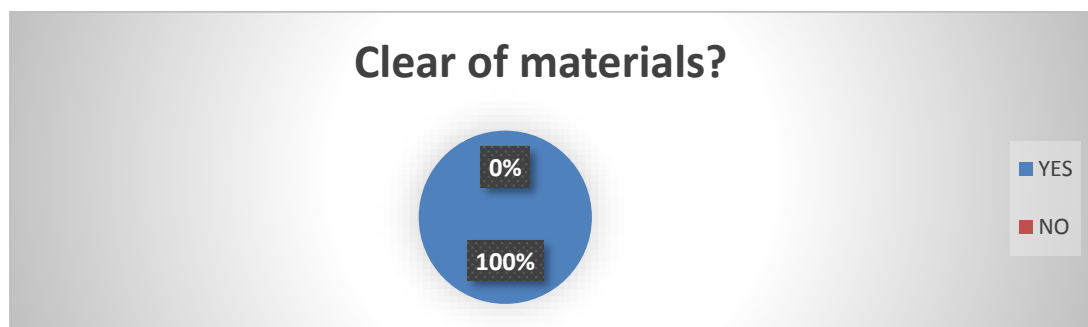
### RADIOLOGY GRAPGH

#### 1- AISELS AND CORRIDOR



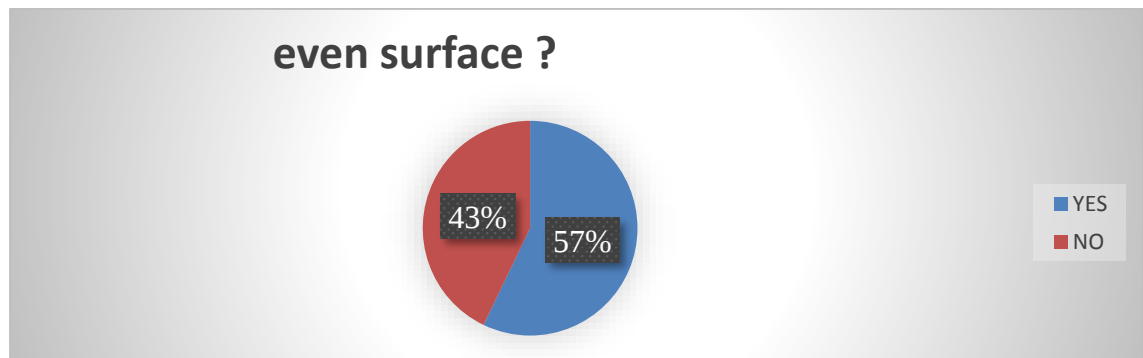
This graph shows that in radiology department 14% shows that some portion of the department corridors were not clear and 86% shows that the corridors were clear .

#### 2 -CLEAR OF MATERIALS IN CORRIDORS?



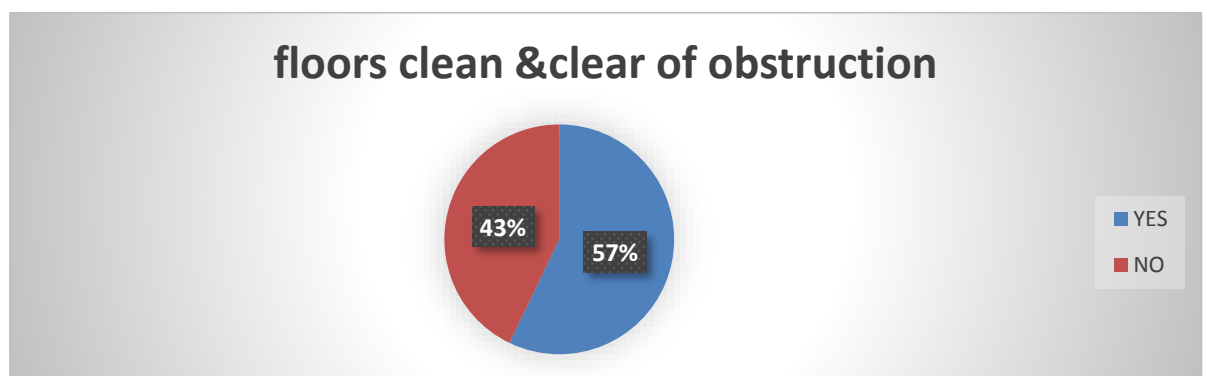
This graph shows that all the section of radiology department were clear of materials.

### 3-EVEN SURFACE OF FLOORS?



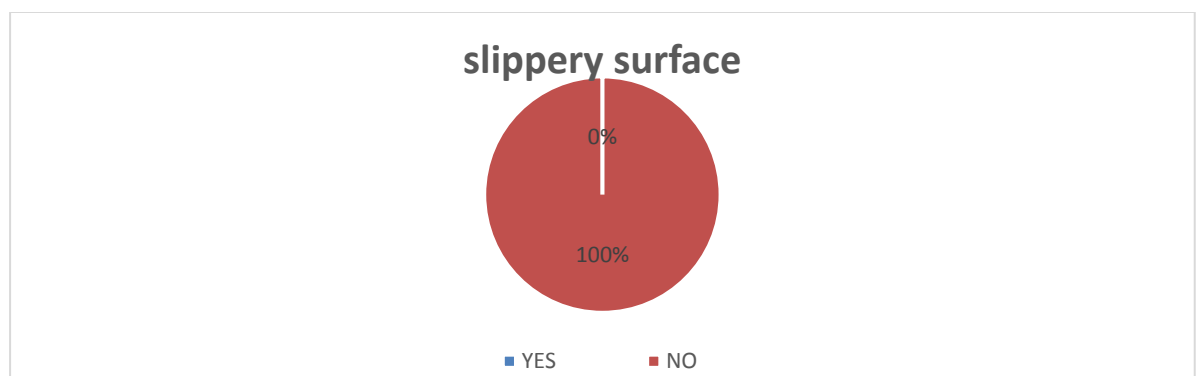
This graph shows that 43% of floors were not consist of even surface and 57% of the floor was even in all the section of radiology department.

### 4-FLOORS CLEAN AND CLEAR OF OBSTRUCTION?



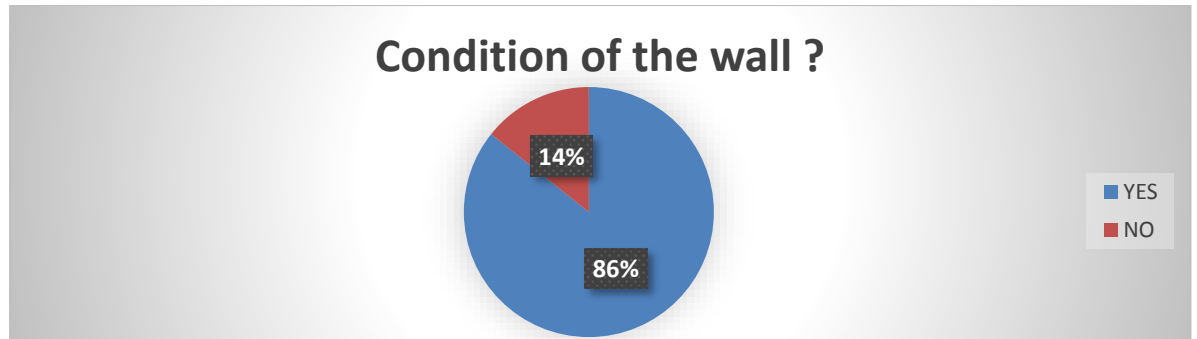
This graph shows that 43% of the floors were not clean and clear of obstruction and 57% of the were clean and clear of obstructions in all the section of radiology.

### 5-FLOORS ARE SLIPPERY OR NOT?



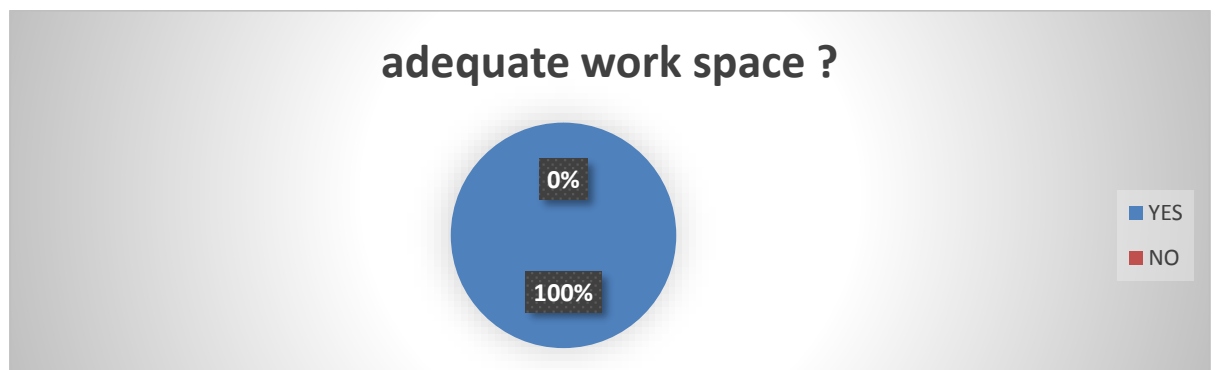
This graph shows that the floors were not slippery in all the section of radiology department.

#### 6-CONDITION OF THE WALLS?



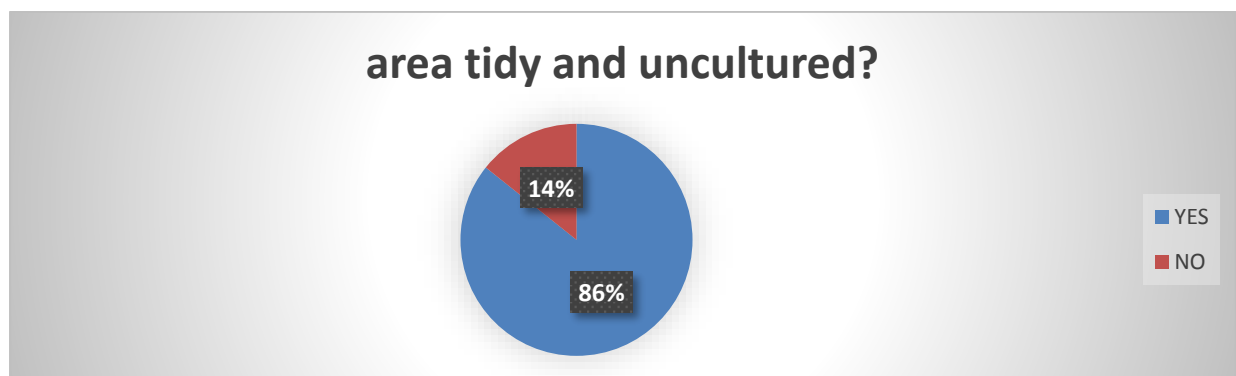
This graph shows that some section of the radiology department were not having the good condition of the wall like it is showing in 14% and 86% shows that some section of the department have good condition of the wall.

#### 7-ADEQUATE AREA OF WORK?



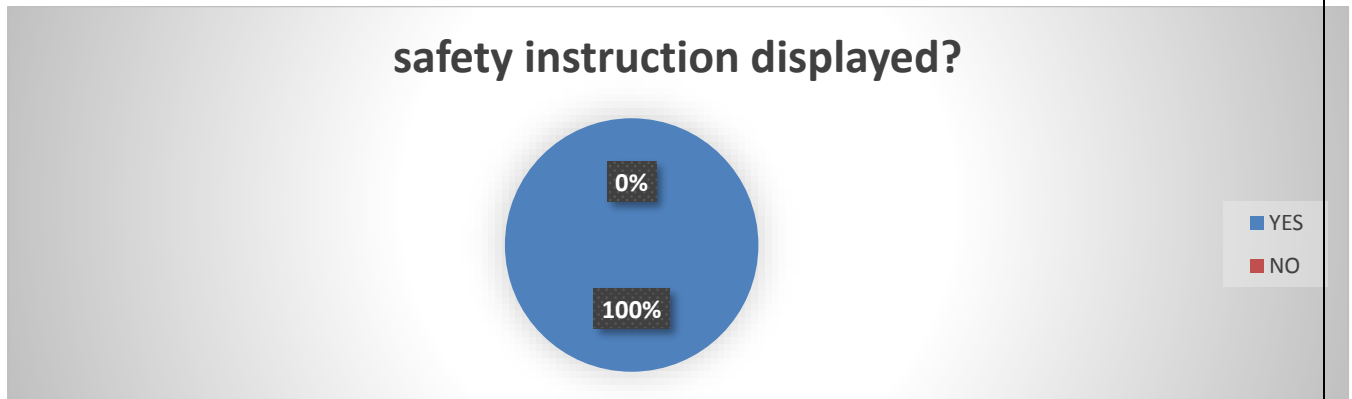
This graph shows that the department comprises of adequate amount of space for their work.

#### 8- AREA TIDY AND UNCLUTTURED?



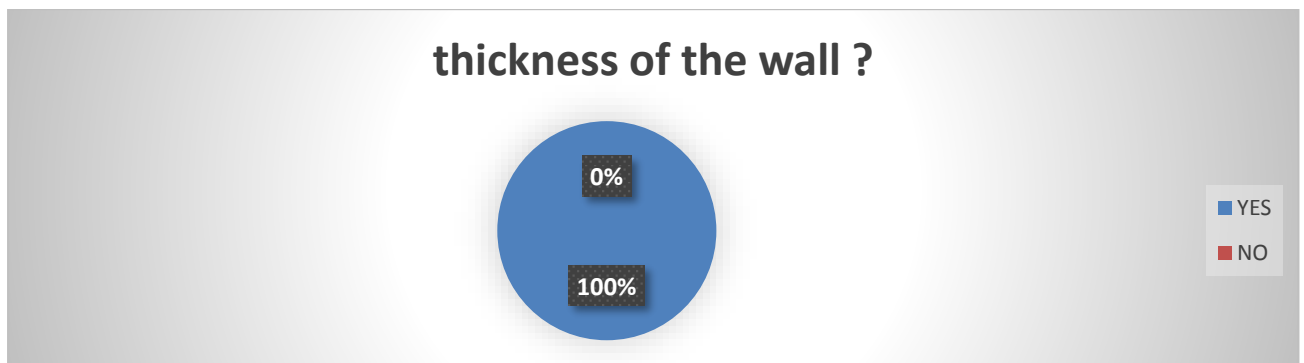
This graph shows that 14% of area was not tidy and 86% of the area shows that area was tidy and uncluttered including all the section of the radiology department.

#### 9- DISPLAY OF SAFETY INSTRUCTION AT WORK PALCE?



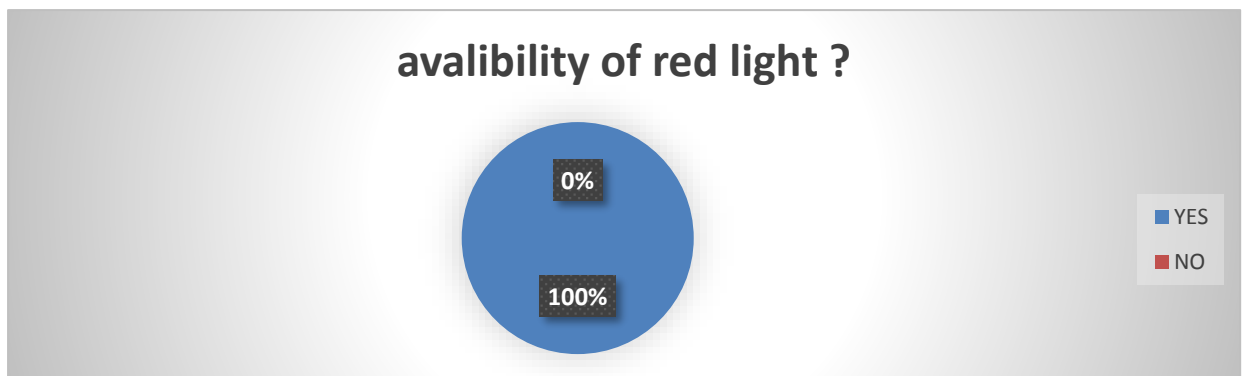
This graph shows that all the safety instruction was displayed at the work space (100%)

#### 10- THICKNESS OF THE WALL?



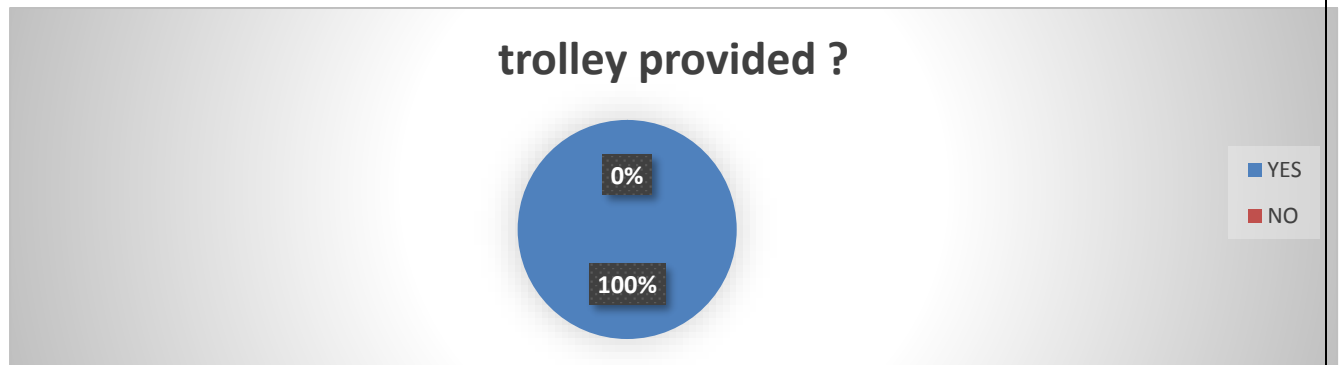
This graph shows that thickness of the wall in labs were appropriate (100%).

#### 11- AVAILABILITY OF RED LIGHT OUSTSIDE THE LAB



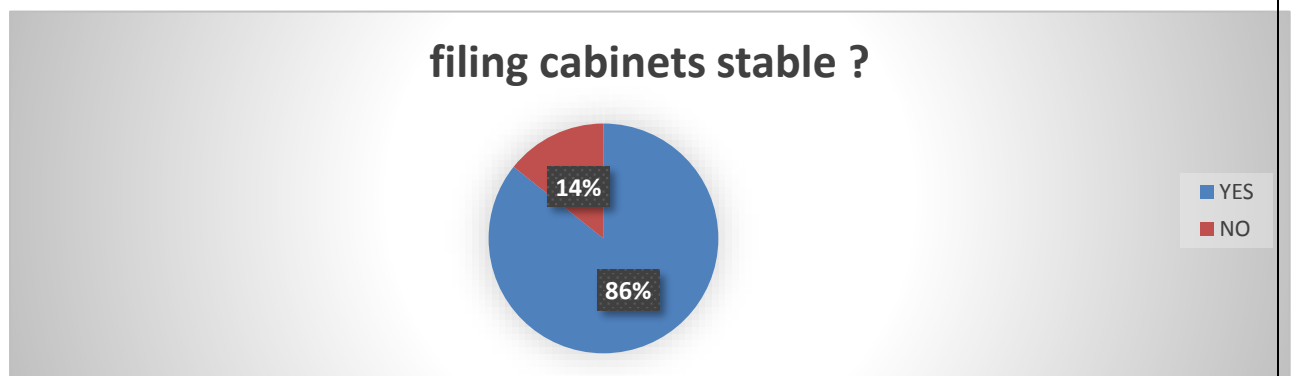
This graph is showing that every section in radiology department was having red light outside the rooms as its shown 100%.

#### 12- AVAILABILITY OF TROLLEY IN LABS AND CORRIDORS?



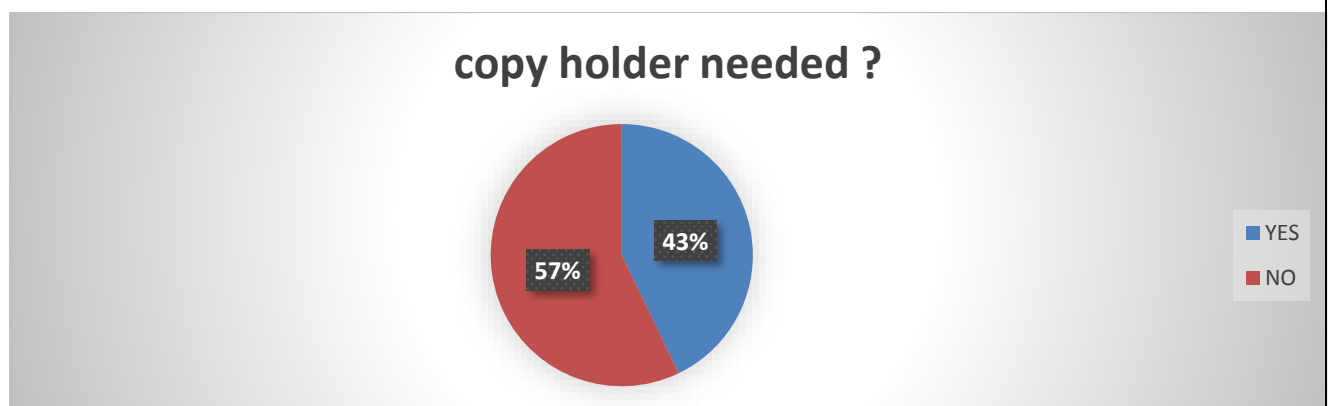
This graph is showing that trolleys were available in labs as well as in corridors .

#### 13- STABLE CABINETS?



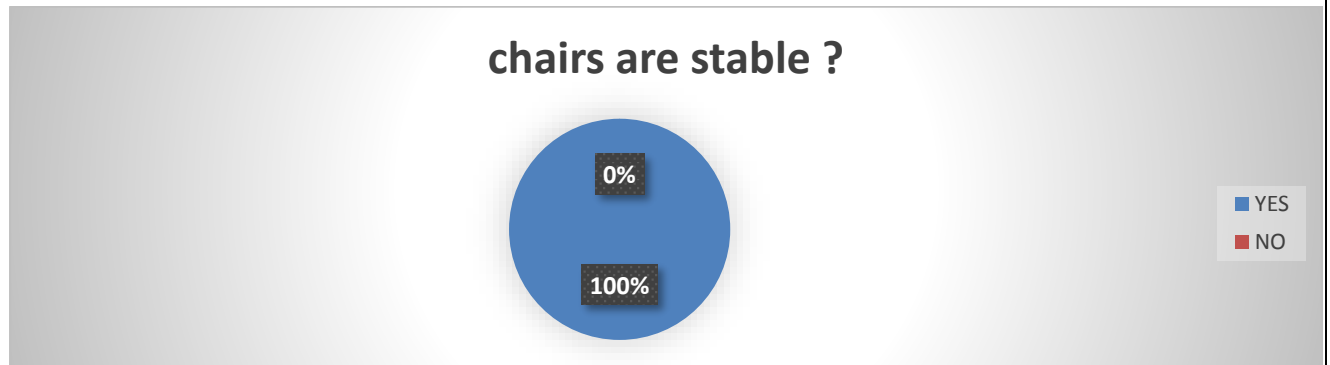
This graph is showing that 14 % cabinets were not stable and 86% shows that the cabinets or we can say shelves were stable.

#### 14- NEED OF COPY HOLDERS?



It resembles that 43% of the section of the labs need copy holder for their work and 43% don't need copy holder for their work.

#### 15- STABILITY OF CHAIRS?



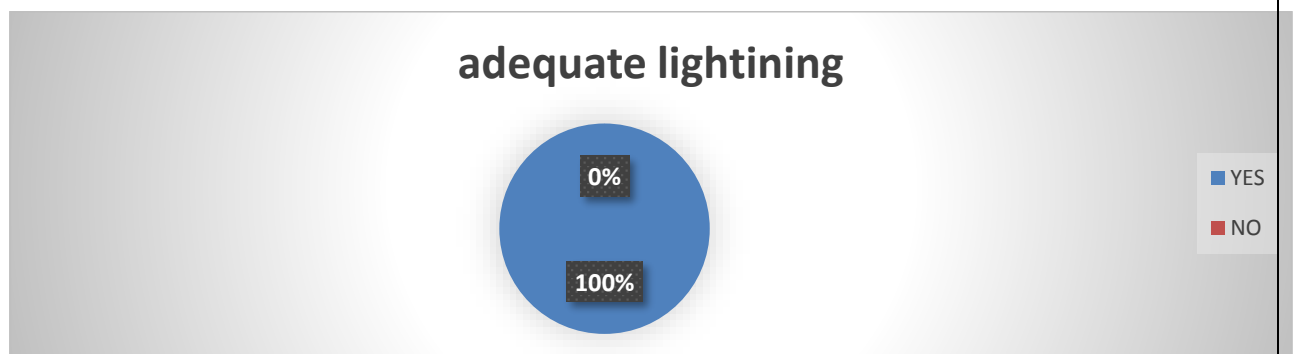
It shows (100%) that chairs were stable and good in condition .

#### 16- RUSTED FURNITURE?



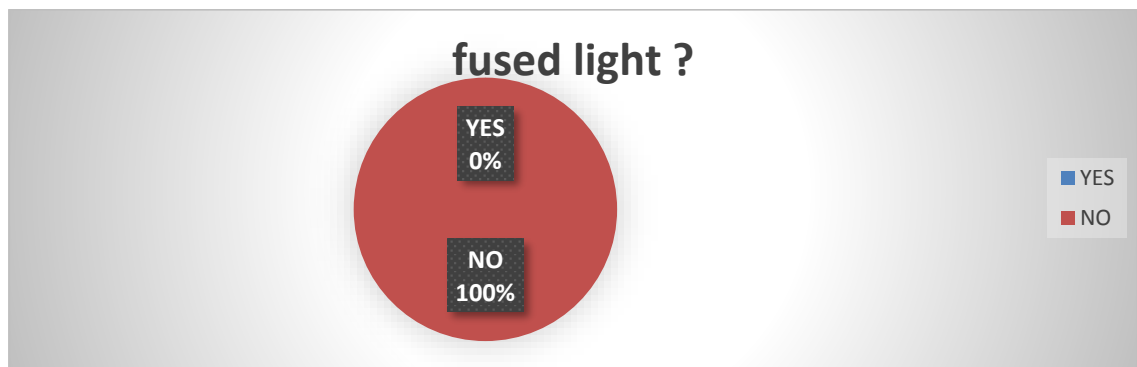
It shows (100%) that all the furniture used in the department are good in conditions and in working conditions.

#### 17- ADEQUATE LIGHTING IN THE DEPARTMENT?



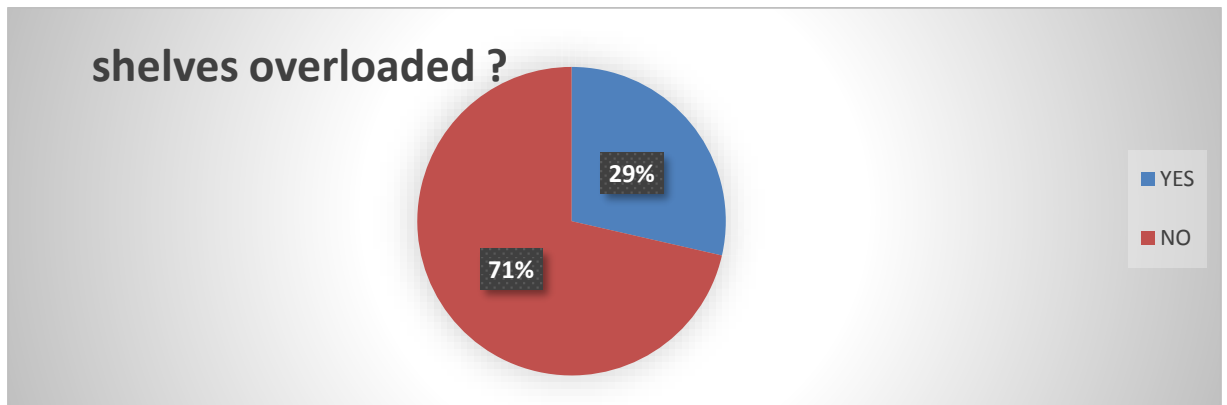
It shows that lightning was proper in radiology department (100%)

### 18- FLICKERING OF LIGHT?



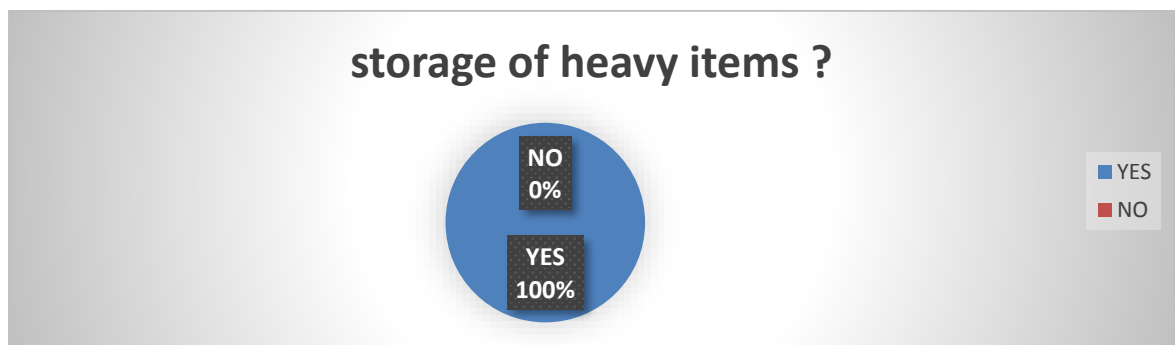
It shows that all the bulbs and tube lights are in good working conditions (100%).

### 19- SHELVES ARE WELL ARRANGED OR NOT?



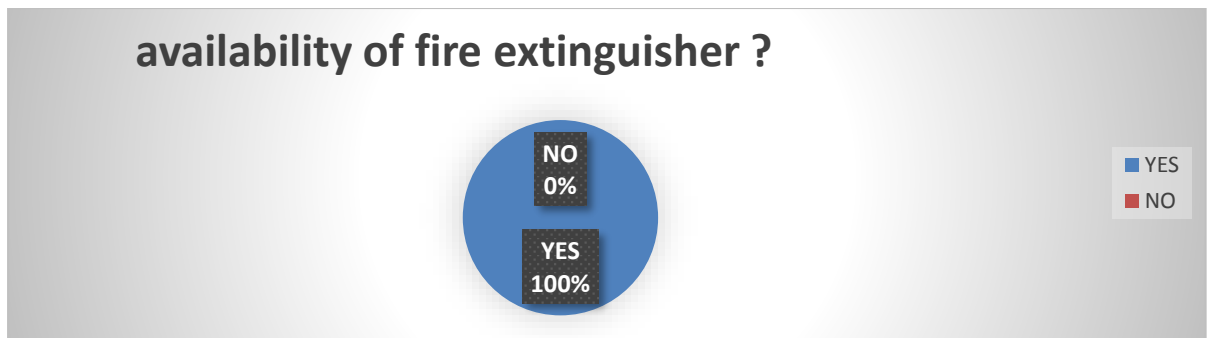
This graph resembles that 29% shows shelves were not overloaded in the different section of the department and 71% shows shelves were overloaded or we can say not properly arranged in different section of the department.

### 20- STORAGE OF HEAVY ITEMS AT WAIST SIZE?



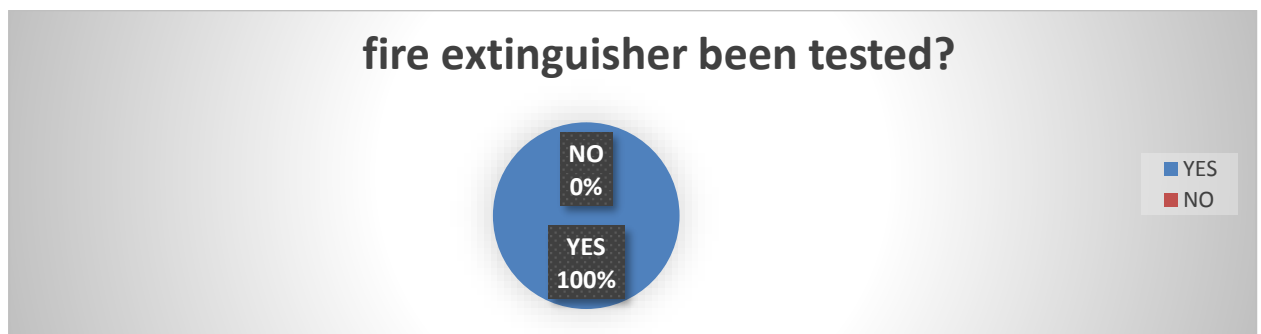
This graph shows that all the heavy items were stored at waist size (100%).

#### 21- AVAILIBLTY OF FIRE EXTINGUISHER?



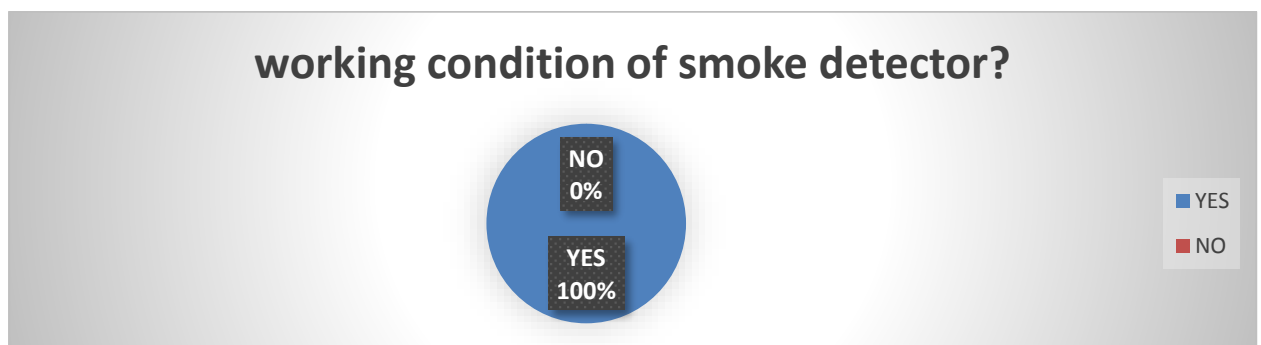
This graph shows that fire extinguishers were available everywhere in the department (100%).

#### 22- TESTING OF FIRE EXTINGUISHERS?



This graph shows that fire extinguishers are tested regularly and tagged with a label and the result is 100%.

#### 23- WORKING CONDITION OF SMOKE DETECTORS?



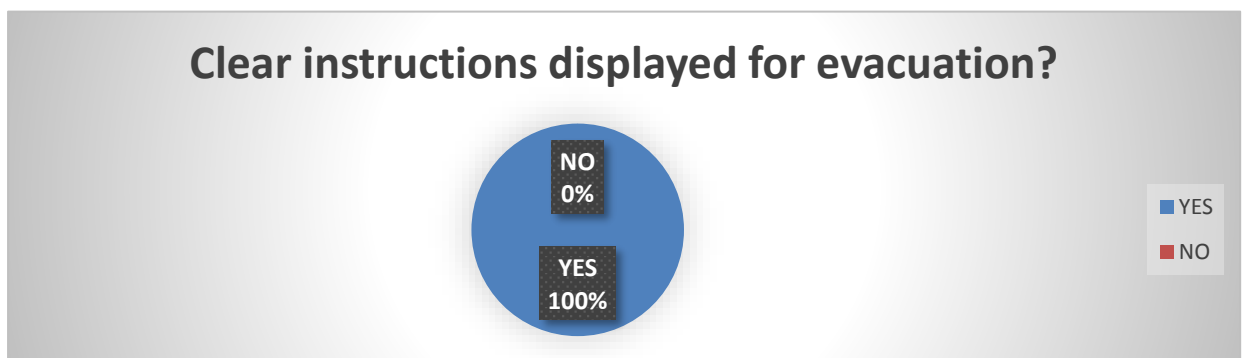
The result is 100% which means the working condition of smoke detectors are good and maintained.

#### 24- SMOKE DETECTORS AND SPRINKLERS ARE OBSTRUCTION FREE?



This graph is showing that smoke detectors and sprinklers are 100% clear of obstructions.

#### 25- CLEAR INSTRUCTIONS DISPLAYED FOR EVACUATION



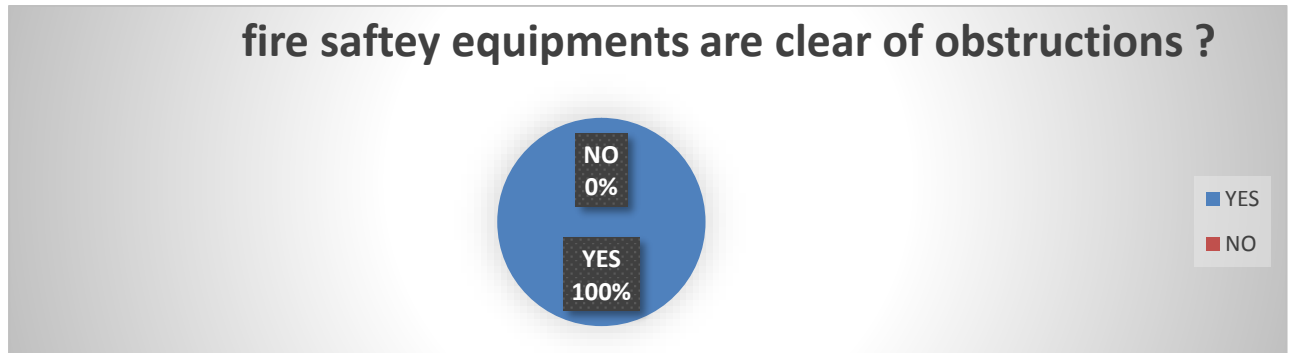
This graph is representing the 100% result for clear display of evacuation instructions.

#### 26- ADEQUATE DIRECTION SIGN DISPLAYED FOR EMERGENCY EXITS?



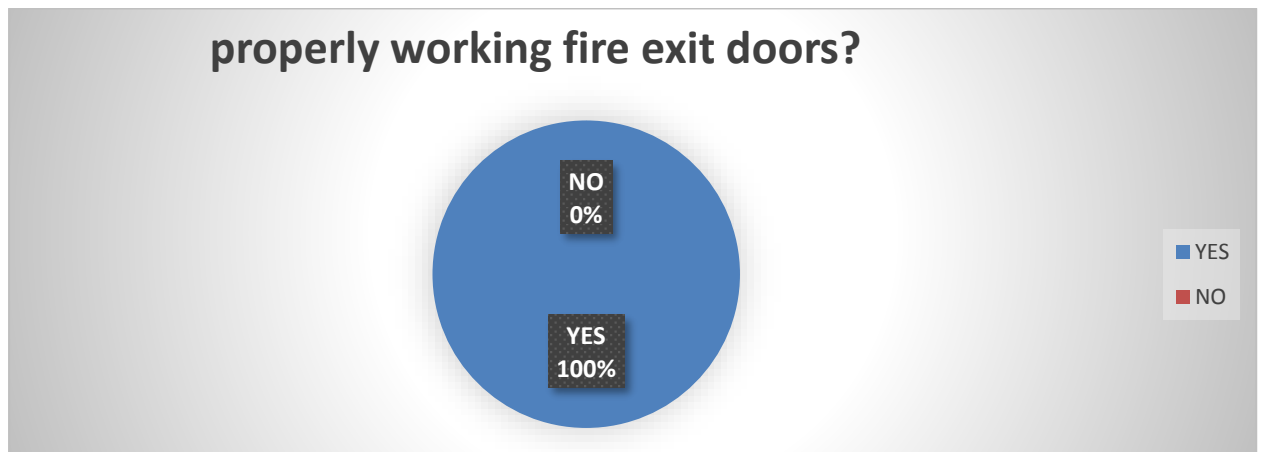
This graph is showing that emergency exit sign was clearly displayed

**27- FIRE SAFETY EQUIPMENTS ARE CLEAR OF OBSTRUCTIONS?**



This graph is showing the 100% result for fire safety equipment's were clear of obstructions.

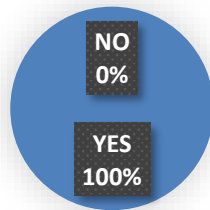
**28-FIRE EXIT DOORS ARE PROPERLY WORKING OR NOT?**



This graph is showing that the fire exit doors were functioning properly.

**29-FIRE EXIT DOORS AND EMERGENCY EXIT DOORS ARE CLEAR OF OBSTRUCTIONS?**

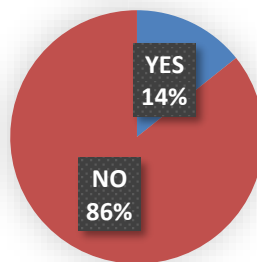
## fire exits and emergency exit doors are clear of obstructions



This graph is showing the 100% result for the clearance of obstructions for emergency exits and fire exits.

### 30 – LOOSE WIRES?

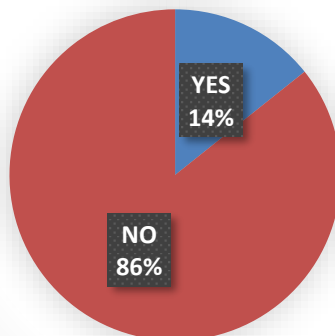
#### Loose wires ?



In this graph 14% is showing that some sections of the department is facing the issue of loose wires and 86% is showing the section of the department are not facing this problem.

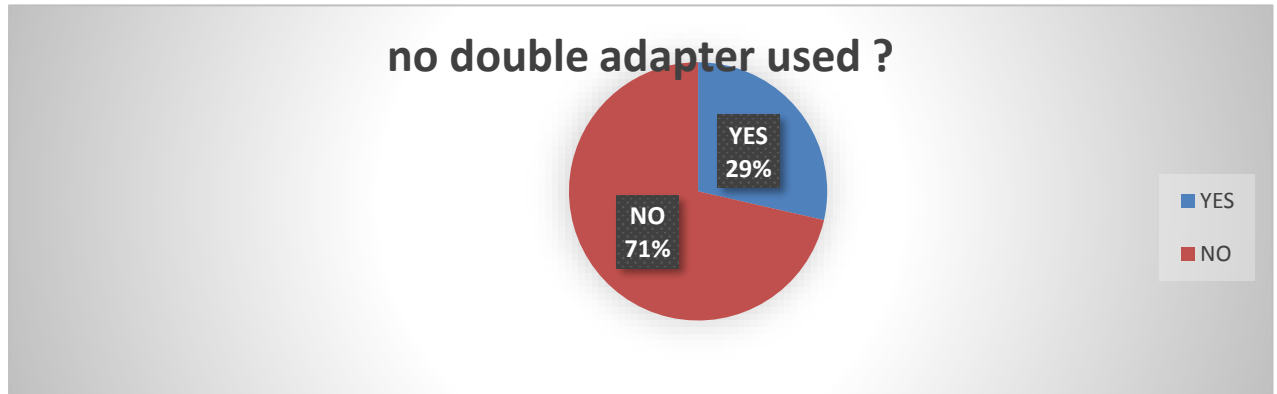
### 31- BROKEN SOCKETS AND PLUGS?

#### broken sockets and plugs ?



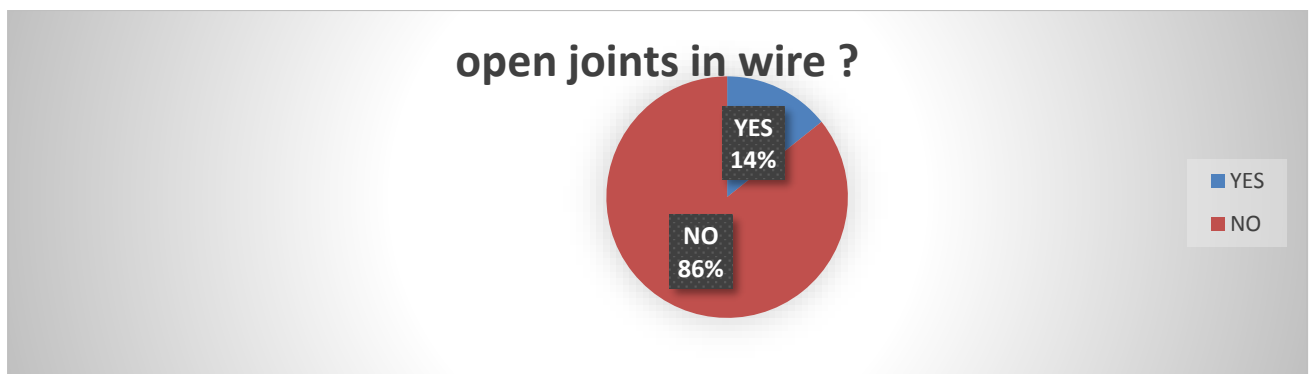
In this graph 14% is showing that some sections of the department facing this issue and 86% is showing that some section of the department are not facing this issues.

### 32- USE OF DOUBLE ADAPTERS?



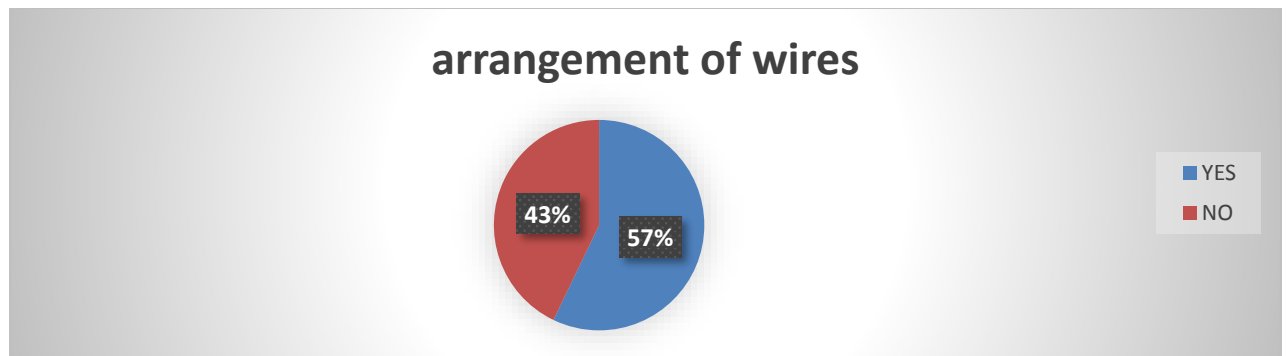
In this graph 29% is showing that some of the section of radiology use double adapter and 71% is showing no use of double adapter .

### 33- OPEN JOINTS IN WIRES ?



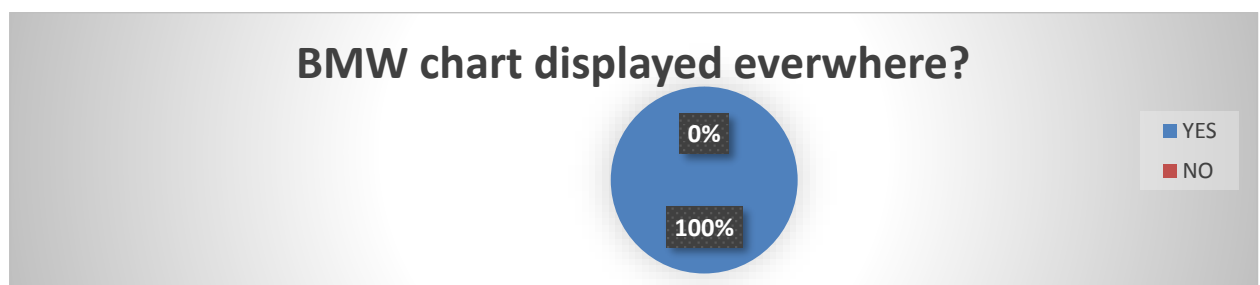
This graph is showing that 14% is indicating towards the open joints of wire in some section of the radiology department and 86% is indicating that there is no open joints of wire in some section of the department.

### 34- ARRANGEMENTS OF WIRES?



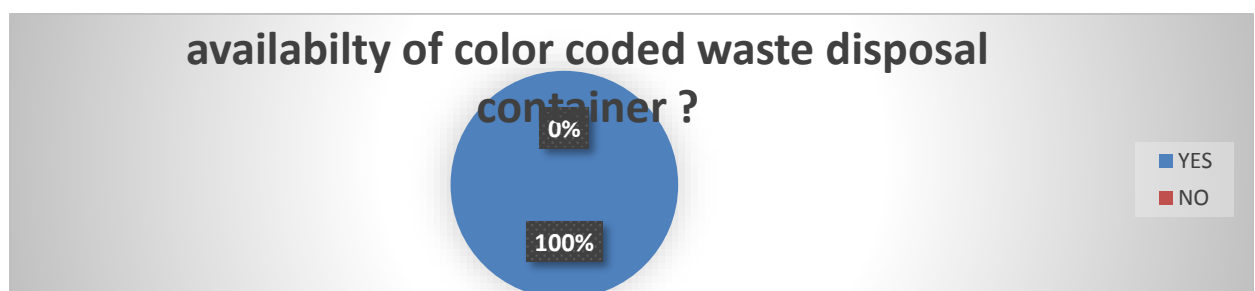
This graph is showing that 43 % area of the department have not arranged the wires properly and 57% area of the department have arranged the wires.

### 35- BIOMEDICAL WASTE MANAGEMENT CHART DISPLAYED EVERYWHERE IN THE DEPARTMENT?



This graph is showing 100% result regarding the display of biomedical chart in every section of the department.

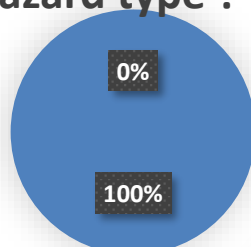
### 36-AVAILABILITY OF COLOUR CODED WASTE DISPOSAL CONTAINER?



This graph is indicating that the colour coded waste disposal was available in very section of the radiology department.

### 37- SEGREGATION OF WASTE MATERIAL ACCORDING TO HAZARD TYPE?

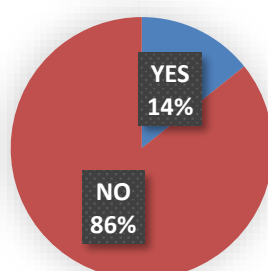
### segregation of waste materials according to hazard type ?



This graph is indicating that waste materials are used to be segregated according to their hazard type in every section of the department.

### 38- OVERFILING OF BINS?

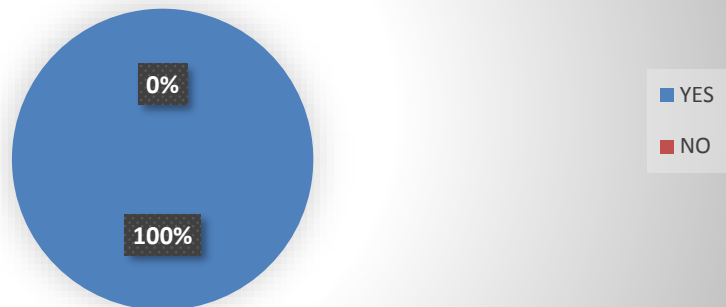
#### overfilling of bins



This graph is showing in some section of the radiology department were having the issue of overfilling of dustbin (14%) and some section of the radiology department were not having this issue (86%).

### 39- BINS EMPITED REGULARLY?

### bins emptied regularly?



This graph is showing that every section of the department is normal, they use to empty their dustbin at specific interval of time regularly.

#### 40- RECYCLABLE MATERIAL STORED SAFELY?

### recyclable material stored safely ?



This graph is showing that 14% is indicating that some section of the department have recyclable materials and they used to store them safely now 86% is showing that they don't store any recyclable material .

#### 41- DISPOSAL OF LEAD APRONS ?



This graph is showing 100%result for the disposal of lead aprons .

#### 42- COMMON ROOMS CLEAN AND TIDY ?



This graph is showing that common rooms were clean and tidy.

#### 43- ADEQAUTE DRINKING ,WASHING AND PAER TOWEL FACILITIES AVAILABILITY ?



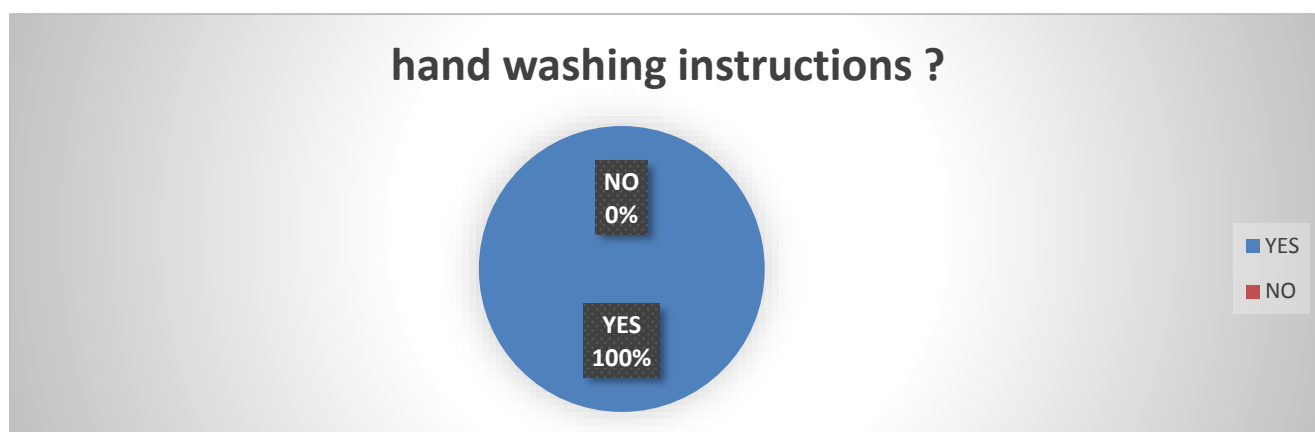
This graph is showing that all these facilities were available in every section of the radiology department.

#### 44- CLEAN TOILETS FACILITIES?



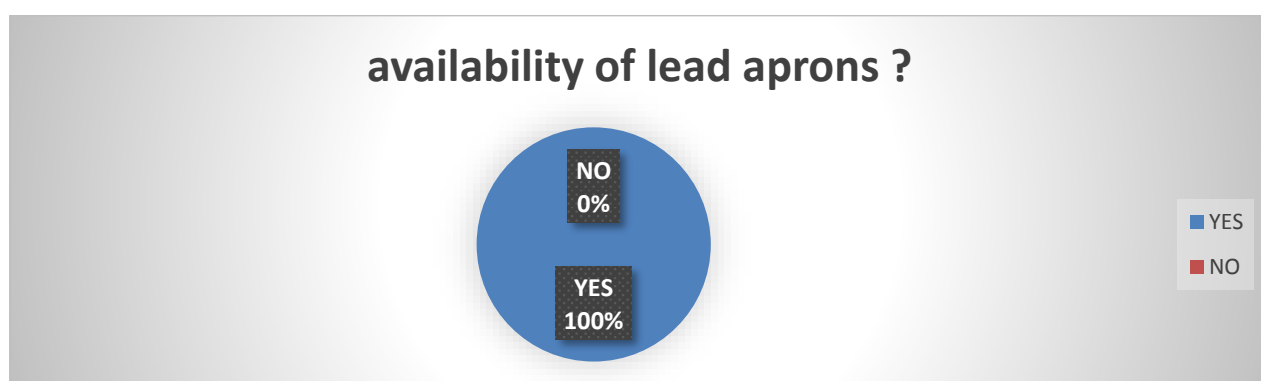
This graph is showing that the facility of clean toilets were available .

#### 45- DISPLAY OF HANDWASHING INSTRUCTIONS ?



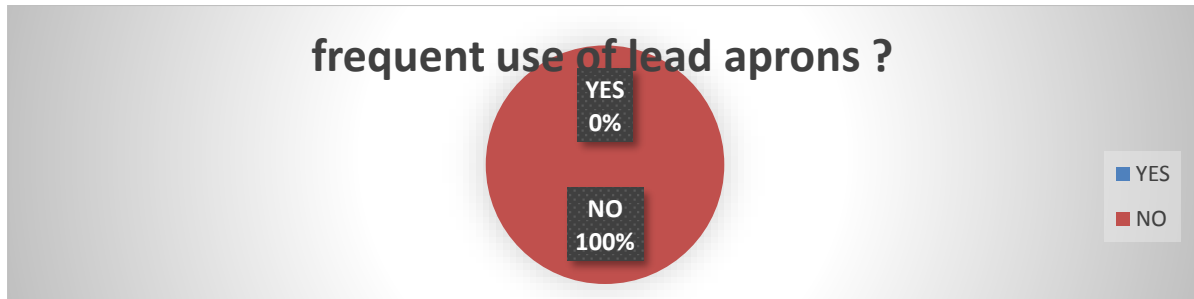
This graph is indicating 100% result about the display of handwashing instructions in every section of the department.

#### 46- AVAILABILITY OF LEAD APRONS ?



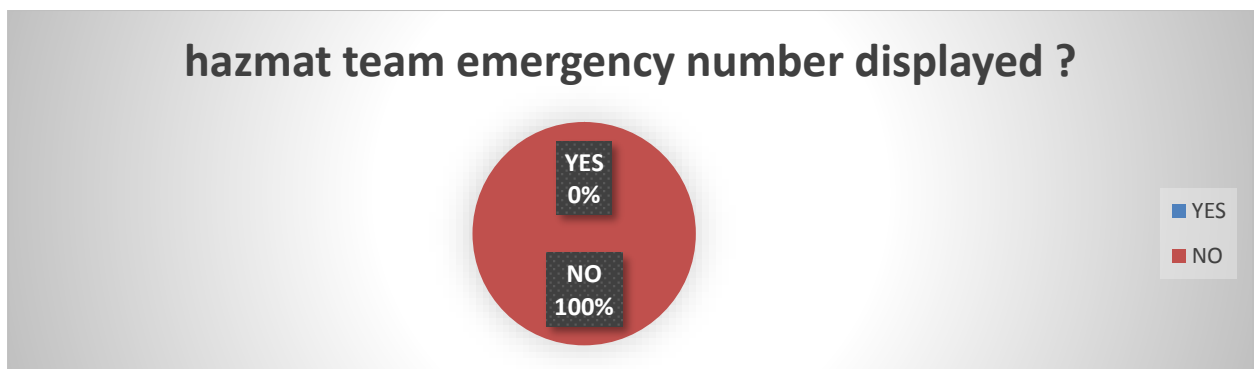
This graph is showing that lead aprons were available in every section of the radiology department.

#### 47-FREQUENT USE OF LEAD APRONS ?



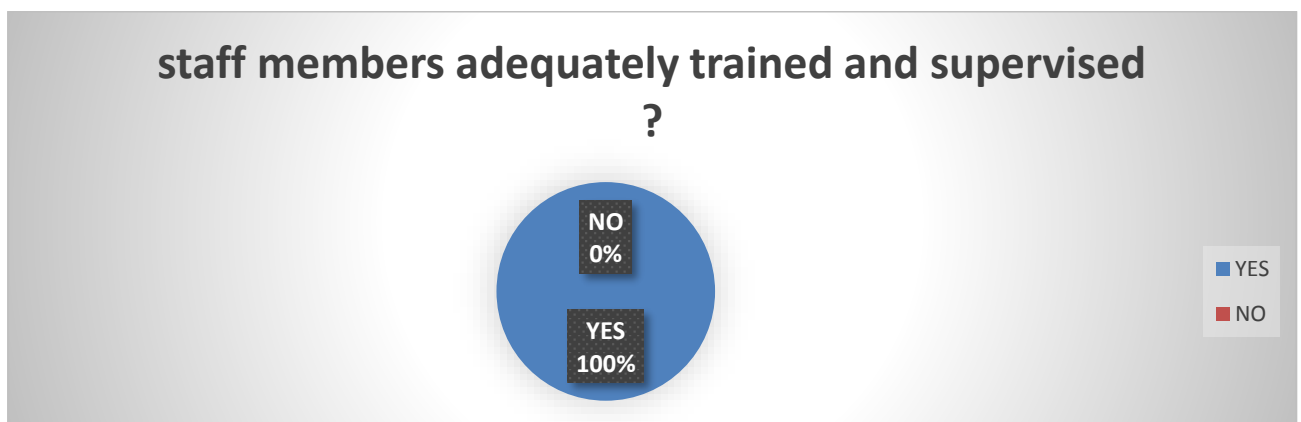
This graph is showing that no one in the department were using lead aprons for the protection purpose .

#### 48-DISPLAY OF HAZMAT TEAM EMERGENCY NUMBER ?



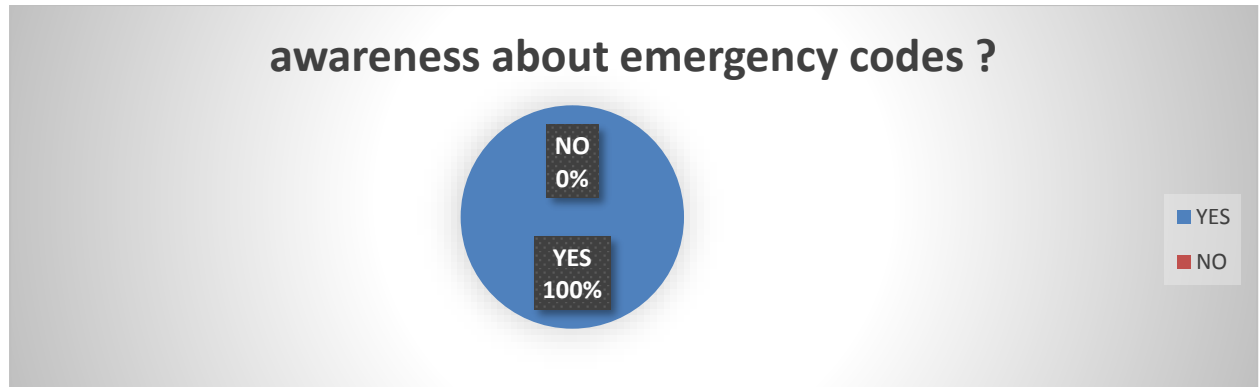
This graph is showing that there were no display of hazmat team emergency number .

#### 49-STAFF MEMBERS ADEQUATELY TRAINED AND SUPERVISED ?



This graph is representing the 100% result regarding the complete supervision of the staff working in the radiology department.

#### 50- AWARENESS ABOUT THE EMERGENCY CODES ?



This graph is showing that every employee or staff working in radiology department are aware of emergency codes in hospital.

#### 51- AWARENESS ABOUT SEXUAL HARRASEMENTS ?



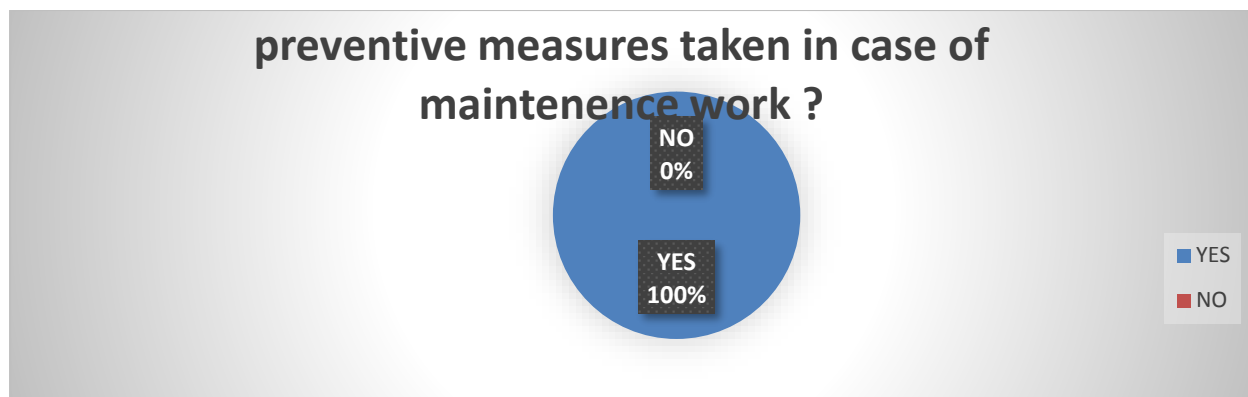
This graph is showing every employee is aware of sexual harrasement policies .

#### 52- COMPLAIN MANAGEMENT ?



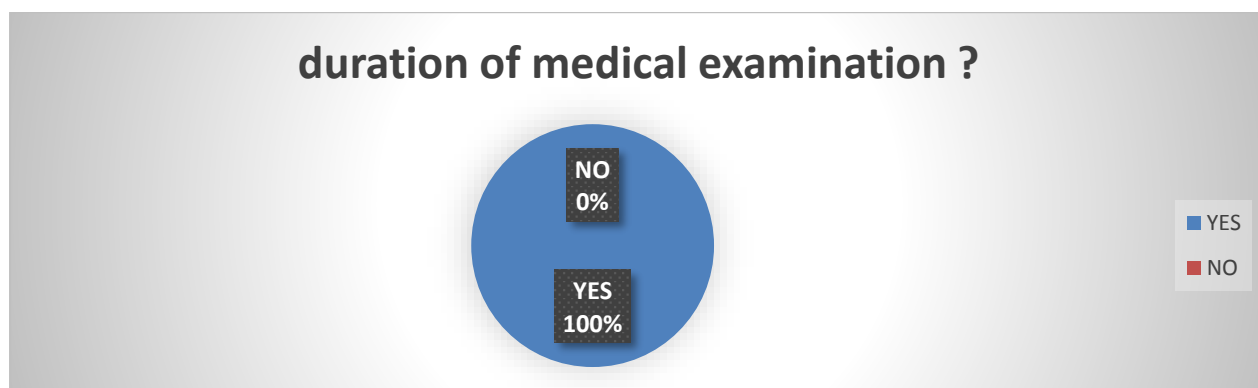
This graph is showing every employee working in radiology departemnt are aware of complain management system and their protocols .

#### 53- PREVENTIVE MEASURES TAKEN IN CASE OF MAINTENCE WORK ?



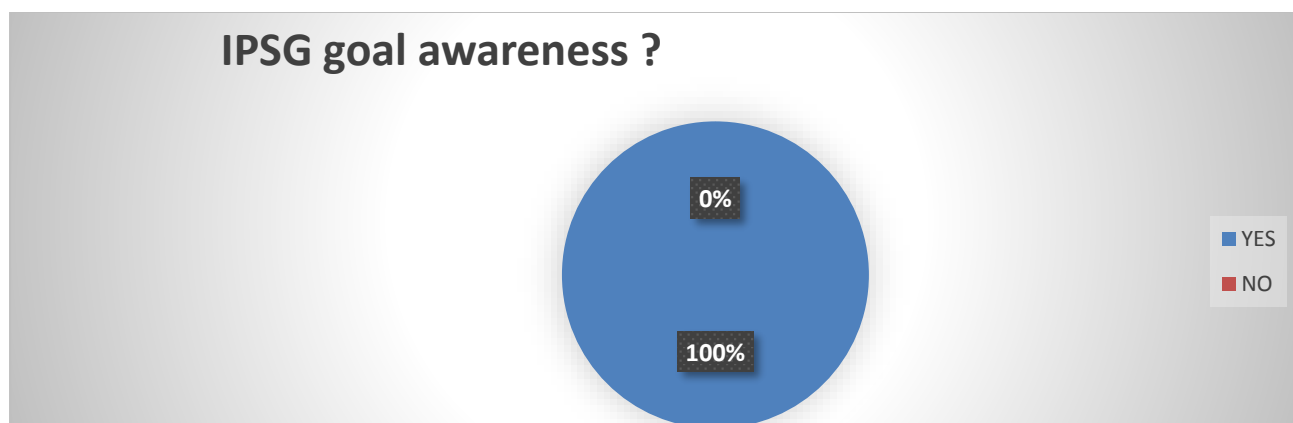
This graph is showing that employess working in every section of radiology department are aware about the preventive measures which are suppose to taken or followed in case of maintenance work .

#### 54- DURATION OF MEDICAL EXAMINATION ?



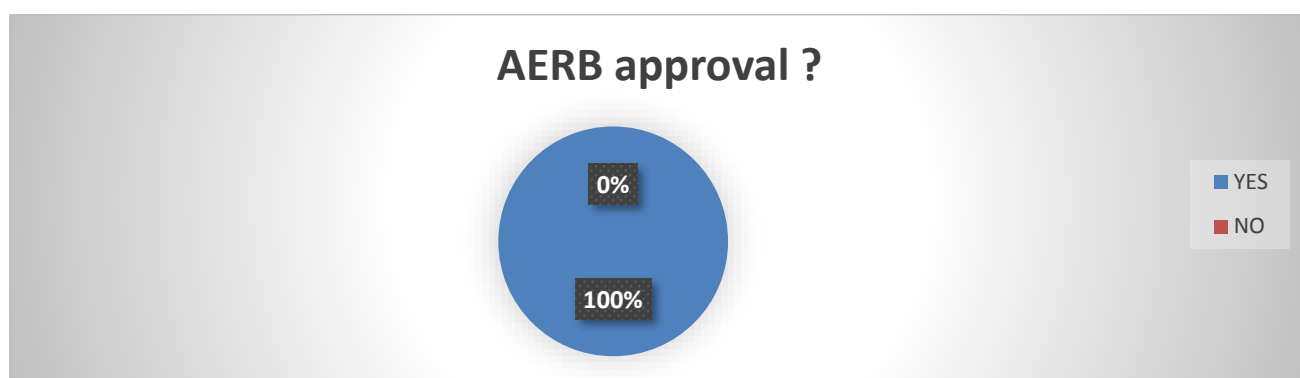
This graph is showing all the employess undergo the medical examination every year .

#### 55- AWARENESS ABOUT THE IPSG GOAL ?



This graph is showing every employee working in this department are totally aware of the norms of IPSG goals .

#### 56- AERB APPROVAL ?



This graph is showing that the department of radiology are having the approval of AERB for every section .

### 57- RADIATION SAFETY TRAINING PROGRAM ?



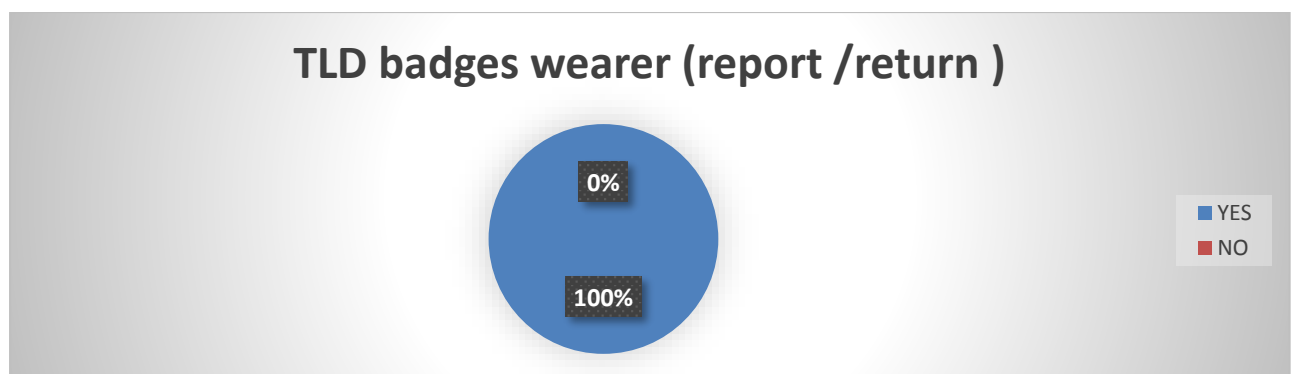
This graph represents that training programmes organised by the hospital for employees.

### 58- INFORMATION ABOUT THE HAZARDS TO WHICH EM[PLOYEES WILL GET EXPOSE TO?



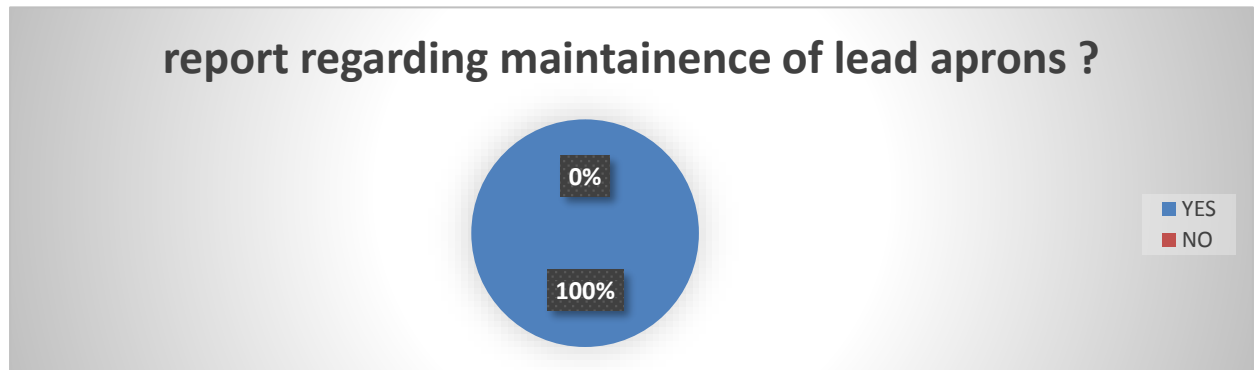
This graph is showing that all the information are provided by the hospital to the employyes so that they can know the that they are getting expose to which type of hazards .

### 59- TLD BADGES WEARER HAVE REVIEWD THEIR EXPOSURE REPORT AND TLD BADGES TO THE SUPPLIERS ?



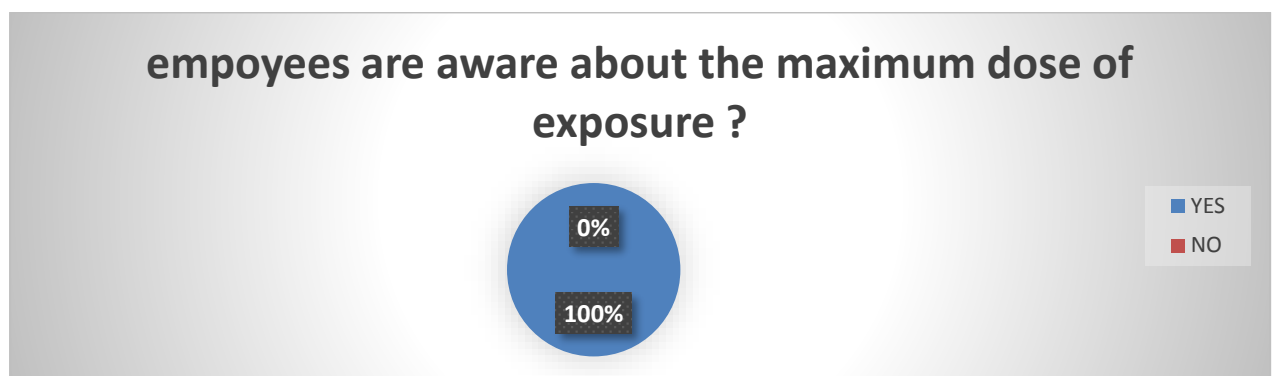
This graph is showing that the employees are totally aware about the use of TLD badge duration of use and their time of return to the suppliers .

#### **60- REPORT REGARDING MAINTENANCE OF LEAD APRONS?**



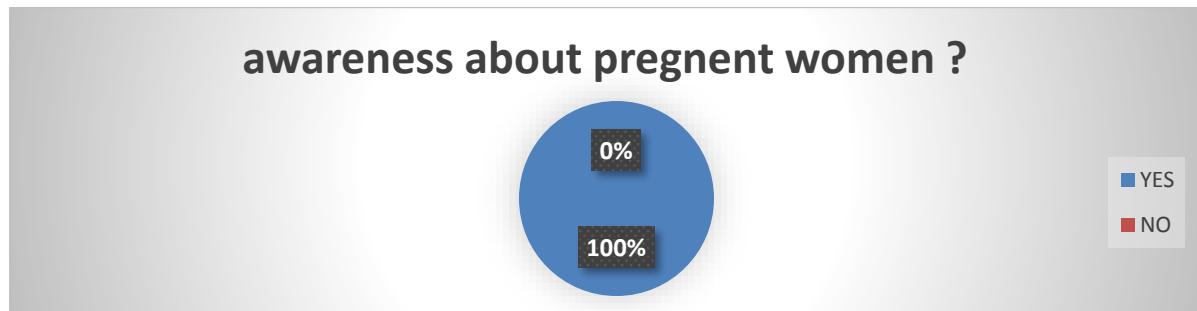
This graph is showing that lead aprons are mainatained by the department for the protection of employyes and a report is made to check the condition of the lead aprons .

#### **61- EMPLOYEES ARE AWARE ABOUT THE MAXIMUM DOSE OF EXPOSURE?**



This graph is showing that employees are aware about the maximum amout of dose of radiation exposure

**62- AWARENESS ABOUT THE INSTRUCTION WHICH HAS TO BE FOLLOWED IN CASE OF PREGNANT WOMEN?**



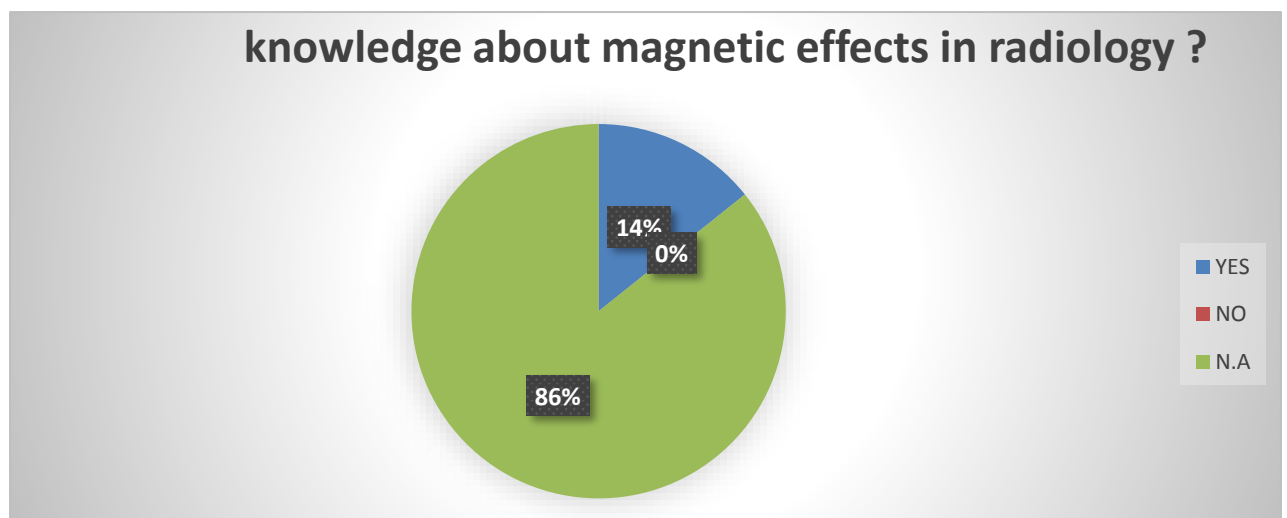
This graph is showing the 100% result regarding the awareness of safety instructions which has to be followed in case of pregnant women by the employees.

**63-RADIATION SAFETY SIGN ARE DISPLAYED ?**

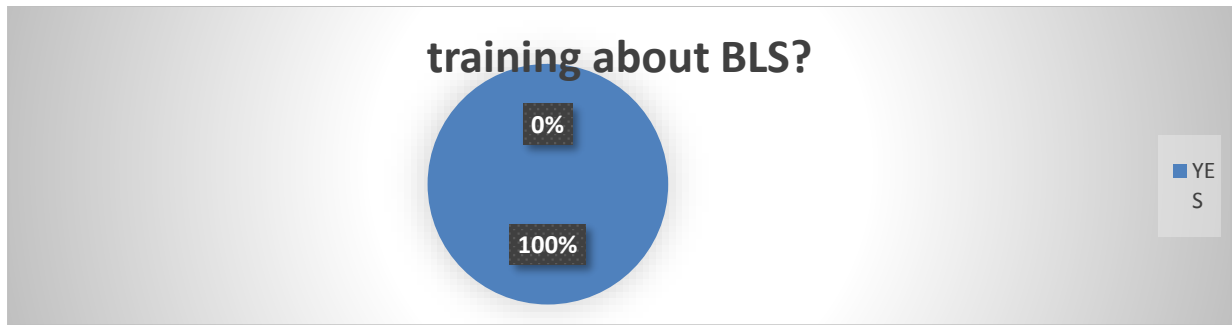


This graph is showing that all the safety sign which are made of for the purpose of radiation safety they are displayed properly in the department.

**64- KNOWLEDGE ABOUT THE MAGNETIC EFFECTS IN RADIOLOGY ?**

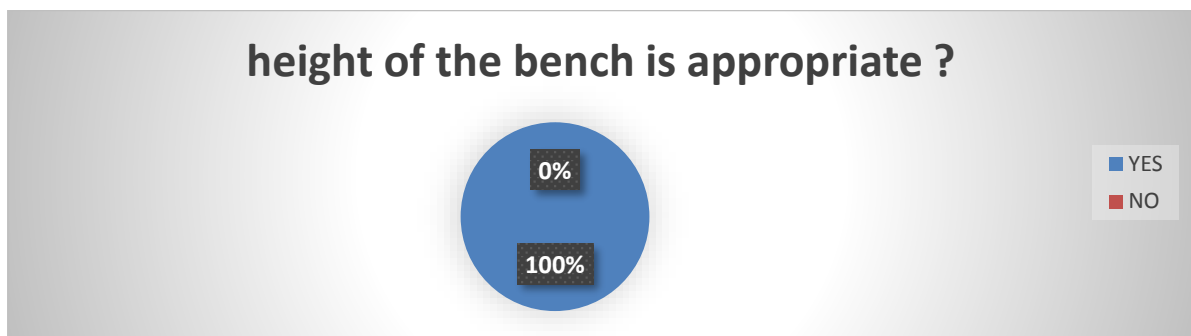


#### 65- TRAINING REGARDING BASIC LIFE SUPPORT ?



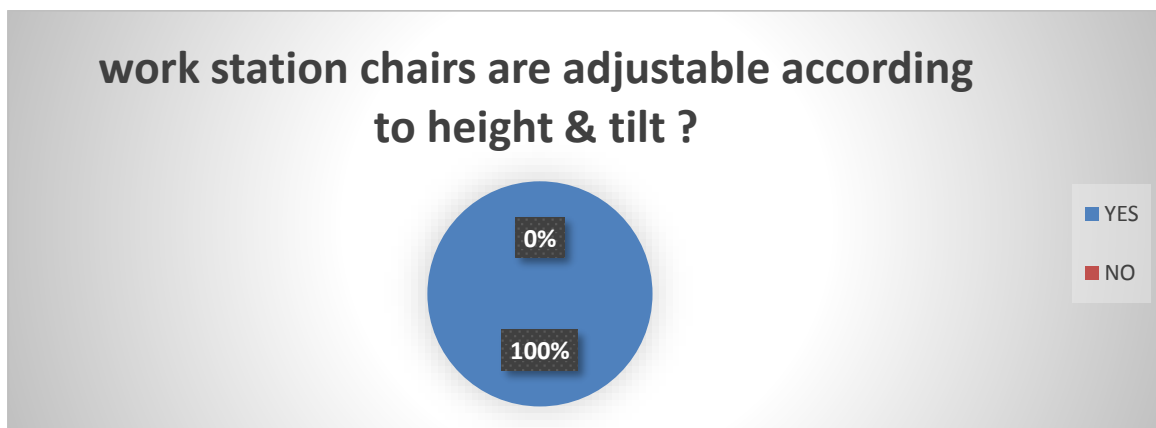
This graph is shpowing that all te staff working in radiology department are aware or we can say they all have undergone for the training of basic life support .

#### 66- HEIGHT OF THE BENCH IS APPROPRIATE ?



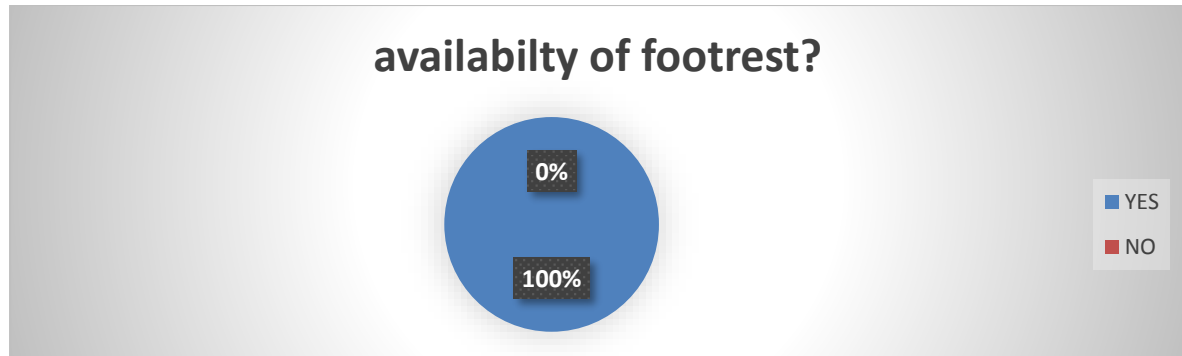
This graph is showing that height of the bench is appropriate for the employees working in radiology of every section .

#### 67- WORK STATION CHAIRS ARE AJUSTABLE ACCORDING TO HEIGHT AND TILT ?



This graph is representing that all the chairs used by the employees working in radiology are adjustable and can be tilted according to height and comfort .

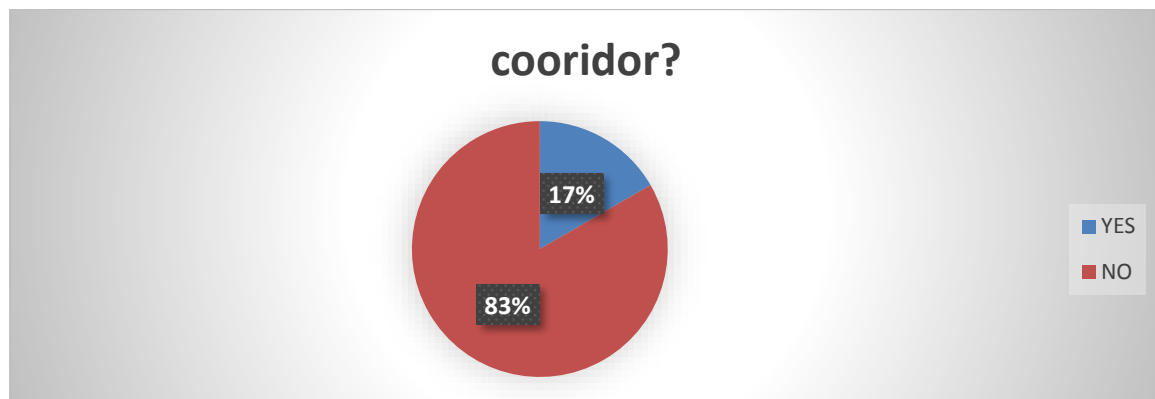
#### **68-AVAILABILITY OF FOOTREST ?**



This graph is showing the result regarding the availability of footrest on working sation for the employees.

#### **GRAPHS FOR LABORATORY**

##### **1- AISELS AND COORIDORS ARE CLEAR ?**



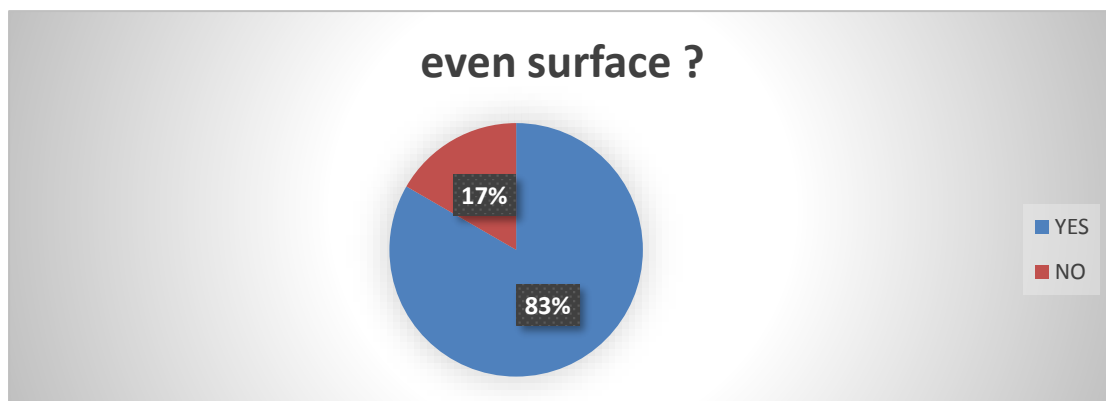
This graph is showing that in case 17% aisels and cooridors were clear but in case of 83% ,it shows the aisels and corridors were not clear .

## 2- CLEAR OF MATERIALS ?



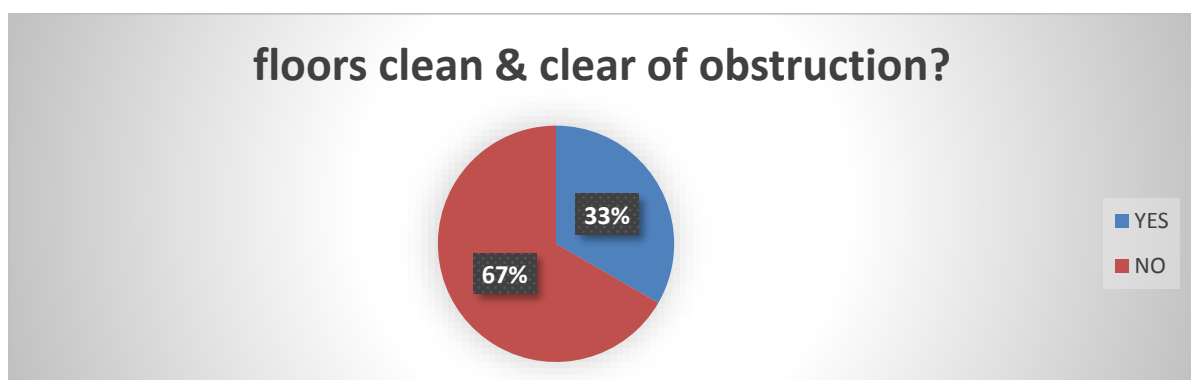
This graph is showing the 100 % result towards the clearance of materials in corridors .

## 3- FLOORS HAVE EVEN SURFACE ?



This graph is showing that 17% area of some section in laboratory were not having even surface and 83% area is showing some section of the department were having even surface .

## 4- FLOORS CLEAN AND CLEAR OF OBSTRUCTIONS ?



This graph is showing that 33% floor area of some section were clean and clear of obstructions and 67% area of some section were not clean and not clear of obstruction .

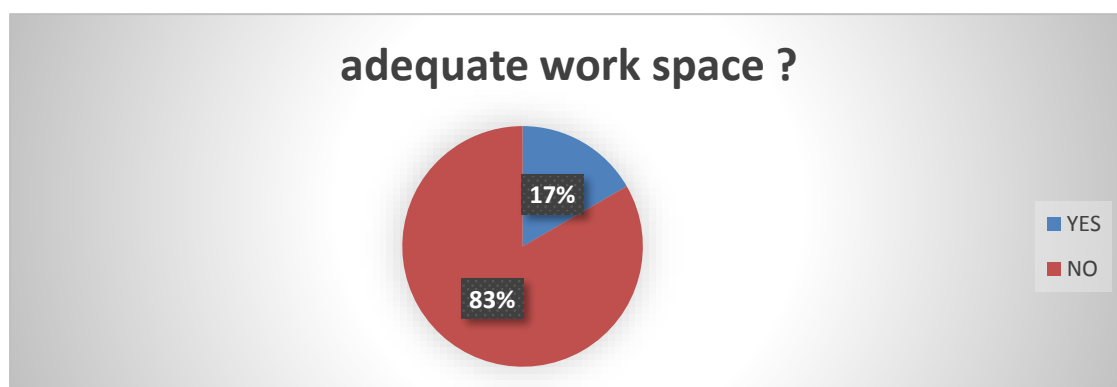
#### 5- SLIPPERY FLOORS ?



This graph is representing that there were no slippery floors in all the section of the department .

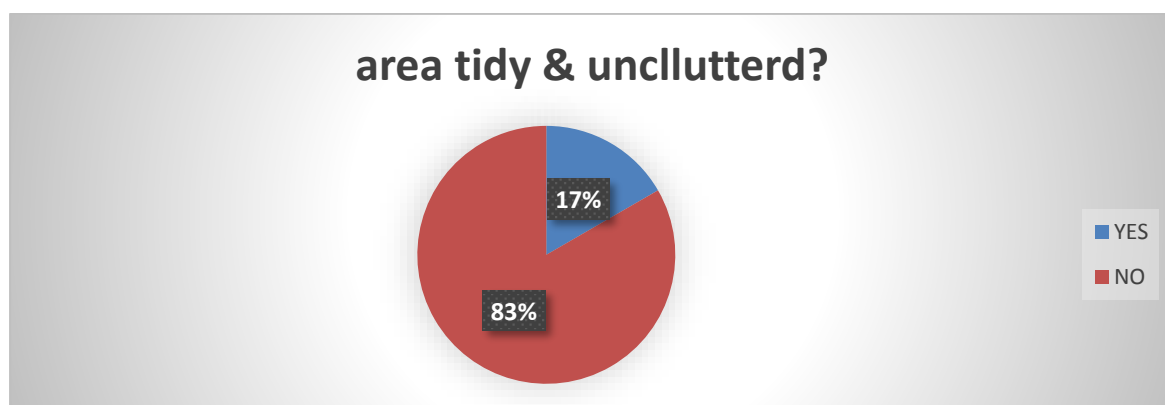
#### 6- ADEQUATE WORK SPACE ?

This graph is showing that 17% of the area of some section were having adequate area



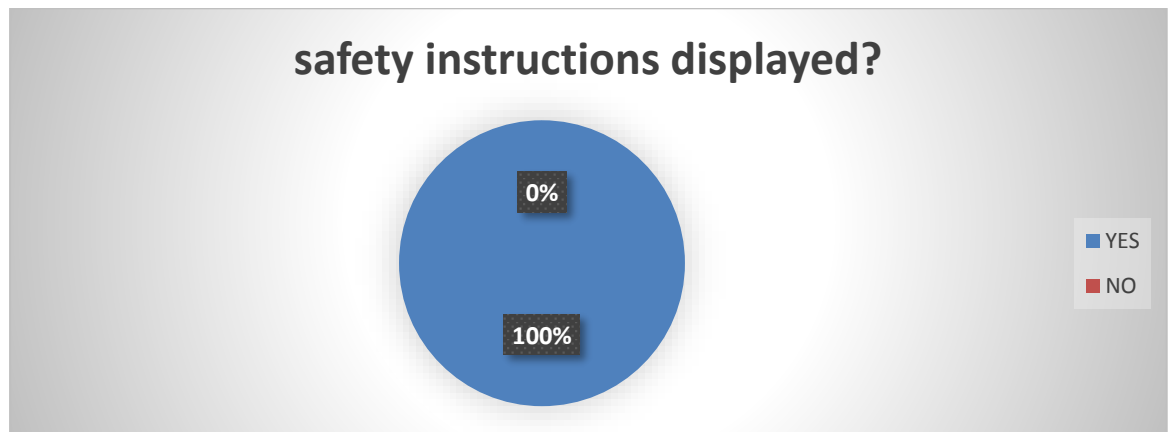
this graph is showing that 17% is resulting towards the presence of adequate work space and 83% is resulting towards no availability of sufficient work space .

#### 7- AREA TIDY AND UNCLUTTERED ?



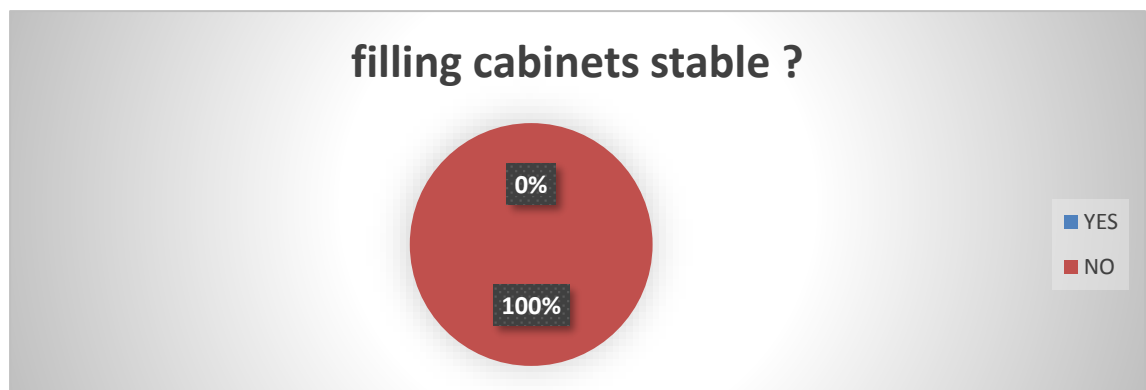
17% area in this graph is showing that some section were tidy and uncluttered and 83% area were not tidy and uncluttered in some section of the laboratory.

#### 8- DISPLAY OF SAFETY INSTRUCTIONS ?



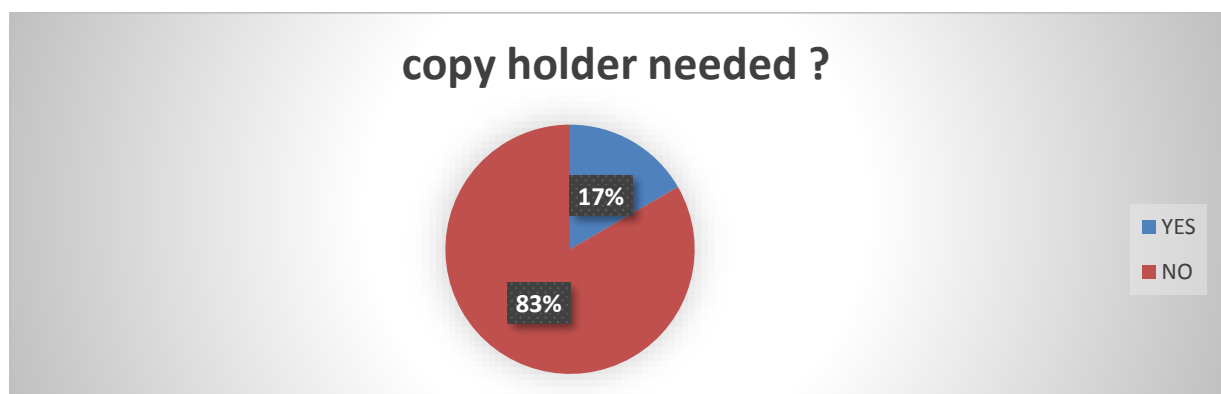
This graph is representing the 100% result regarding the display of safety instructions in the department .

#### 9- FILLING CABINETS ARE STABLE AND WELL ARRANGED ?



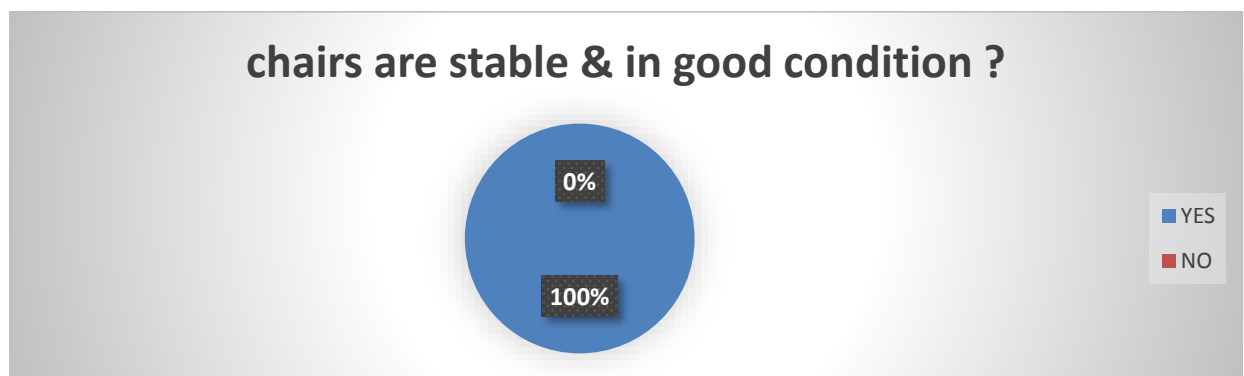
This graph is showing that filling cabinets were not at all stable and arranged (100%).

#### 10- COPY HOLDER NEEDED FOR WORK ?



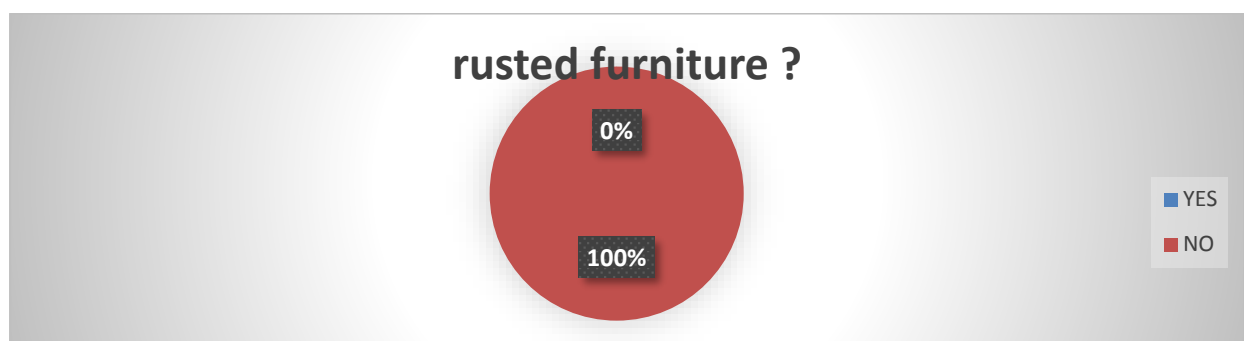
This graph is showing that 17% is indicating towards the use of copy holder and 83% is indicating towards no use of copy holder by the employees .

### 11- CHAIRS ARE STABLE AND GOOD IN ONDITION ?



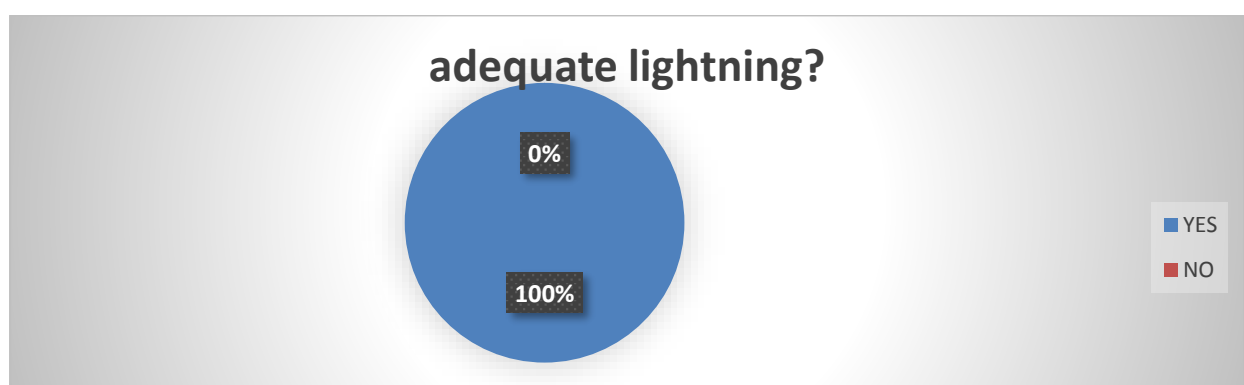
This graph is showing the 100% result towards the condition of cahirs / furniture are good in condition and maintained .

### 12- RUSTED FURNITURE ?



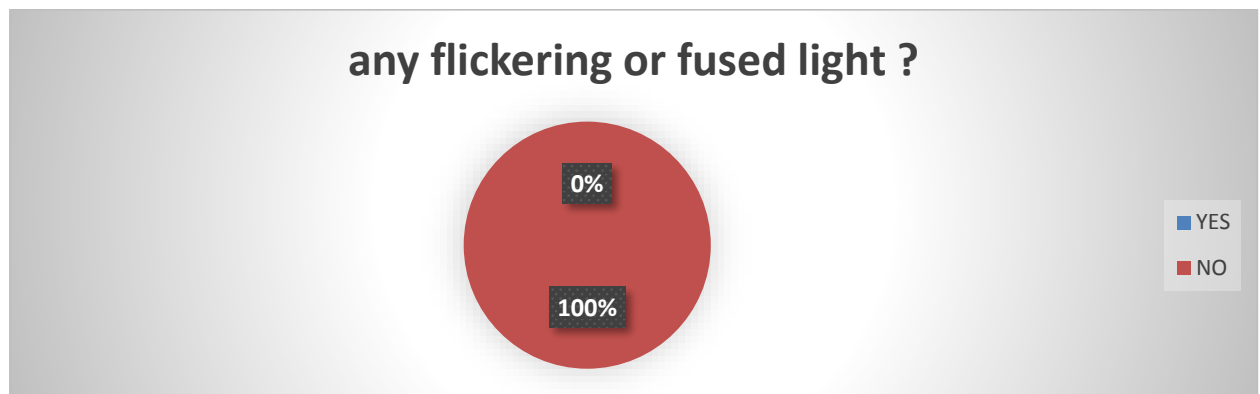
This graph is showing 100% result which is indicating that there is no presence of rusted furniture .

### 13- ADEQUATE LIGHTNING ?



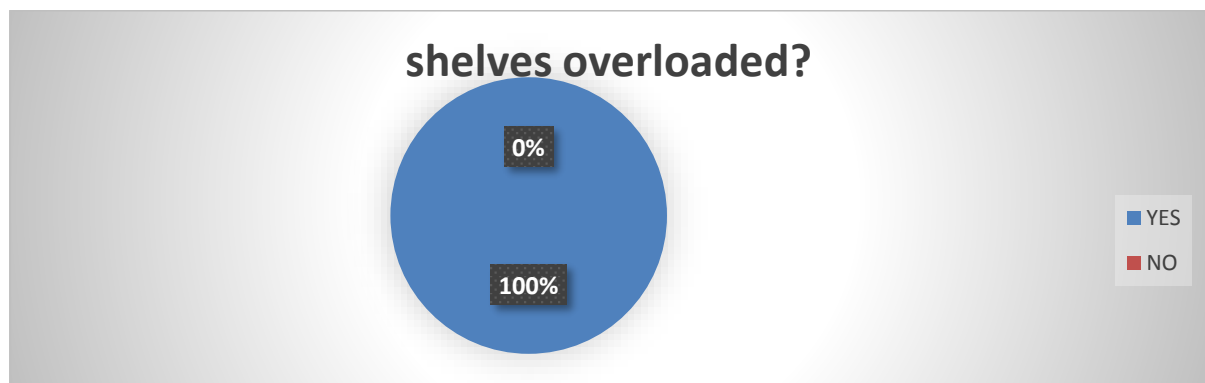
This graph is showing 100% result result towards the presence of adequate lightning in the department .

#### 14- ANY FLICKERING AND FUSED LIGHT ?



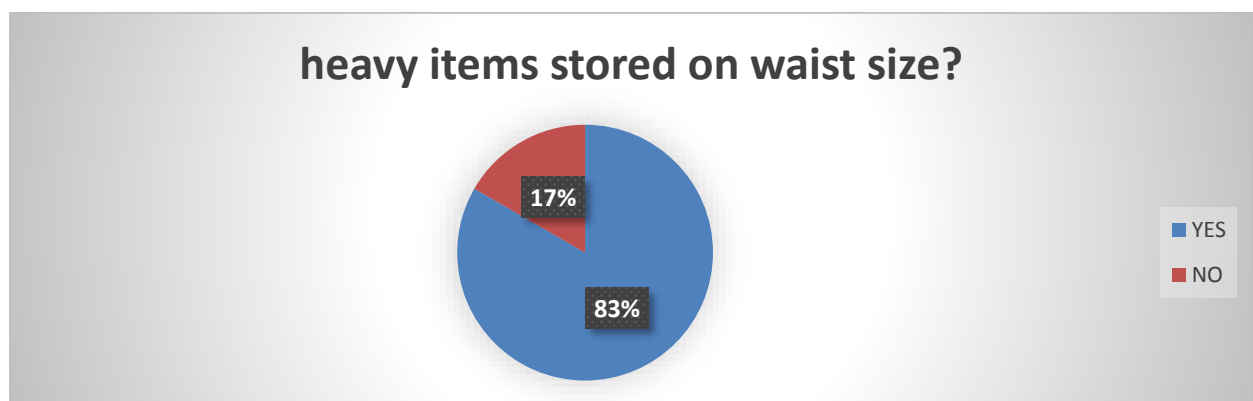
This graph is showing that there is no presence of any flickering or fused light in the department.

#### 15- SHELVES ARE OVERLOADED ?



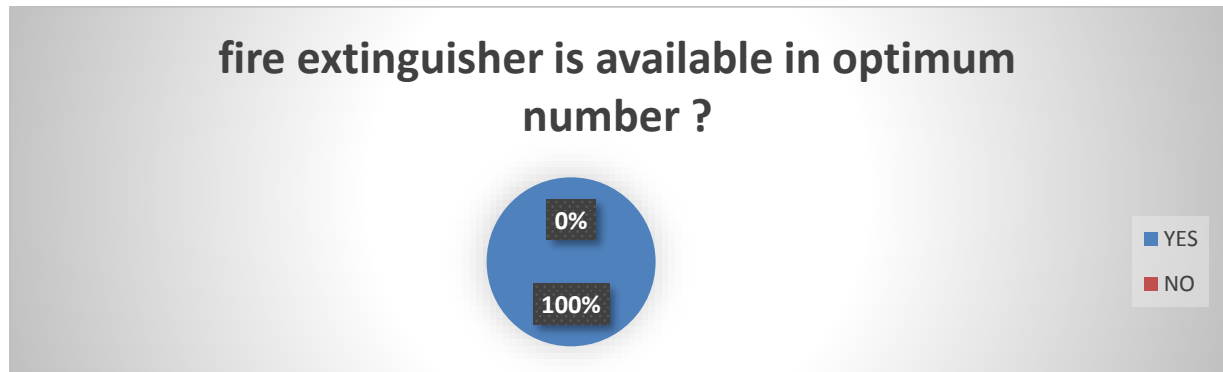
This graph is showing the 100% result for shelves were overloaded in the departments.

#### 16- HEAVY ITEMS STORED ON WAIST SIZE ?



This graph is representing in case of 17% of its is showing that heavy items were not stored on waist size and in case of 83% it is showing that heavy items were stored on waist size .

#### 17- FIRE EXTINGUISHERS AVAILABLE IN OPTIMUM NUMBER ?



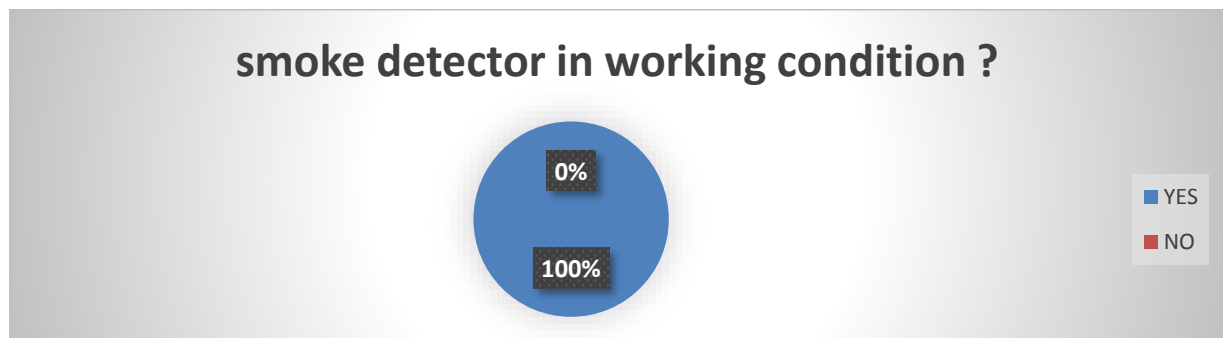
This graph is showing the 100% result for the availability of fire extinguishers in sufficient number .

#### 18- TESTING OF FIRE EXTINGUISHERS ?



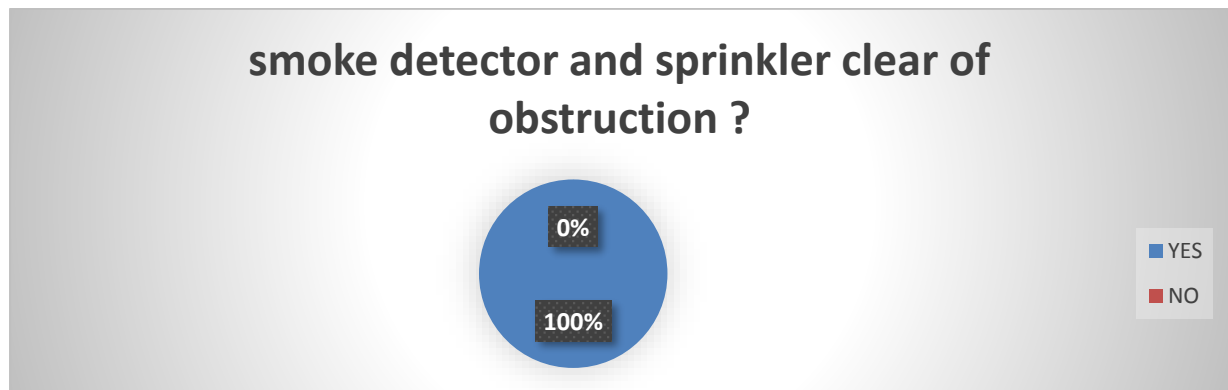
This graph is showing that fire extinguishers are tested regularly and tagged also .

#### 19- SMOKE DETECTORS IN WORKING CONDITION?



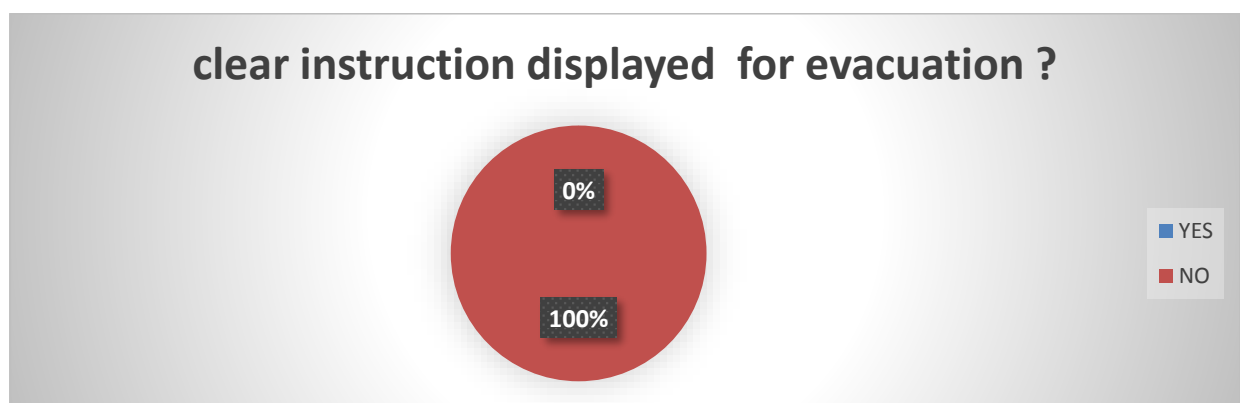
This graph is showing 100% result for the working condition of the smoke detectors which means that smoke detectors are working well.

**20- SMOKE DETECTORS AND SPRINKLERS ARE CLEAR OF OBSTRUCTIONS  
?**



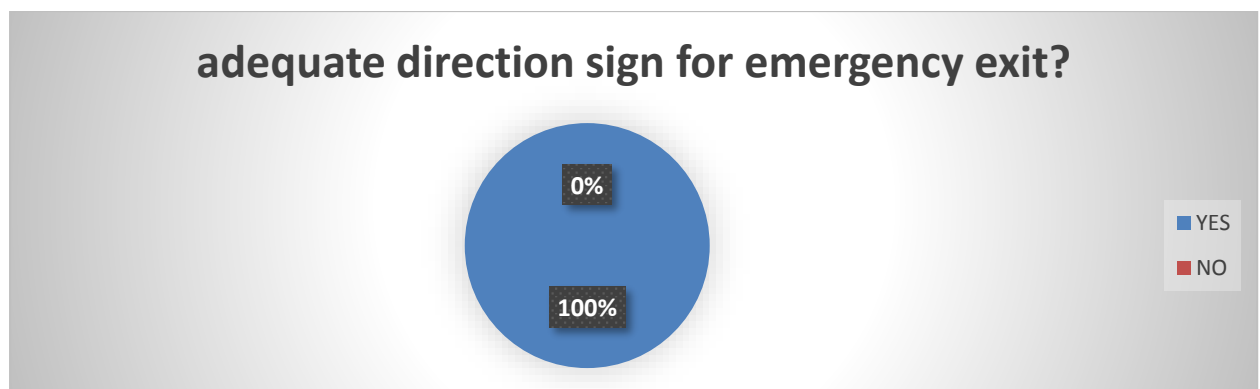
This graph is showing that smoke detectors and sprinklers were clear of obstructions .

**21- CLEAR INSTRUCTION DISPLAYED FOR EVACUATION ?**



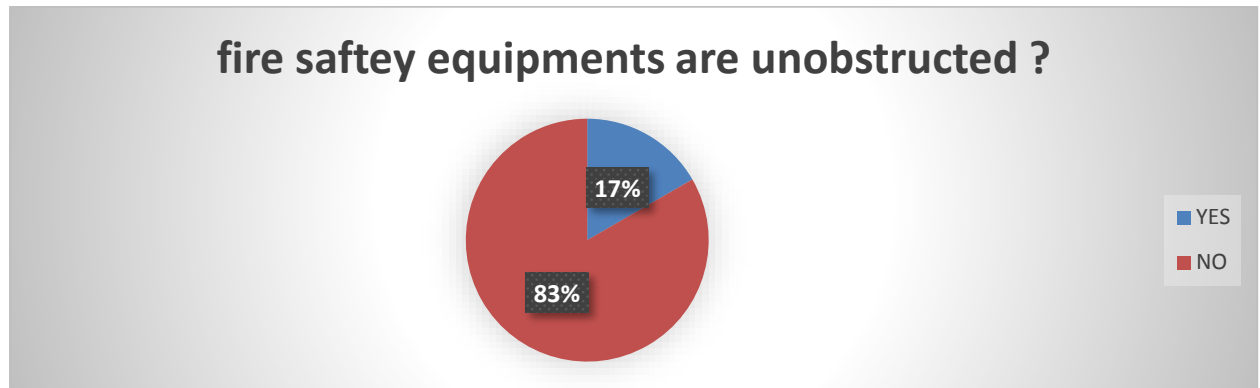
This graph is showing there is no proper display of evacuation instructions .

**22- ADEQUATE DIRECTION DISPLAY SIGN FOR EMERGENCY EXIT?**



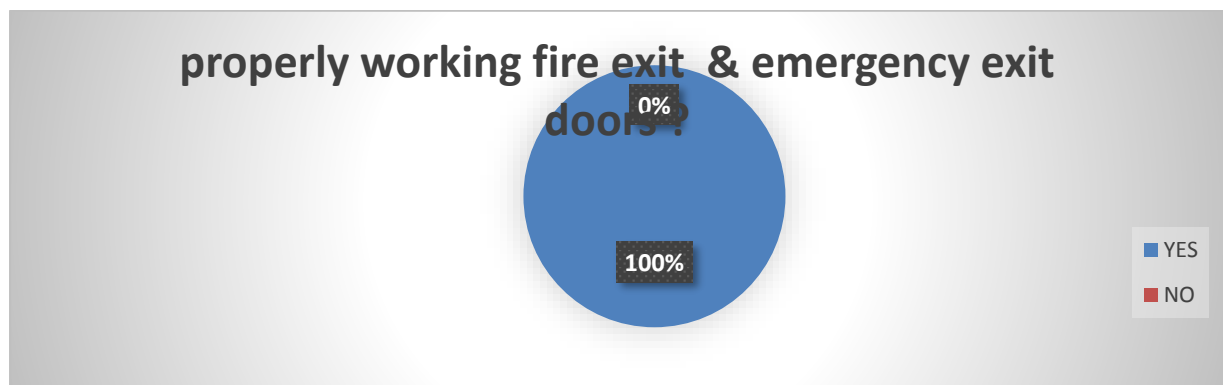
This graph is showing 100% result for the proper display of the emergency exit direction signs.

### 23- FIRE SAFETY EQUIPMENTS ARE CLEAR OF OBSTRUCTIONS ?



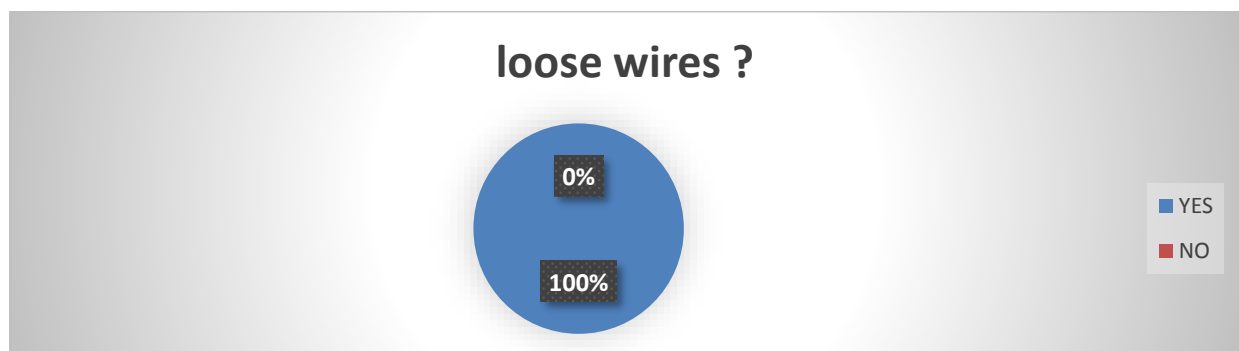
this graph is showing that some area of the department fire safety equipments wer clear of obstructions and 83% area is showing that the equipments were not clear of obstructions.

### 24- PROPER FUNCTIONING OF THE FIRE EXIT AND EMERGENCY EXIT DOORS ?



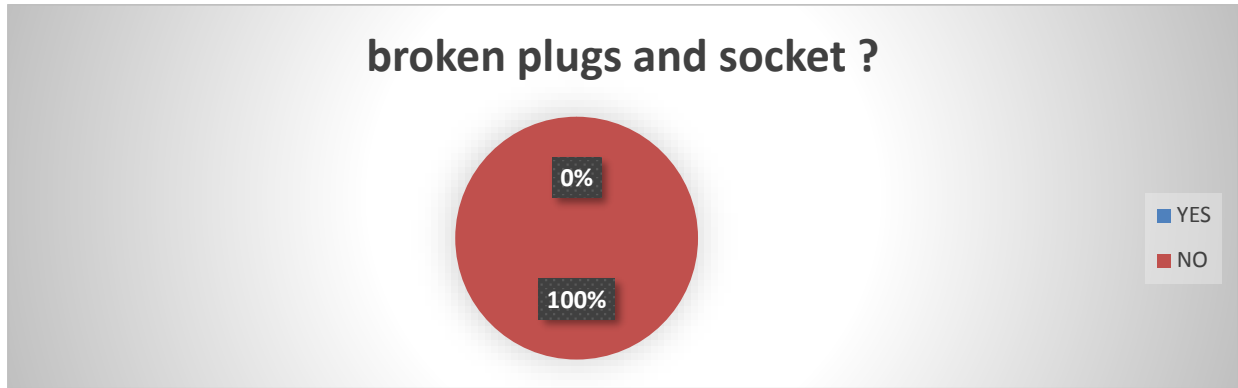
This graph is showing the 100% result which shows that the doors of fire exits and emergency exit are working properly .

### 25- LOOSE WIRES ?



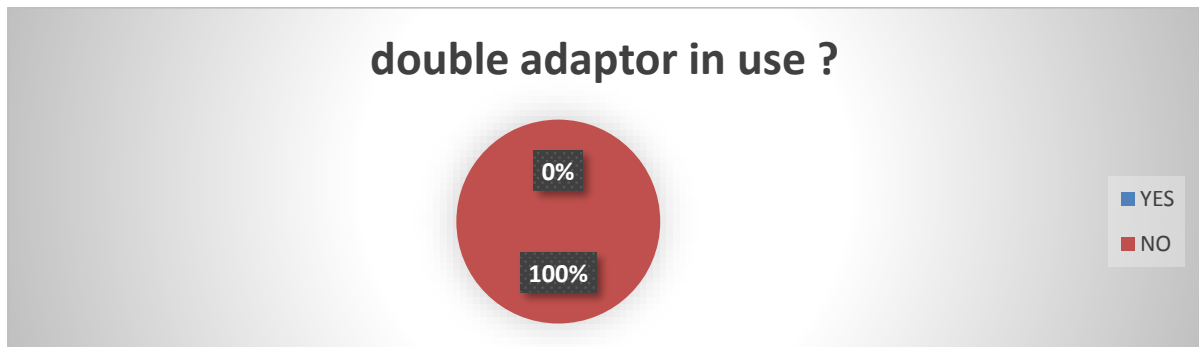
This graph is showing the 100 % result which resembles that there were presence of loose wires in the laboratory department .

#### 26- BROKEN PLUGS AND SOCKETS ?



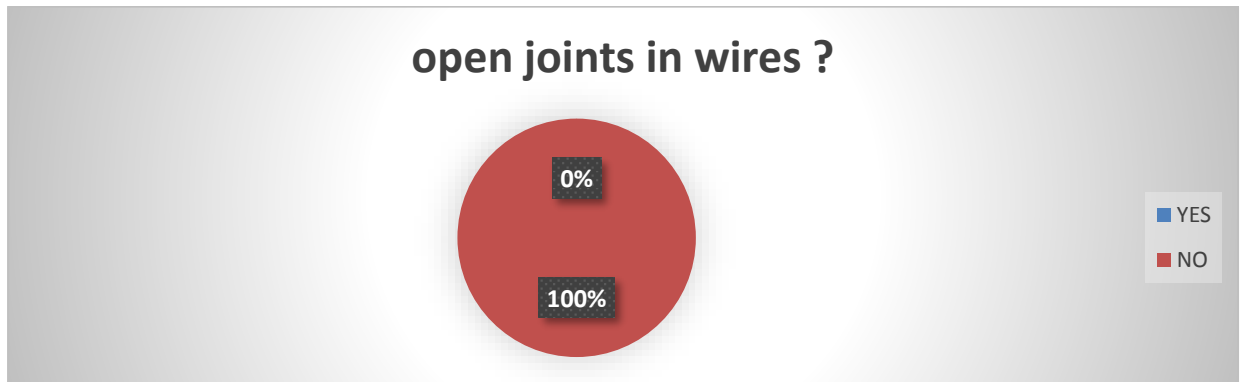
This graph is showing 100% result which resembles that there were no broken sockets and plugs in the department .

#### 27- USE OF DOUBLE ADAPATER ?



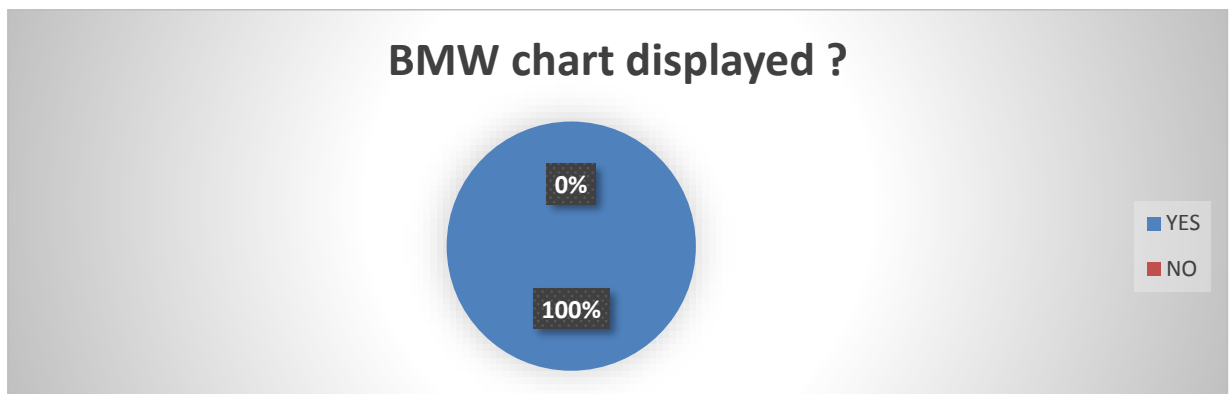
This graph is showing that there is no use of double adapter in the department.

### 28- OPEN JOINTS IN WIRES ?



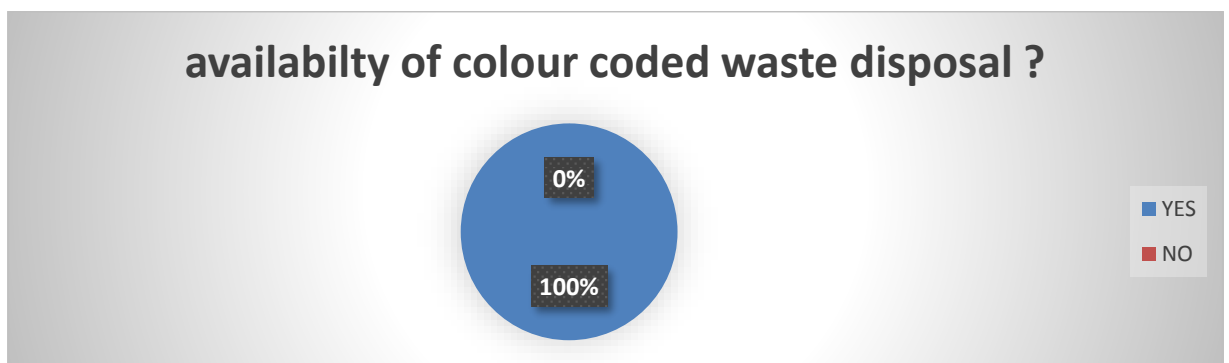
This graph is showing 100% result which is indicating that there were no open joints in wire.

### 29- BIOMEDICAL CHART DISPLAYED IN THE DEPARTMENT ?



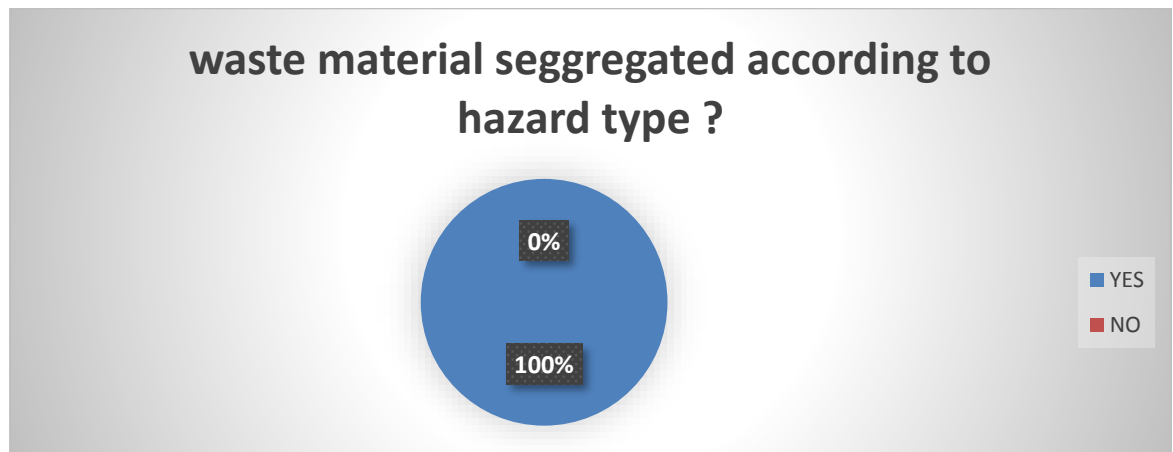
This graph is indicating that biomedical waste chart were displayed everywhere in the department .

### 30- AVAILABILITY OF COLOUR CODED WASTE DISPOSAL CONTAINERS ?



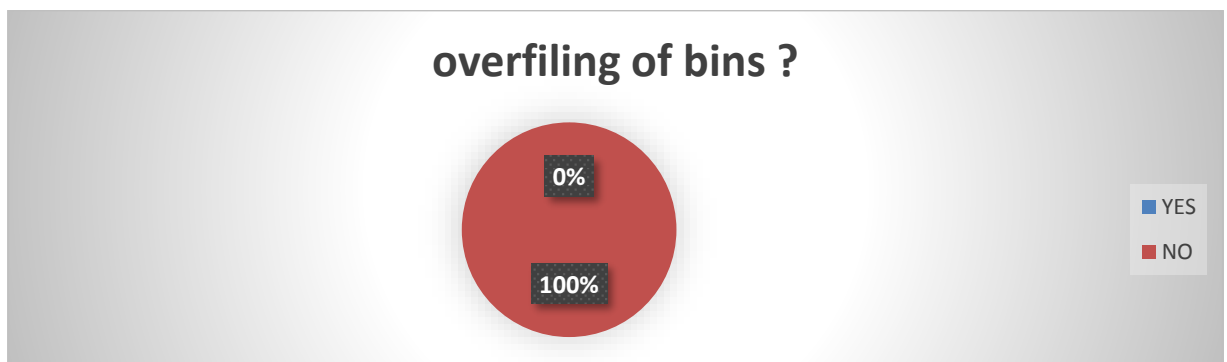
This graph is showing that colour coded waste disposal were displayed everywhere in the department .

### 31- WASTE MATERIAL SEGREGATED ACCORDING TO HAZARD TYPE ?



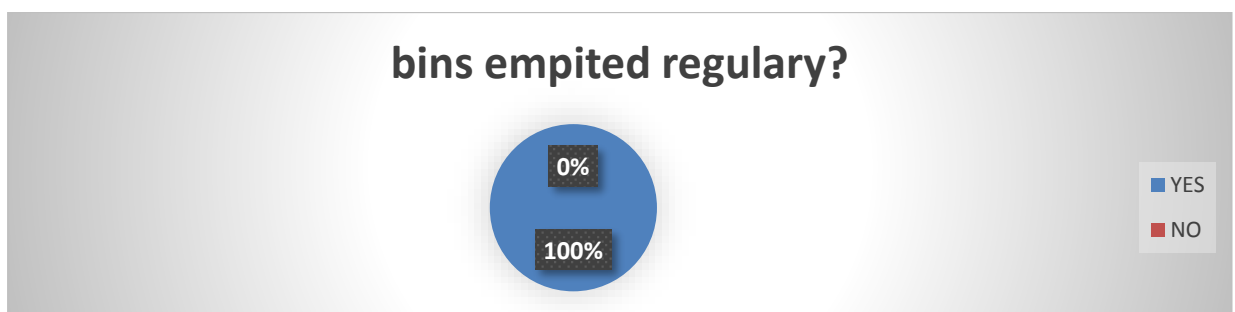
This graph is showing 100% result which indicates that waste materials were segregated according to their hazard thpe .

### 32- OVERFILING OF BINS ?



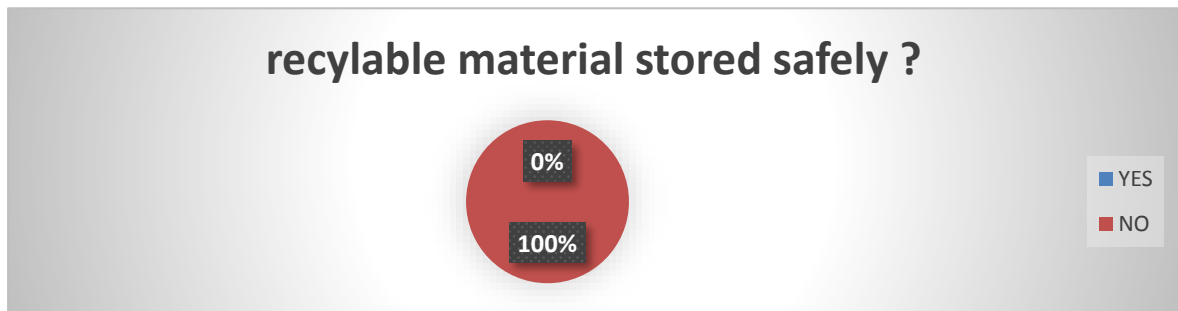
This graph is showing 100% result which indicates that there were no overfiling of dustbins in the department .

### 33- DUSTBINS EMPITED REGULARLY ?



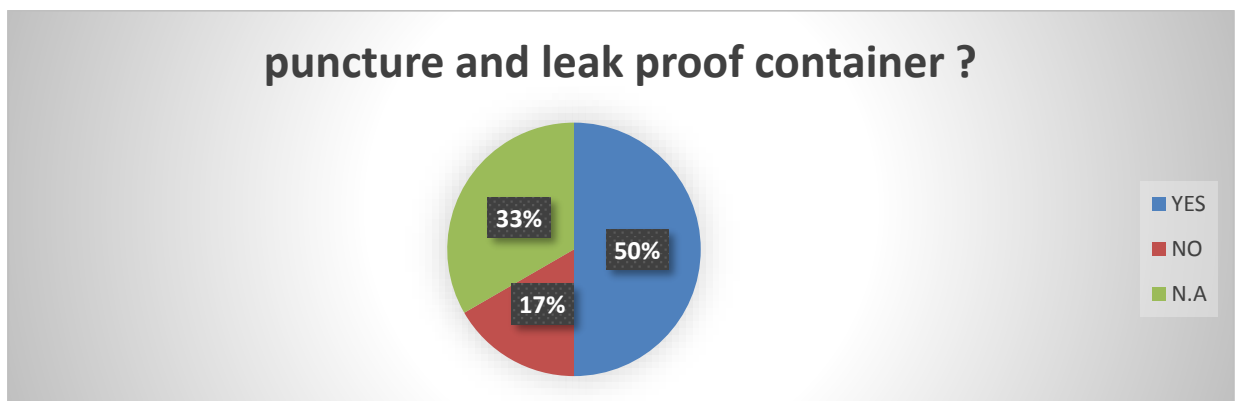
This graph is representing 100% result which indicates that bins use to be empited regularly in the department .

### 34- RECYCLABLE MATERIAL STORED SAFELY ?



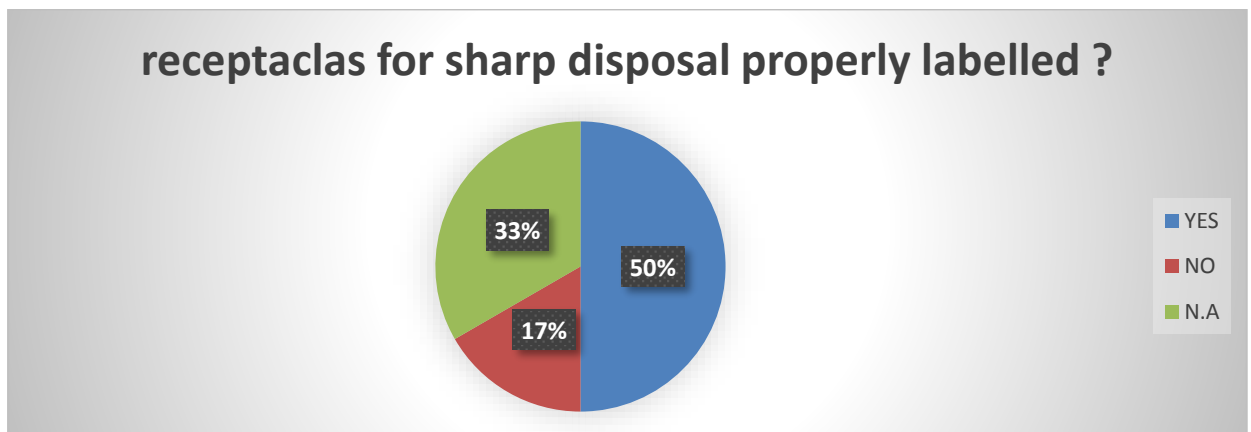
This graph is showing that there is no storage of recyclable materials .

### 35- PRESENCE OF PUNCTURE PROOF LEAK CONTAINERS ?



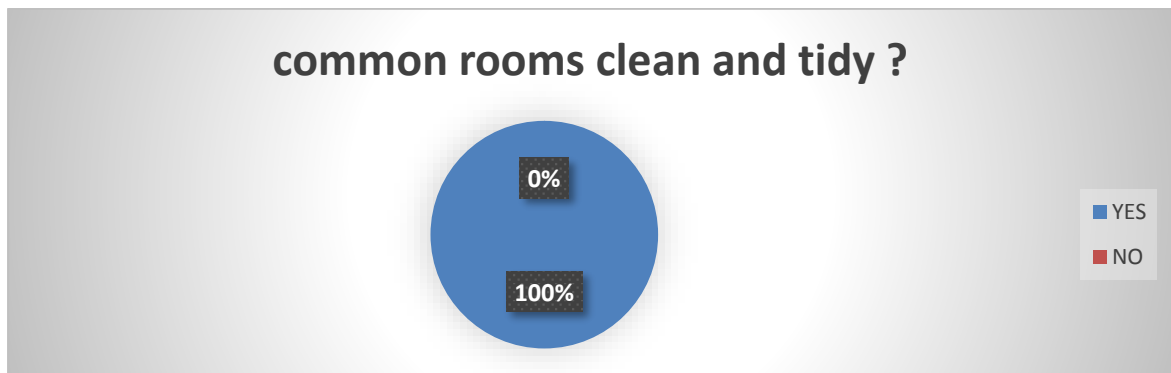
This graph is showing that 33% are of the lab were not needed of this puncture proof containers ,17% is showing that the departmental section of the lab were not having this container and 50% of the section in laboratory were having puncture proof container.

### 36- RECEPTACLES FOR SHARP DISPOSAL ARE PROPERLY LABELLED?



This graph is showing that 33% are of the lab were not needed of this labeling ,17% is showing that the departmental section of the lab were not properly labelled the sharp disposal and 50% of the section in laboratory have labelled the disposal correctly.

### 37- COMMON ROOMS WERE CLEAN AND TIDY ?



This graph is showing that common rooms were properly clean and tidy .

### 38- ADEQUATE DRINKING , WASHING , WTH LIQUID SOAP AND PAPER TOWELS ?



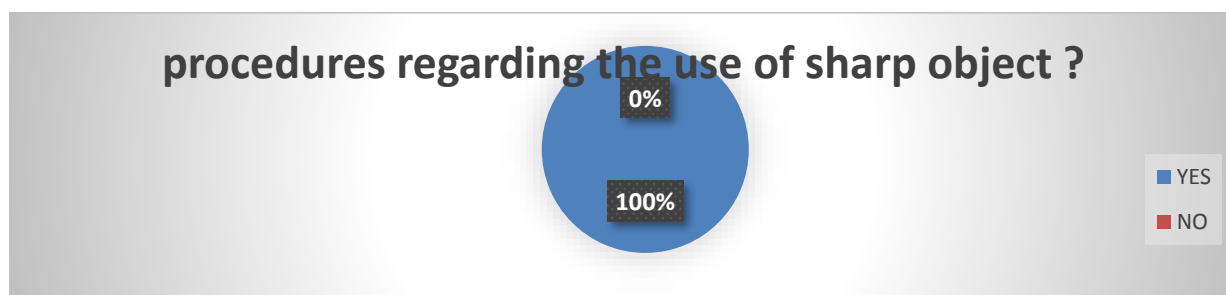
This graph is showing that all thses facilities were available properly.

### 39- FACILITIES OF CLEAN TOILETS ?



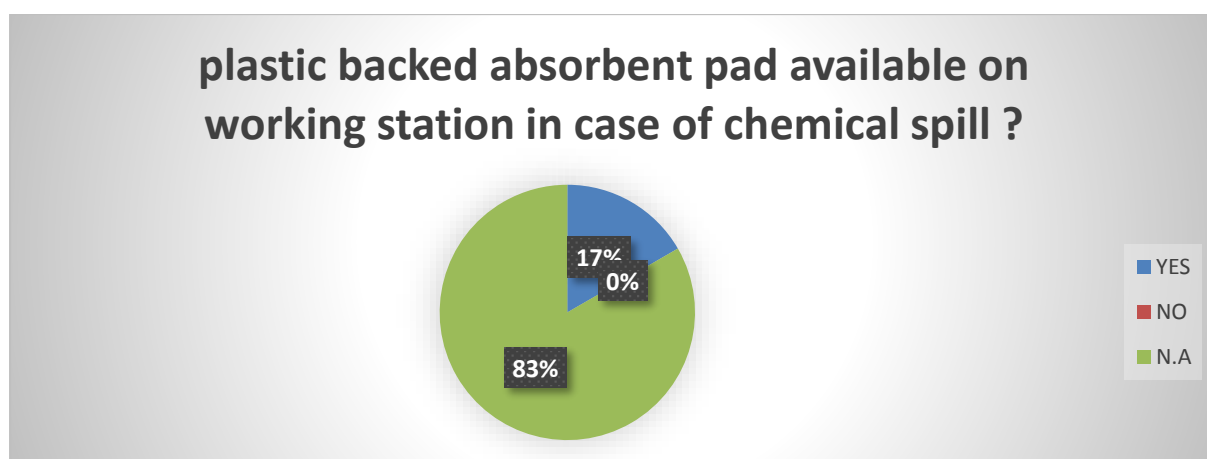
This graph is showing that the toilets were clean and maintained.

#### 40- PROCEDURE REGARDING THE USE OF SHARP OBJECTS ?



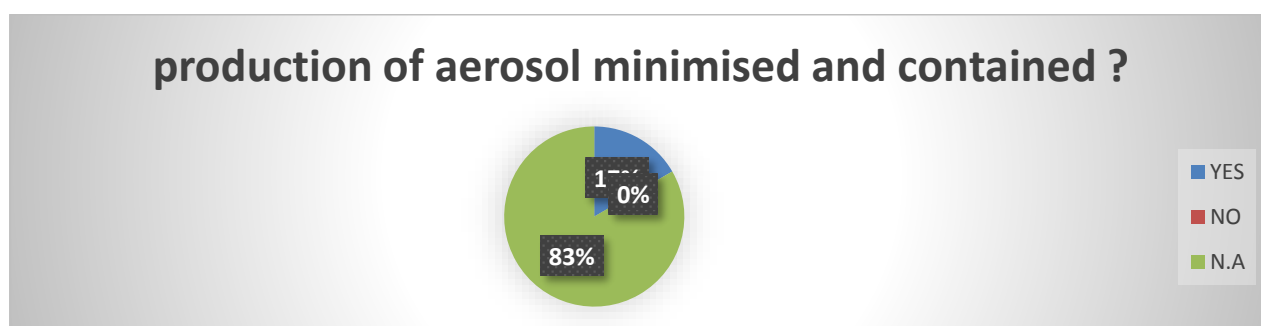
This graph is showing that procedure regarding the use of sharp objects were properly followed .

#### 41-PLASTIC PACK ABSORBENT PADS AVAILABLE AT WORKING STATION ?



In 17% condition is absorbent pads were available at working station and in case of 83% it is indicating that there were no use of absorbent pads in some section of the department.

#### 42-PRODUCTION OF AEROSOL MINIMISED AND CONTAINED?



This graph is showing that 17% of the section of the department are saying yes for this procedure and in case of 83% it is showing that there were as such no need of this procedure in some section of the department .

#### **43- DISPLAY OF HANDWASHING INSTRUCTION ?**



This graph is showing the 100% result which indicates that the handwashing instruction were displayed everywhere in the department.

#### **44- HAZARDOUS WASTE DISPLAYED PROPERLY?**



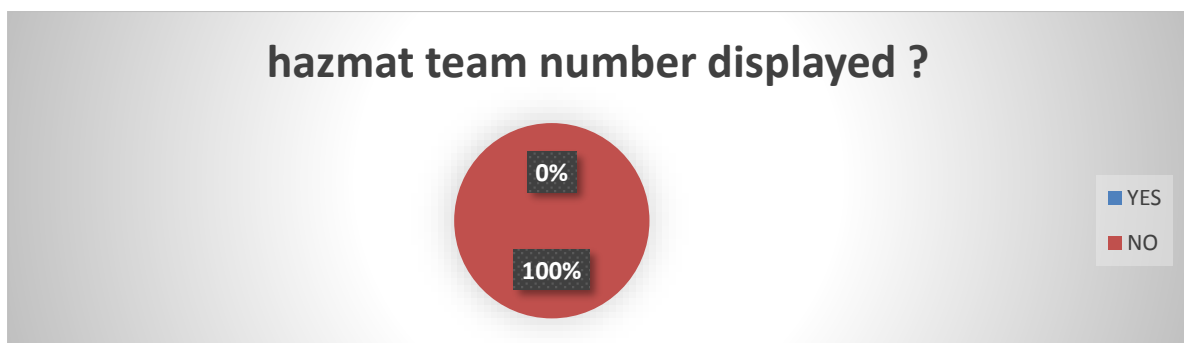
This graph is showing 100% result which indicates that harzardous wastes were labelled properly .

**45- INFECTIOUS WASTE MATERIALS ARE DECONTAMINATED BEFORE DISPOSAL?**



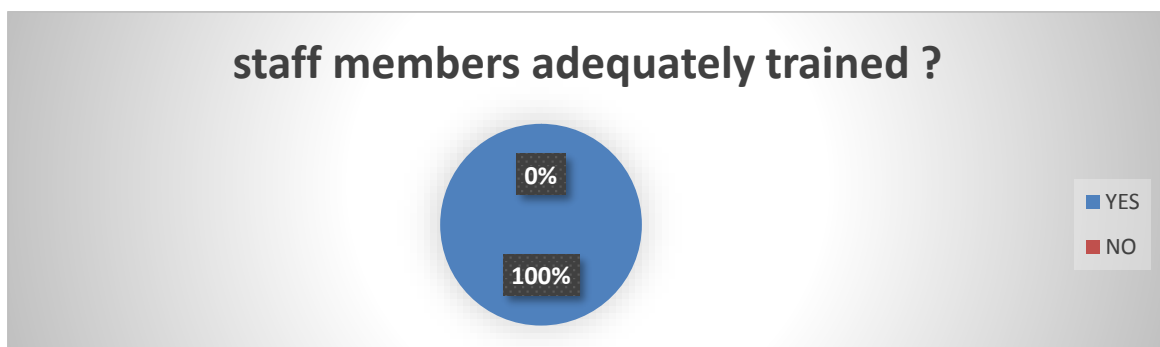
This graph is indicating 100% result towards the decontamination of waste infectious materials before disposal .

**46-DISPLAY OF HAZMAT TEAM EMERGENCY NUMBER ?**



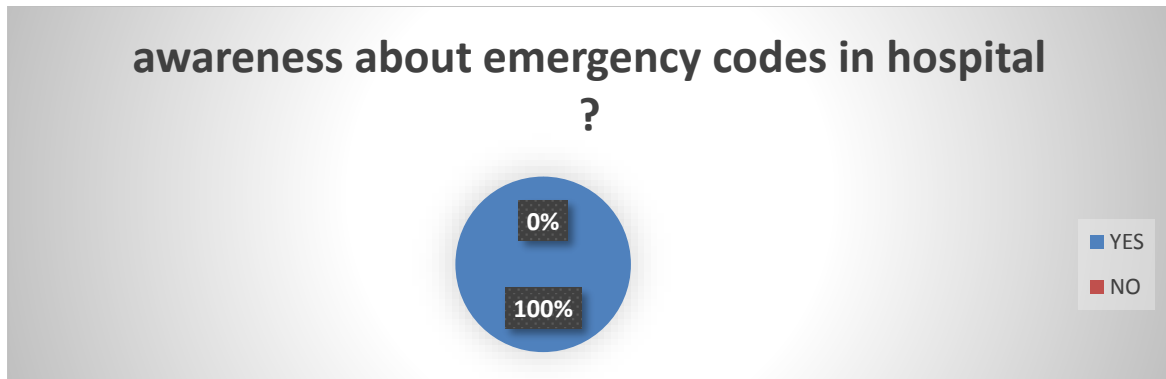
This graph is showing that there were no display of hazmat team emergency number in the department .

**47-STAFF MEMBERES ARE ADEQUATELY TRAINED ?**



This graph is showing 100% result towards the condition of staffmembers were adequately trained .

#### 48- AWARENESS ABOUT EMERGENCY CODES OF HOSPITAL?



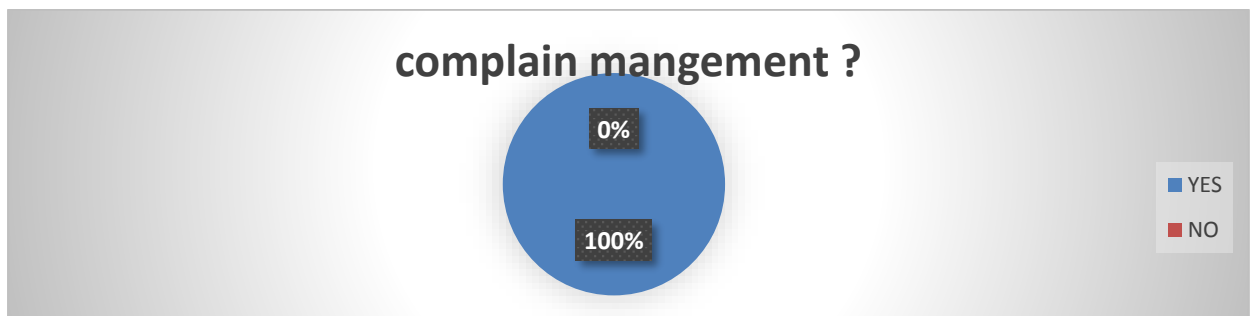
This graph is showing that all the employees working in this department are aware of emergency codes .

#### 49-AWARENESS ABOUT THE PREVENTION OF SEXUAL HARASSEMENT?



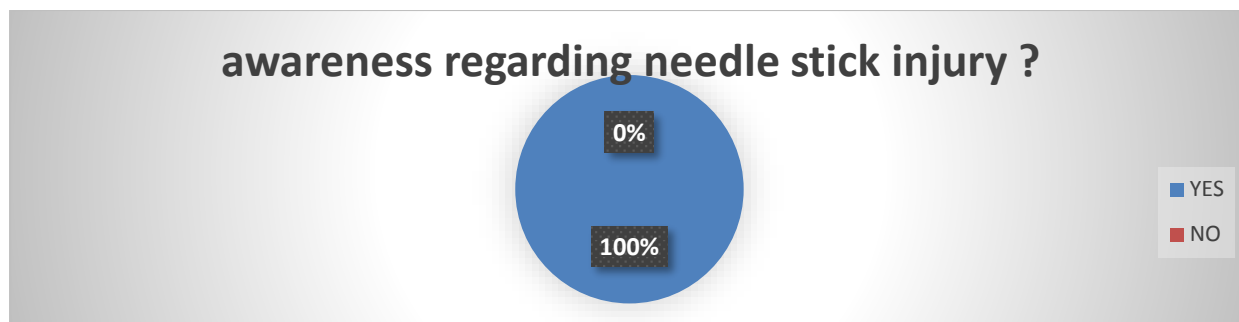
This graph is showing 100% result which indicates that all the employees working in the department are aware about the prevention of sexual harassment.

#### 50- COMPLAIN MANAGEMENT?



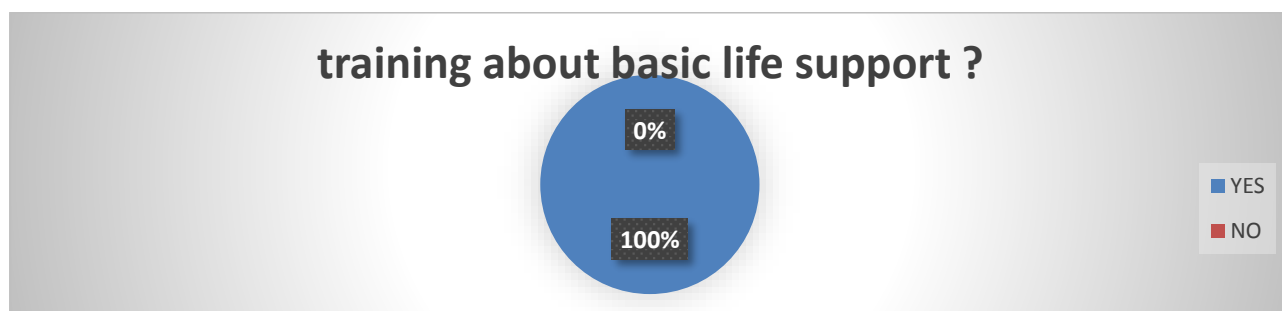
This graph is showing that every employee working in the department is aware about the complain management.

#### 51- AWARENESS ABOUT THE NEEDLE STICK INJURY?



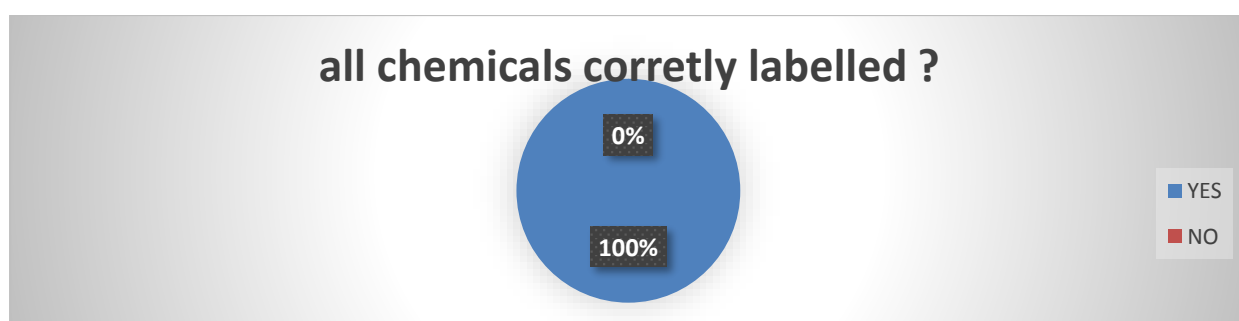
This graph is showing that employees are aware about the precautions and the prevention of needle stick injury .

#### 52- TRAINING OF BASIC LIFE SUPPORT?



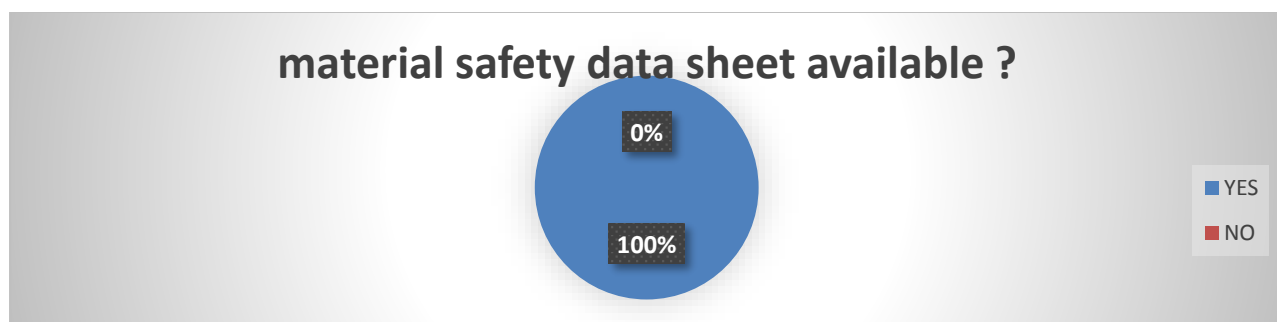
This graph is showing that all the employess working in the laboaratory are trained in basic life support.

#### 53-ALL CHEMICALS ARE DISPLAYED PROPERLY ?



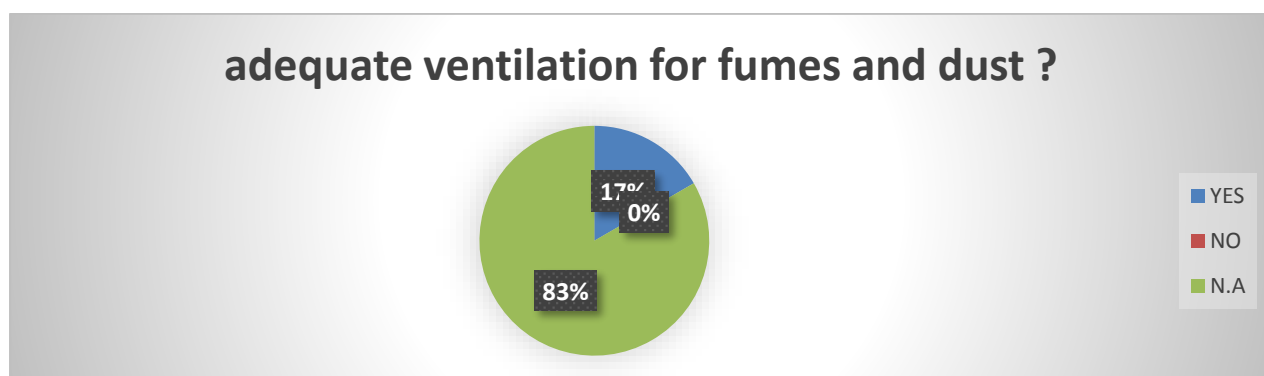
This graph is showing all the chemicals were displayed properly.

#### 54-MATERIAL SAFETY DATA SHEET AVAILABLE ?



This graph is showing that material safety data sheet were available in different section of the department .

#### 55-ADEQUATE VENTILATION FOR FUMES AND DUST ?



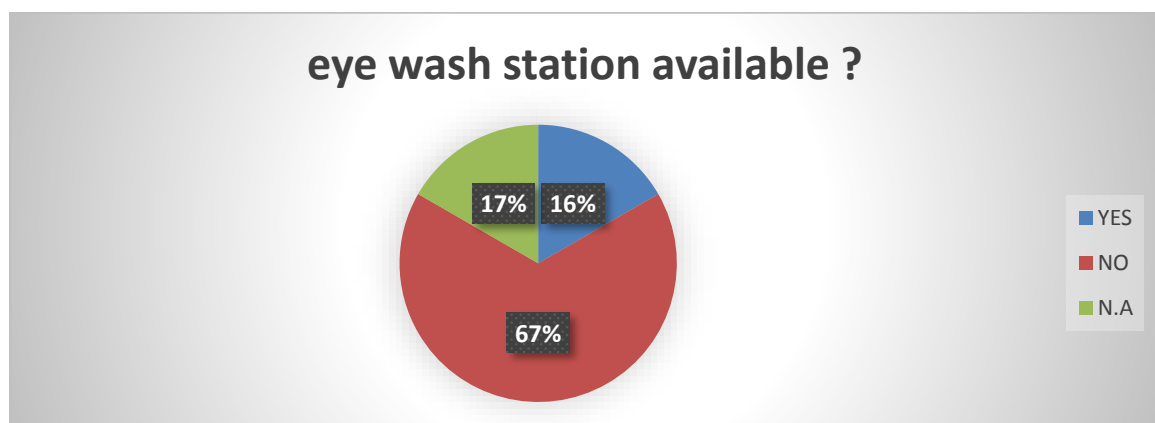
This graph is showing that 17% is indicating that there were adequate ventilation for fumes and dust and 83% is indicating that there were as such no need of ventilation for fumes and dust .

**56- PROVISION OF APPROPRIATE PERSONEL PROTECTIVE EQUIPMENTS AND CLOTHING ?**



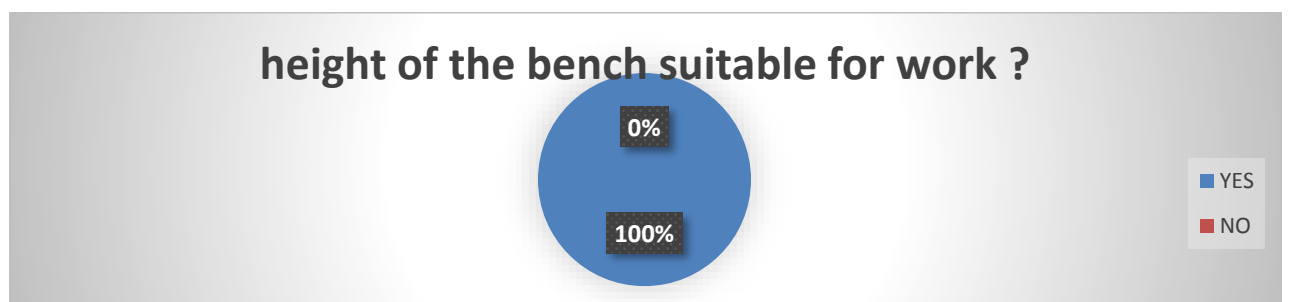
This graph is showing that there were proper arrangements for protective equipments and cloths.

**57-EYE WASHING SATION AVAILABLE?**



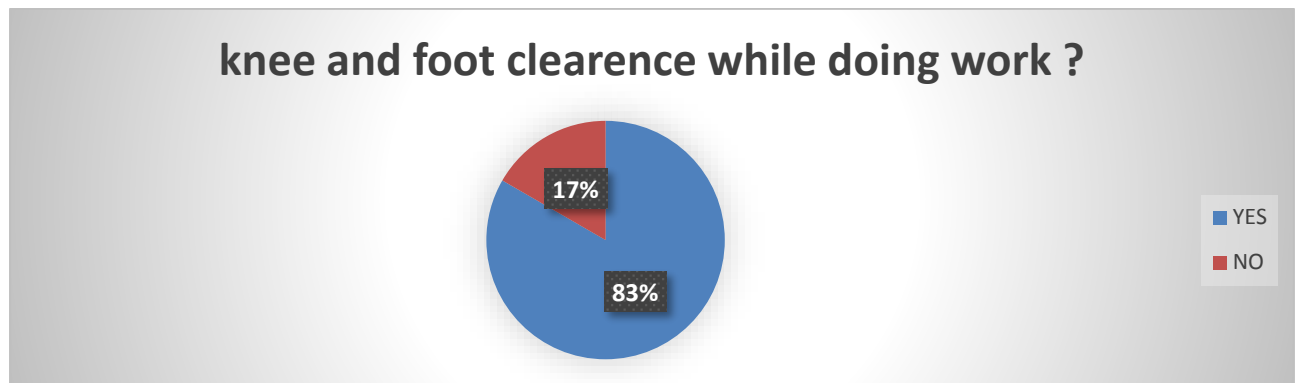
This graph is showing 17% of the area is indicating that there were as such no need of eye wash station in the department ,16% area is indicating that there were availability of eye wash station and 67% is indicating that there were no availability of eye eash station .

**58- HEIGHT OF THE BENCH IS APPROPRIATE FOR WORK ?**



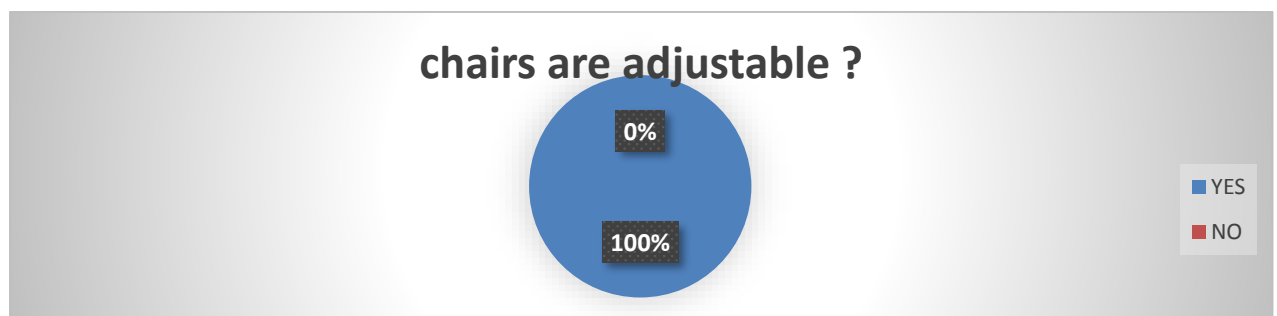
This graph is showing that the height of the bench were appropriate for work purpose.

#### 59-KNEE AND FOOT CLEARANCE WHILE DOING WORK ?



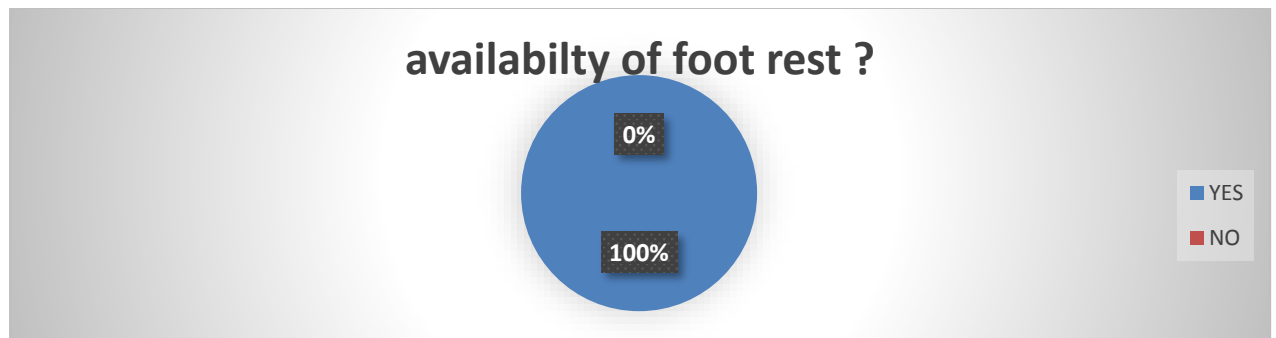
This graph is showing that 17% of the area of some secctions were not having the knee and foot clearance while 83% is indicating the presence of adequate pressence of knee and foot clearance .

#### 60-CHAIRS ARE STABLE ?



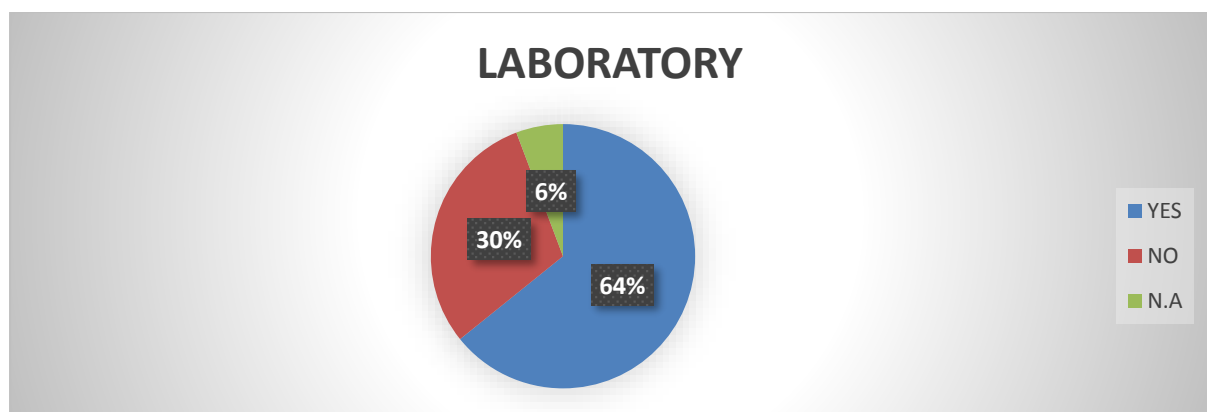
This graph is showing that chairs available in the department were good in condition and stable for work.

## 61- AVILABILITY OF FOOTREST ?

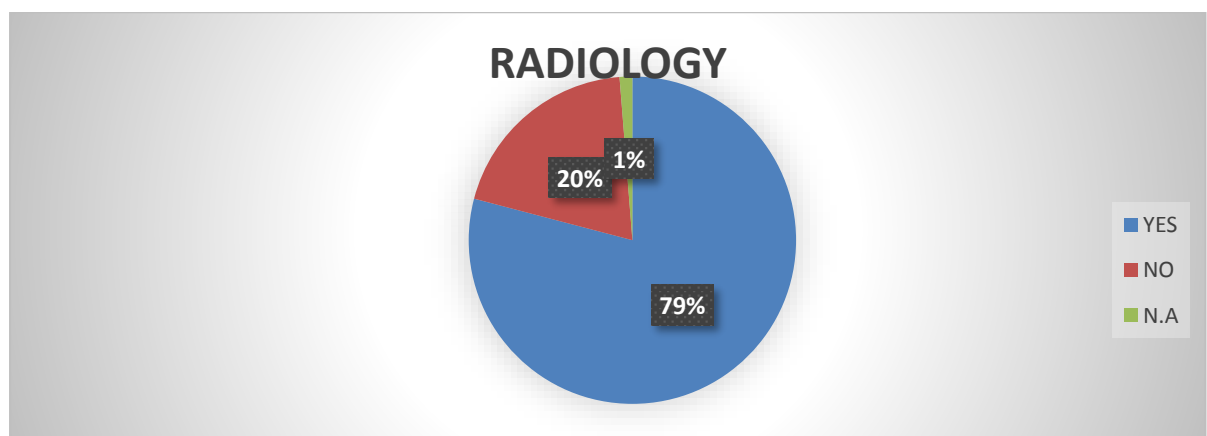


This graph is showing that there were avilability of footrest .

## OVERALL PRESENTATION OF THE DATA



In this graph 64% is indicating towards those things which shows that employees were aware about the protocol and satified with the facilities, 30% shows some thingswere suppoos to be there but not present and 6% is showing that somethings were not applicable for the department .



This graph is a overall presentation of radiology department in which 79% is indicating that employees are aware and following the safety protocols and all the facilities regarding the welfare of the employees are available ,20% is indicating that some things were not present in the department which can be useful for the employees.

### **OBSERVATION AND FINDING**

In this study I have observed many thing which plays very important role in the safety of employees working in radiology and laboratory department.

#### **Radiology -**

- 1- During this study I have seen that no body was wearing lead apron while getting exposed to the radiation.
- 2- In some of the setion of radiology Lead aprons were not properly hanged .
- 3- There were no display of hazmat team emergency number in cooridors of radiology department .
- 4- In some section of radiology department floors were not clean and clear .
- 5- Wire were not properly arranged in some section which can cuase hurdle for the staff as well as for patients also .
- 6- In some section of the radiology department dustbins were overfilled and not regularly empited .
- 7- In fluroscopy section there were broken plugs.

#### **Laboratory-**

- 1- There were no adequate work space in the department .
- 2- There were no proper arrangements of wires in the department .
- 3- There were no display of hazmat team emergency number in the department
- 4- Area was not clean and tidy
- 5- There were scatterd loose wires in the department .

## **RECOMMENDATIONS**

- 1- Every employee in the department should be advised to use the lead aprons in radiology and employees working in laboratory should use the safety goggles for their eye protection because they use several types of chemicals which can harm their eyes.
- 2- There should be specific timing for the house keeping staff so that they can come and clean the laboratory as well as the radiology department .
- 3- There should be proper display of hazmat team emergency number in the corridors in both the department so that in case of any emergency any staff can easily contact the team .
- 4- Broken plugs & sockets should be repaired so that employees will be safe .
- 5- Loose wires should be arranged and properly covered.
- 6- Hospital should try to increase the work space for laboratory department so that they can arrange their equipments and machines in a proper way .

## **CONCLUSION**

This study shows the complete process of the safety protocols followed by the employees working in laboratory as well as in radiology and the attitude of the hospital regarding their staff .By the help of this study I have realised that hospital is trying their best for the safety of employees ,they are not compromising with the health of the employees but the employees are not following the protocols properly .If we will talk about health status hospital is not compromising but if we will talk about adequate work space then there is an issue specially,in laboratory there were no proper work space which creates a lot of problems for employees working in this department because due to insufficient work space lab machines and equipments are not arranged in a proper way and hospital will create adequate space then it can help the employees to work in a proper and an arranged way so to overcome all these things hospital should take initiative to provide adequate work space and they should provide a safety officer also who can analyse the employees by which he can make a report that how much employees are following the safety protocols and can

educate them also in regular basis and explain the policies and guideleines made for their safety .

### **REFERENCES**

- >OSHA guidelines for laboratory safety and radiology safety ([www.osha.gov](http://www.osha.gov))
- >NABH guidelines ( [www.nabh.co](http://www.nabh.co) )
- >[www.ijri.org](http://www.ijri.org)>article (protection against radiation hazarads)
- > NABL guidelines ( [www.qcnet.com](http://www.qcnet.com) )
- > Radiology checklist ( <https://www.haad.ae> )
- > Laboratory checklist ( <https://ehs.stonybrook.edu> )

## **Project**

# **MEDICATION TURN AROUND TIME IN IPD SETTINGS**

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8. RECOMMENDATION
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## **INTRODUCTION**

Medication turn-around time, is considered as the interval from the time a medication order was composed (manually or electronically) to the time the medication was delivered and administered. Moreover, time-to-first dose can be broken down into two key phases: the time from when the order was composed to the time that the pharmacy verifies the order, and the time from pharmacy verification to the time the medication was delivered.

This process can be divided into the following three steps:

1. Ordering: Indent for drugs made by the doctor
2. Ancillary services:
  - In patient pharmacy receives printed order notice.
  - Entry into the pharmacy system
  - Composing the drug order
  - Delivery of the drug
3. Order completion:
  - Administration of the drug
  - Electronic documentation

Monitoring medication turnaround time in inpatient settings allows organizations to measure the overall efficiency of the coordinated delivery of patient care by the medical team and the inpatient pharmacy services.

Prescribed medication turnaround time for stat medications is 30 minutes and for routine drugs it is 60 minutes in the study hospital.

This study is an Observation study wherein observations will be made regarding:

1. The time doctor made the indent for the drugs.
2. The time orders were received, verified by the pharmacy and the issue slip was generated.
3. The time taken by the pharmacist to compose the order
4. The time taken for delivering the medicines

## **REVIEW OF LITERATURE**

- Medication turnaround time can be defined as the time between when a medication indent is composed, either hand written or electronically recorded, and the time medications are delivered to the nursing unit. Medication error is defined as any preventable event that may lead to inappropriate medication usage or harm to patient while the medications are in the control of the healthcare professionals.
- Patient safety needs to be ensured in every step of the process, from choosing the medication, to writing prescription, to dispensing the medication. On a management level, the result of this study can be used to improve and strengthen administration and nursing, physician support. ( Dr. Farheen Zeba Siddique :Turnaround time of IP Pharmacy, Monitoring Medication errors and material management of central store, OT store and Pharmacy. ) [1]
- Process breakdown, including traditional patient safety issues, work flow interruptions, and inefficiencies has been shown to account for as much as 78 percent of adverse drug events contributing significantly to an increase in associated costs. The accurate administration of medication requires the completion of four interdependent steps—order placement by the physician, transcription by the nurse, verification and dispensing by the pharmacy, and administration by the nurse. Errors introduced at any step of the process can be unwittingly transmitted to the next step. The percentage of medication errors occurring in the four stages of the medication process has been categorized: Physician ordering constitutes 39 to 49 percent of the reported errors, nursing administration 26 to 38 percent, medication transcription 11 to 12 percent, and pharmacy verification and dispensing 11 to 14 percent. (Hacop. S. Meckjian: Immediate benefits realized following implementation of POE at an Academic Medical Centre) [2]
- A medication event was defined as the completion of the entire cycle, from the physician order (manual or electronic) through medication administration. In the study of medication turn-around times, additional measurements specific to pharmacy were made. These included the time orders were received and verified by pharmacists, the time orders were entered into the pharmacy system, and the time medications were actually administered to the patients. The accurate administration of medication requires the completion of four interdependent steps—order placement by the physician, transcription by the nurse, verification and dispensing by the pharmacy, and administration by the nurse. [3]  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC346640/>
- **The Effects of Computerized Provider Order Entry on Medication Turn-around Time: A Time-to-first Dose Study at the Providence Portland Medical Center by Jeffery R. Jensen.** According to this study, Time-to-first-dose, or medication turn-around time, is considered the interval from the time a medication order was composed to the time the medication was delivered. Moreover, time-to-first dose can be broken down into two key phases: the time from when the order

was composed to the time that pharmacy verifies the order, and the time from pharmacy verification to the time the medication was delivered.[4]

- Inefficient medication use processes for stat orders jeopardize the effectiveness of pharmacotherapy in treatment regimens and the quality and safety of care in the inpatient setting. Pharmacists, pharmacy technicians, and nurses expressed the need to reevaluate and standardize the stat medication process in order to achieve the hospital policy which states that medication orders written as stat should be administered to the patient within 30 min of the time that the order is written.
- Pharmacy's direct involvement in this process improvement can be divided into two measurable processes. The process of order fulfillment includes the time elapsing from order request to product check by pharmacist. The second process consists of medication delivery to the patient care area, represented by time elapsed from departure of medication from the pharmacy until delivery to patient care area. Additional process categories may include order transcription, order verification, filling of medication orders, product check by a pharmacist, medication delivery, as well as staging between process steps. Although medication turnaround time, in its entirety, is well defined, the individual component processes are highly variable and influenced by a wide variety of factors. Despite evolving technology in the hospital pharmacy environment, few technology solutions have provided complete visibility into process flow. Real-time tracking of pharmacy processes and performance, similar to what occurs in other industries, provides the capability to quickly and efficiently measure, analyze, and apply process and performance data within the field of inpatient pharmacy operations. Ideally, a technology solution should track not only medication location through the process but also track critical information regarding workflow, productivity, and efficiency and provide real-time feedback regarding performance. Chou, J. et al. 2013. Measuring, evaluating, and improving medication distribution process and performance metrics in an inpatient pharmacy: The value of medication tracking, on-time delivery, and pharmacy analytics. [5]
- Poor performance, i.e., late deliveries, also contributes to the incidence of missing medications and numerous calls from nursing to determine medication location. Published evidence has suggested that missing medications may represent nearly 3% of total pharmacy volume dispensed, equivalent to over 200 missing medications per day in one organization. Adams K, et al. 2010. An Analysis of Missing Medication Documentation, Processes, and Procedures at the Veterans Hospital (VA Boston Healthcare System – West Roxbury Campus). [6]

## **RATIONALE**

Medication turnaround time is one of the important parameters which reflects the efficiency of the pharmacy and coordination between pharmacy, GDAs and nurse staff. Only if the drug is delivered on time, will it be administered on time, which highly affects the health outcomes of the patient. Since medicines have a major role in the hospital system and patient care, monitoring of the medication turn around should be a norm for every hospital, and strict policies regarding the ways to reduce the turnaround time should be framed and implemented, so that no delay in delivery of drugs can create a threat to patient care.

## **OBJECTIVES**

1. To estimate the Turnaround time for stat and routine drugs in inpatient and new admissions respectively in a Super Specialty Hospital, Saket.
2. To identify the reasons contributing to increased medication turnaround time.
3. To make recommendations to improve the medication turnaround time.

## **RESEARCH METHODOLOGY**

- Study type: Quantitative, Descriptive, Observational study
- Sample location: Critical and Non-critical areas for both East and west blocks (busiest floors with patients receiving mixed specialty services, predominant services being CTVS, Urology), Max Super Specialty Hospital, Saket, New Delhi.
- Study sample:
  - For routine drugs, newly admitted patients
  - For stat drugs, already admitted patients
- Sample size: 150 patients
- Study period: 2 weeks
- Sampling technique: Convenience sampling (non-probability)
- Data collection:
  - Primary data: Time motion study tool
  - Secondary data: Research paper, articles, guidelines

## DATA ANALYSIS AND INTERPRETATION

**FIGURE-1**

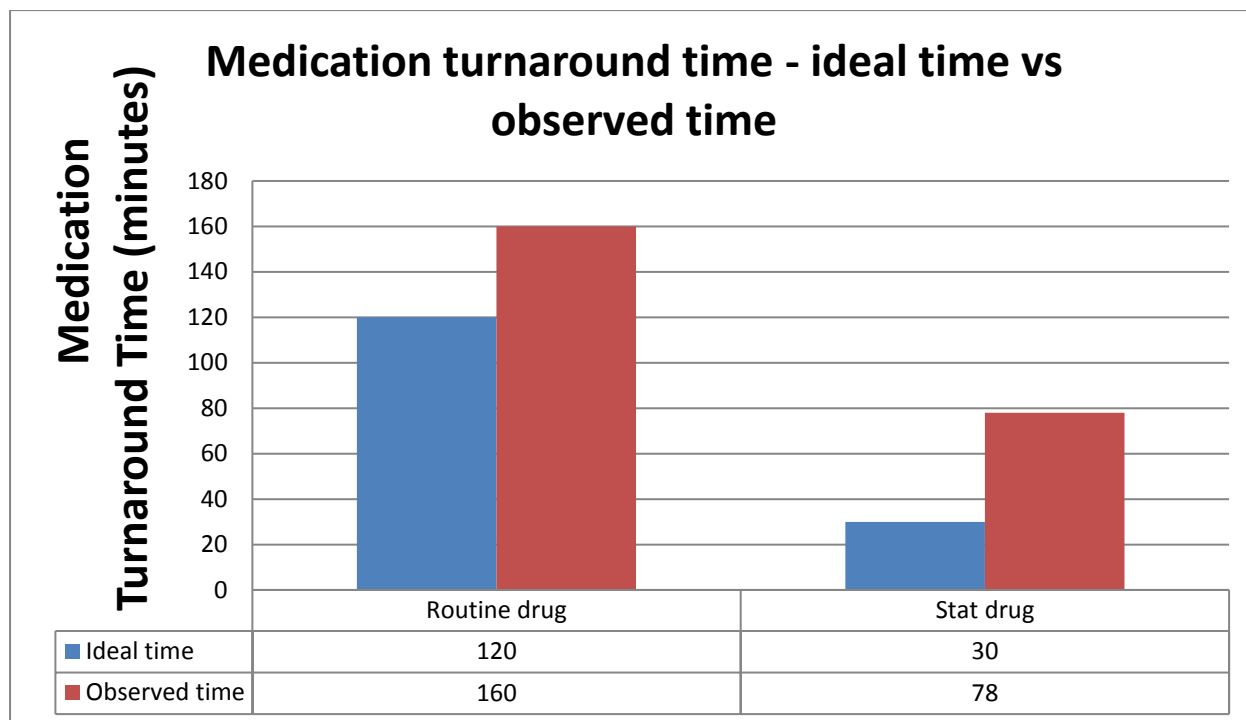


Fig. no.1: Figure depicts that the medication turnaround time for routine drug should be 120 minutes ideally, but on observation medication TAT was 160 minutes. Similarly, for Stat drugs medication TAT should be 30 minutes, but it was observed to be 78 minutes.

**FIGURE-2**

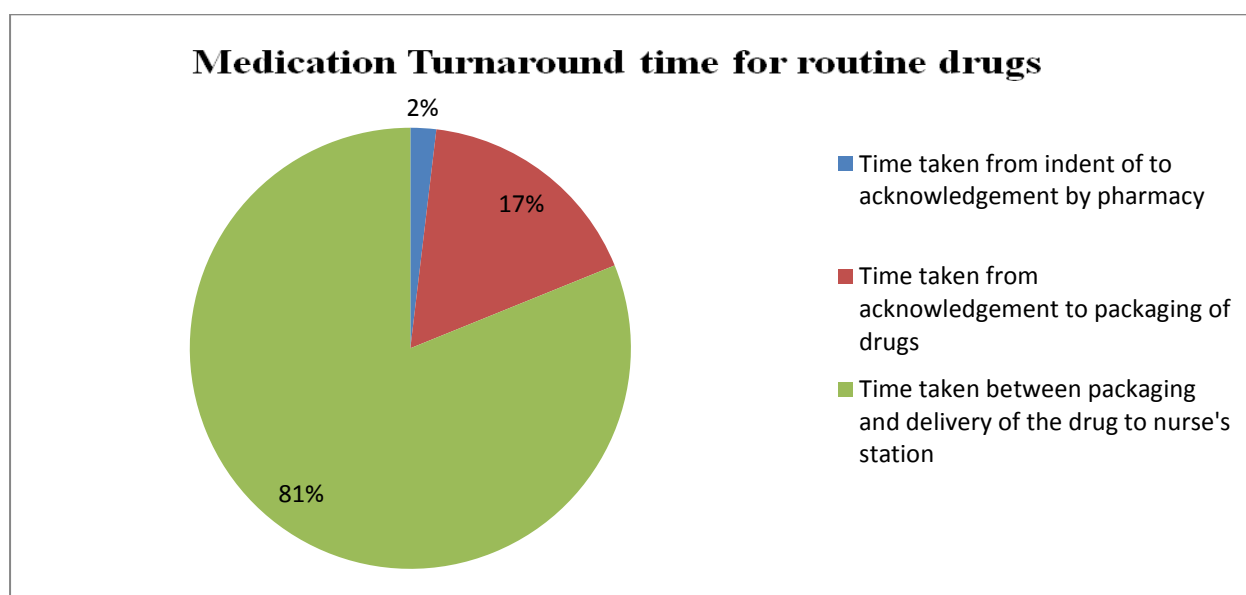


Fig. No.2: Figure shows that for routine drugs out of total Medication TAT 81% time was used for delivery of drugs, 17% was used for packaging of drugs, and 2% time is utilized in acknowledgement.

**FIGURE-3**

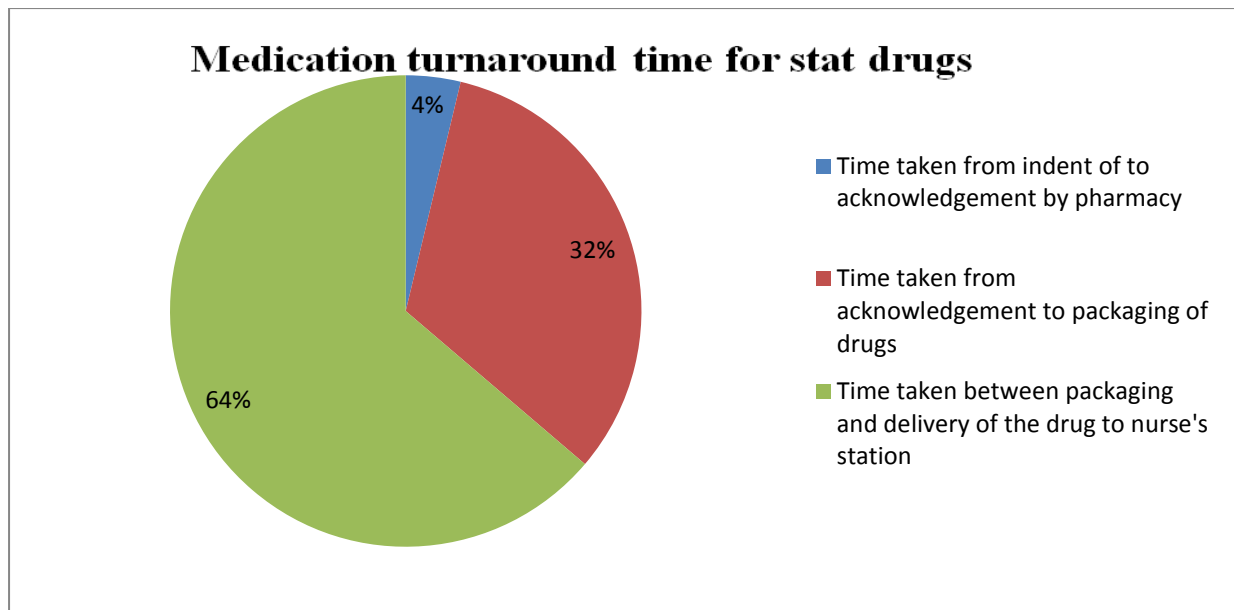


Fig. no.3: Figure shows that for stat drugs out of total Medication TAT 64% time was used for delivery of drugs, 32% was used for packaging of drugs, and 4% time is utilized in acknowledgement.

**FIGURE-4**

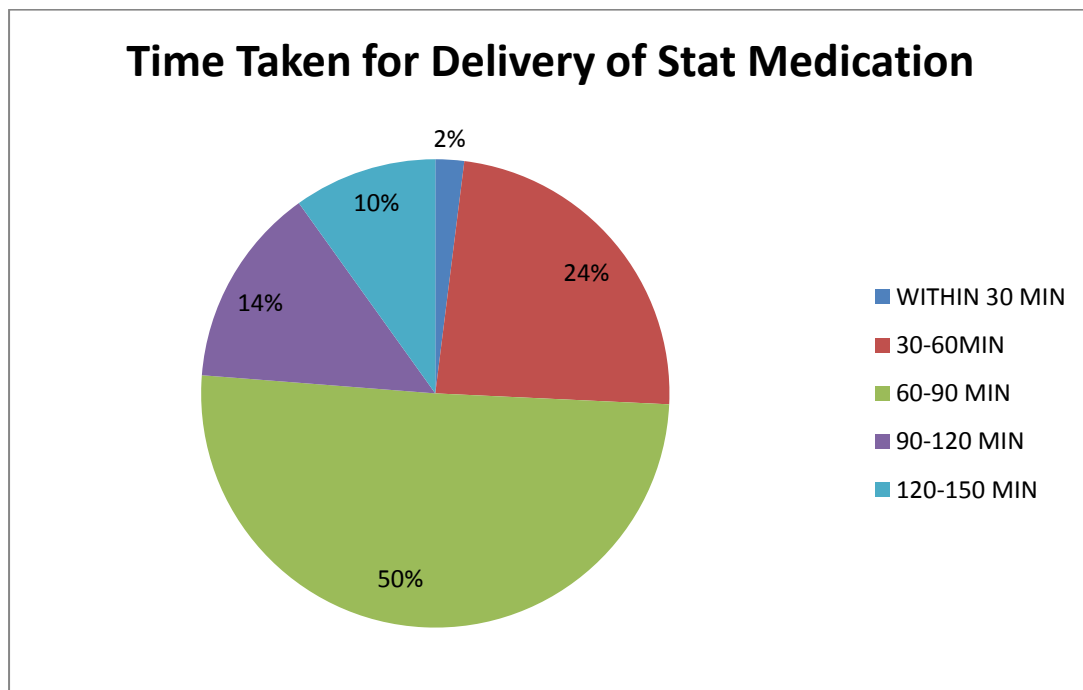


Fig. no.4: Figure shows that for stat drugs out of total Stat Medication TAT 50% of drugs get delivered within 60-90 min, 24% of drugs get delivered within 30-60 min, 14% of drugs get delivered within 90-120 min, 10% of drugs get delivered within 120-150 min and 2% of drugs get delivered within 30 min.

**FIGURE-5**

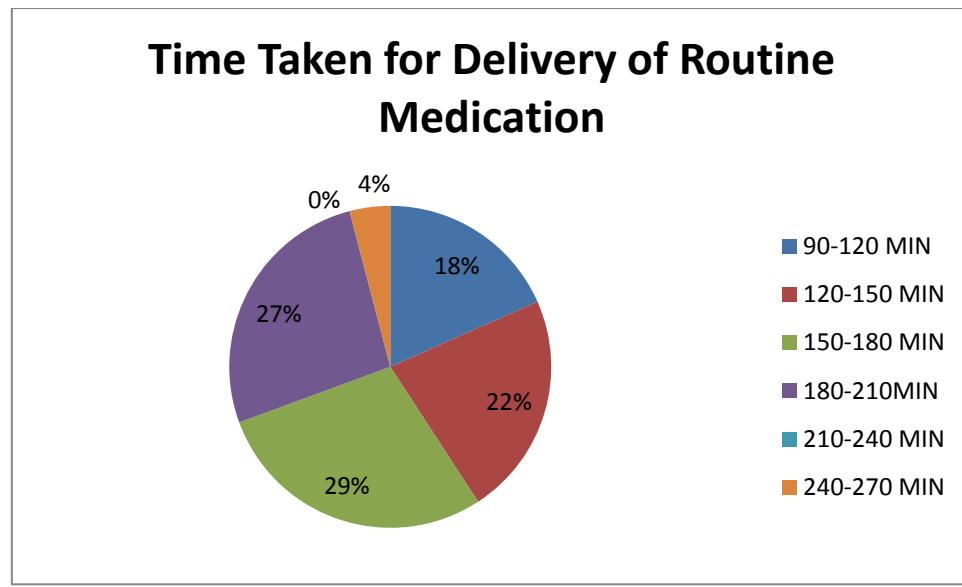


Fig. no.5: Figure shows that for Routine drugs out of total Routine Medication TAT 29% of drugs get delivered within 150-180 min, 27% of drugs get delivered within 180-210 min, 22% of drugs get delivered within 120-150 min, 18% of drugs get delivered within 210-240 min and 4% of drugs get delivered within 240-270min.

**FIGURE-6**

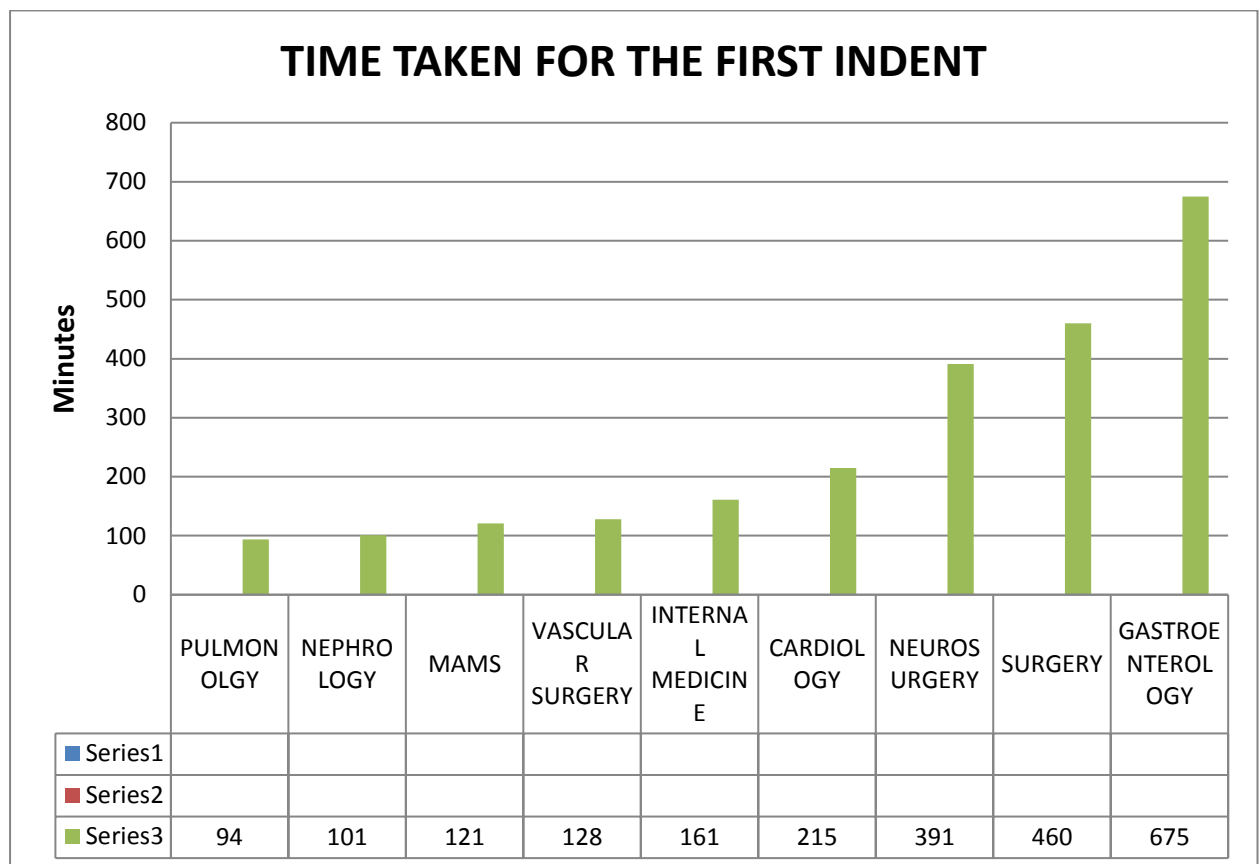


Fig. no.6: Figure shows the time taken in placing first indent for Routine drugs in newly admitted patient department wise.

### **OBSERVATIONS AND FINDINGS**

|                         | Routine drug | Stat drug |
|-------------------------|--------------|-----------|
| Ideal time (minutes)    | 120          | 30        |
| Observed time (minutes) | 160          | 78        |

|                                                                                         | ROUTINE DRUGS | STAT DRUGS |
|-----------------------------------------------------------------------------------------|---------------|------------|
| Average time taken from indent of to acknowledgement by pharmacy (T2-T1)                | 3 min         | 3 min      |
| Average time taken from acknowledgement to packaging of drugs(T3-T2)                    | 27 min        | 26 min     |
| Average time taken between packaging and delivery of the drug to nurse's station(T4-T3) | 129 min       | 51min      |
| Average time taken from indent of drug to its delivery to nurse's station (T4-T1)       | 160 min       | 78 min     |

- The ideal medication turnaround time for routine drugs is 120 minutes, but it was observed as 160 minutes in the study hospital.
- The ideal medication turnaround time for stat drugs is 30 minutes, but it was observed as 78 minutes.
- During the study it was observed that following acknowledgement of the order by the pharmacy, an issue slip is generated. Issue slips are generated at a time for multiple orders without giving priority to the order time of the drugs.
- Physical unavailability of the drug in the pharmacy, which might take time for restocking process.

- Composing of drug order in pharmacy is not done according to the priority status of the drugs, which results in delivery of stat and routine drugs at the same time.
- On issue slips, the priority of the drug was not present which otherwise might have aided in identification of the order and its timely delivery.
- Single GDA is allotted to multiple floors for delivery of drugs which is the main reason for increase in medication turnaround time.
- It was observed that when there is extreme delay in the arrival of drugs, the nurse's send their staff to the pharmacy to collect the drugs.
- In many instances it was seen that GDA was made to wait for acknowledgement of drugs by the nurses, because of which he was unable to reach other designated floors on time.
- Other than the nurse who acknowledged the delivered drugs, other nurses of the team were not aware of the delivery of the drugs to the nurse's station.
- CPRS is not updated when the priority of the drug is modified.

### **RECOMMENDATIONS**

- Sorting out of stat and routine drug orders should be done strictly on the basis of priority so that the stat drugs reach the counter within thirty minutes.
- Issue slip should contain an allocated space for the mention of priority of drug, so that their identification by the GDA and nurses becomes easier.
- Number of GDAs should be increased for the delivery of the drugs, and they should be divided floor wise.
- GDAs for critical and non- critical areas of the hospital should be divided.
- A single person should be present at every nurse counter to whom the GDA will report and who will be responsible for acknowledgement of the drugs, verification and sorting out the drugs on the basis of priority.
- Creation of different counters within the nurse's station for rooms of the floor in a visible area where the above said person will place the drugs and inform the nurses of the arrival of the drugs.

## **CONCLUSION**

Patient safety is ensured when every step of the process, from intending the medication, to dispensing the medication is optimized to prevent delays in therapy and medication errors.

Through this study, we were able to identify various points of delays, which were occurring in delivering indents to the patients. The results of the study revealed that all types of indents were delayed; especially stat indents, which is the major area of concern.

The delays in delivering of drugs and medical consumables interrupt smooth functioning of pharmacy. Monitoring medication turnaround time in inpatient settings allows organizations to measure the impact of their quality on the increased efficiency of patient care. Hospitalized patient may experience delays in care due to medication administration. Delays can lead to problems that's why continuous monitoring of the procedure and continuous efforts, dedication of whole staff and co-ordination between the staff members is required for smooth running of the process of pharmacy to vitalize the lifelines of hospital that is "medicines".

## **ANNEXURES**

1. [TIME MOTION STUDY TOOL.xlsx](#)
2. [TIME MOTION STUDY TOOL22.xlsx](#)

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