

**Summer Training at
Aditya Birla Memorial Hospital, Pune
(April - June, 2013)**

- 1. A Study on Knowledge of Healthcare Workers towards Needle Stick and Sharp Injury.**
- 2. A Study on Staff's Perception on their Job Satisfaction**

**By
Pinky Sarkar**

**Under the guidance of
Dr. Nutan P. Jain**

**Post Graduate Diploma in Hospital and Health Management
2012-2014**



**Institute of Health Management Research,
Jaipur
2013**

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CERTIFICATE

This is to certify that Dr. Pinky Sarkar, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur Batch 17th has undergone Summer Training at Aditya Birla Memorial Hospital, Pune and has done following projects:

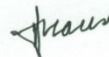
- A study on knowledge of healthcare workers towards needle stick and sharp injury
- A study on Staffs' perception on their Job satisfaction

The candidate has successfully carried out the mentioned studies assigned to her during summer training from 8th April 2013 to 8th June 2013 and her approach to study has been sincere, scientific and analytical.

I wish her success in all her future endeavors.



Dr. Nutan P. Jain
Professor and Mentor
IHMR, Jaipur



Dr. Ashok Kaushik
Dean, Academics and Student Affair
IHMR, Jaipur

8th July 2013

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Pinky Sarkar**, student of **PGDHM** from **Institute of Health Management Research, Jaipur** has successfully completed her Internship projects on **"A Study on gap analysis of various departments"**, **"A study on knowledge of healthcare workers towards needle stick and sharps injury"** and **"A study on staff's perception on job satisfaction"** at Aditya Birla Memorial Hospital, Pune from **8th April 2013 to 8th June 2013**.

During this tenure, her behaviour and conduct was good.

We wish her "All the Best" in her future endeavor.


Sandhya Angre
Nursing Superintendent


B S Angad
GM – HR & Admin


Acknowledgements

I take this opportunity to express my profound gratitude and deep regards to Ms Rekha Dubey, COO Aditya Birla Memorial Hospital for her exemplary guidance, monitoring and constant encouragement throughout the course of my summer internship. The blessing, help and guidance given by her time to time shall carry me a long way in the journey of life which I am about to embark.

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I am obliged to staff members of Aditya Birla Memorial Hospital, for the valuable information provided by them in their respective fields. I am grateful for their cooperation during the period of my assignment.

Lastly, I thank almighty, my parents, brothers and friends for their constant encouragement without which this assignment would not be possible.

Dr. Pinky Sarkar

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Abbreviations

1. ABMH – Aditya Birla Memorial Hospital
2. A&E – Accident and Emergency
3. BMW – Bio Medical Waste
4. CEO – Chief Executive Officer
5. COO – Chief Operating Officer
6. CSSD – Central Sterile Supply Department
7. CT – Computer Tomography
8. GM – General Manager
9. HCW – Health Care Worker
10. HIS – Hospital Information System
11. HIV – Human Immuno Virus
12. ICU – Intensive Care Unit
13. IPD – In Patient Department
14. JCI – Joint Commission International
15. MLC – Medico Legal Case
16. MRD- Medical Records Department
17. MRI – Magnetic Resonance Imaging
18. NABH – National Accreditation Board for Hospitals
19. NABL - National Accreditation Board for Laboratories
20. NICU – Neonatal Intensive Care Unit
21. NSI – Needle Stick Injury
22. OPD – Out Patient Department
23. PACS – Picture Archiving System
24. RMO – Resident Medical Officer
25. TAT – Turn Around Time
26. TPA – Third Party Administration
27. TTI – Transfusion Transmitted Infections
28. USG– Ultra Sonography

Introduction

Summer internship is an integral part of PGDHM. It offers an important opportunity to work closely with professionals in our own field and to develop knowledge, competencies and experience related directly to carrier goals. This training was a good platform for us to reflect on theories and concepts learnt in the classroom to observe and apply in real life situations. It reinforces the classroom learning through practice. This has helped us a lot in learning corporate etiquettes, understand corporate culture, all through own observations and experiences. Working here at ABMH has helped us to build self confidence and enhance our self esteem.

We consider our self to be fortunate to have got this exposure in one of the pioneer hospitals of the country.

Objectives

The overall objective of the field training was to:

- To understand and learn day to day operational management of the hospital.
- To study identified issues / problems associated with some specific operational area / programs.
- To evaluate the role that we, as future managers are expected to perform in the healthcare industry.
- To work on the specific issue / project work assigned by the hospital management.

Methodology

During this 8 weeks which we spent at ABMH, we interacted and communicated with a variety of people. The experience was diverse and exhilarating, as it gave us the opportunity to actually learn and understand the aspects of hospital management. The department studies and project reports prepared during this tenure were possible because we employed the following methodologies of data collection, generation and analysis.

Primary data resources

We actively interacted with the staff of the organization in various departments.

1. Interviews with the respective in-charge of the departments in the hospital.
2. Checklist prepared for each department.
3. Direct observation

Secondary data resources

1. Through registered records and manuals
2. Through internal website of the hospital
3. Literature available about the hospital like magazines, pamphlets, written documents, manuals.

Apart from this there has been extensive use of MS-Excel in the formulation and analysis of various projects undertaken

Profile of Aditya Birla Memorial Hospital,Pune



Aditya Birla Memorial Hospital (ABMH) is a 500 bedded multi-specialty medical centre located at Pimpri-Chinchwad. The quaternary healthcare centre provides high quality and cost-effective medical services. It is a tribute to the visionary founder of the Aditya Birla Group and it fulfills the late Mr. Aditya Vikram Birla's dream of building a world-class healthcare facility in India. It was incorporated in the year 2006. It is the first and only hospital in Pune to have coveted JCI (Joint Commission International) accreditation in addition to NABH, ISO and NABL accreditations.

It is a private limited organization and Mrs. Rajashree Birla, chairperson of the Aditya Birla Foundation, is personally steering this project. Oncology centre is one of its major milestones of expansion.

Vision

According to the information provided in the website of the hospital, the vision of the hospital is "Excellence first and always".

Mission

The mission of the hospital is "Compassionate Quality Healthcare".

- The hospital is committed to maintain the highest standard of care and respond to the needs of the community in a compassionate manner.
- To provide state-of-the-art, high quality and cost-effective healthcare services and latest information to improve and maintain health for the well-being of the community.
- To unrelentingly pursue the creation of value for their customers, shareholders, employees and society at large
- To foster a therapeutic relationship based on compassion that is felt, quality that is measurable and cost that is affordable.
- To become partners in health promotion with every section of society.

Quality Policy

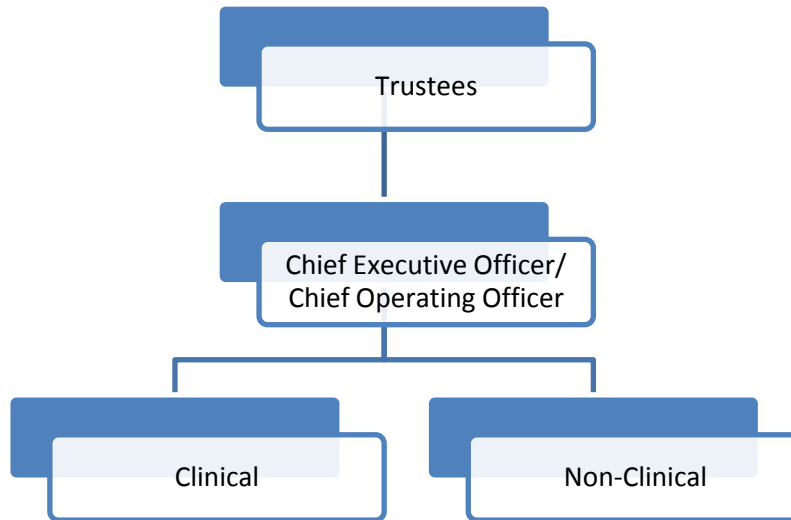
Aditya Birla Memorial Hospital, a multi super specialty institute, are committed to serve their users and society at large. Their endeavour is to achieve utmost satisfaction of their users by delivering compassionate, affordable quality services on a sustainable basis. Their focus is on continuous improved patient care.

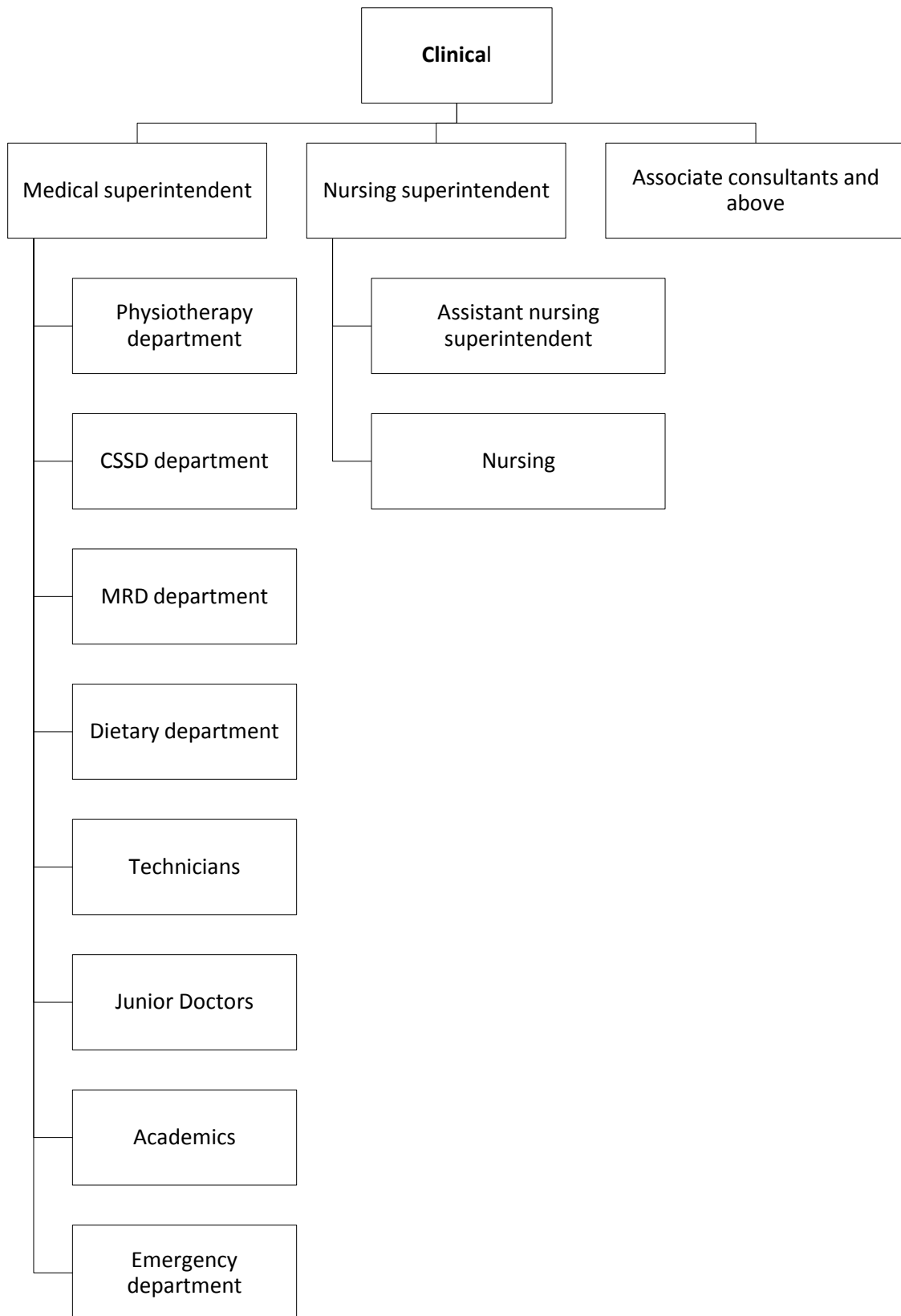
Super specialty services

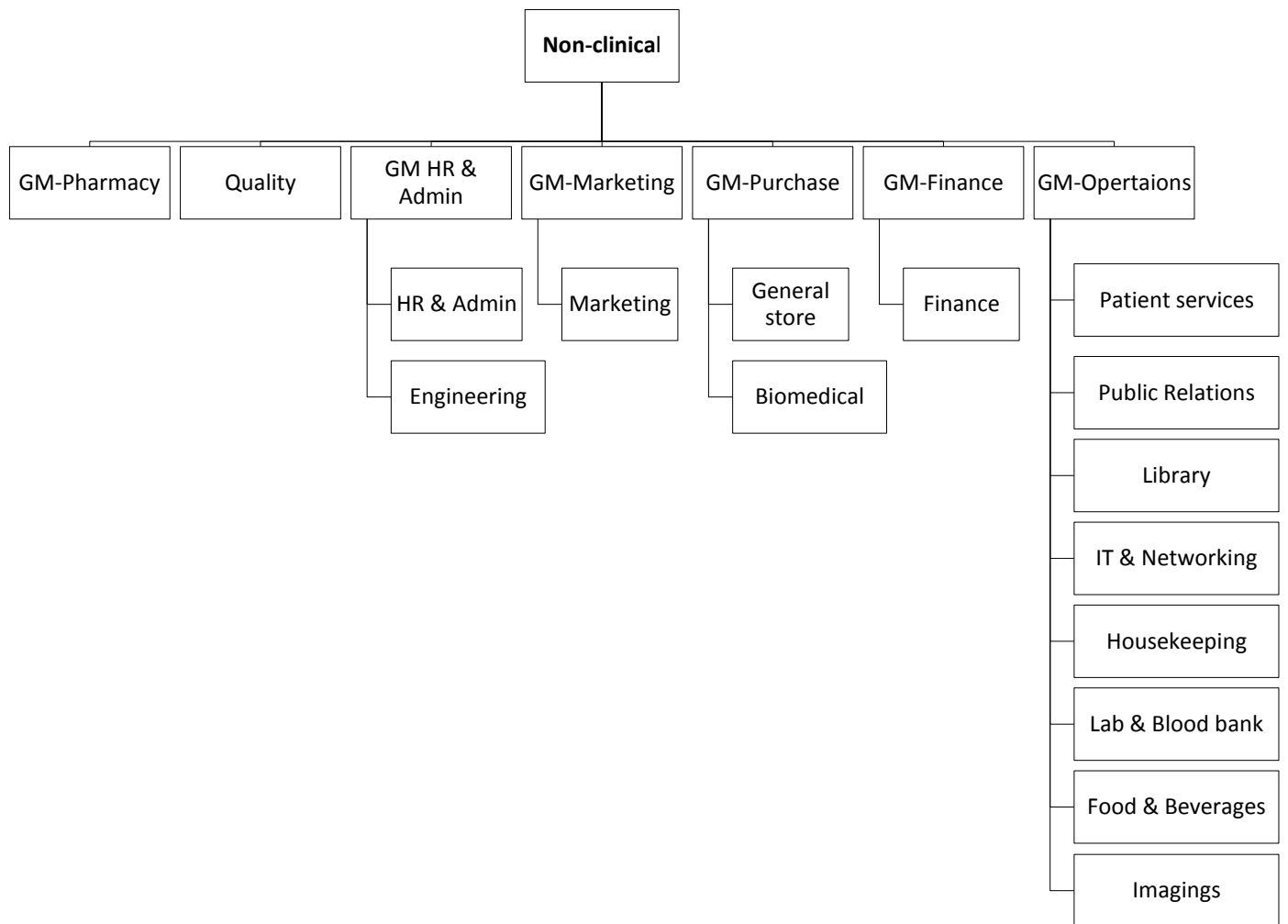
Super speciality services provided by the hospital include:

➤ Cardiology and Cardiovascular thoracic surgery	➤ Pain Management
➤ Neurology and Neurosurgery	➤ Oncology
➤ Orthopaedics & Joint Replacement	➤ Haematology
➤ Gastroenterology	➤ Internal medicine
➤ Minimal Invasive Surgery	➤ Endocrinology
➤ General surgery	➤ Accident and Emergency
➤ Paediatrics & Neonatology	➤ Physiotherapy
➤ Obstetrics and Gynaecology Infertility Clinic	➤ Radiology
➤ Intensive Care	➤ Bone Marrow Transplant Unit
➤ Dietetics	➤ Transfusion Medicine
➤ Nephrology	➤ Plastic surgery
➤ Urology	➤ Dentistry
➤ Ophthalmology	➤ Pulmonology
➤ Telemedicine	➤ Preventive Medicine
➤ ENT	➤ Pathology
➤ Blood Bank	➤ Rheumatology

Organogram of the Hospital







Observational Learning of Various Departments

1. Hospital Building

Aditya Birla Memorial Hospital is constructed in a plot size of 53,000 square meters and the covered area of the building is 35,820 square meters. There are two buildings in the hospital one for OPD and one for IPD which are joined by atrium in the centre. In the OPD building there is ground plus 2 floors where as in IPD building there is basement plus ground plus 4 floors. There is a single basement which is having non-clinical departments like laundry, finance, HR, CSSD, Mortuary, Store and purchase etc in the IPD building. Parking space is well organized with staff parking at the basement with a space of 4,000 square meter and a separate paid parking, with a space of 6,000 square meters is provided for patients with in the hospital premises. There are 14 lifts in the hospital with a capacity of 26 people in each lift. Number of stair cases are 4 and there is one ramp for material access. Other amenities like cafeteria, coffee vending shop, shop for orthopedic equipments, stationary shop, photocopy shop, ATM and Idol of Lord Ganesha are present in the atrium.

There are a total of 500 beds in the hospital with around 350 functional beds. Wards are broadly divided into Gold, Gold plus, Platinum, Emerald, Ruby Deluxe, Sapphire and Diamond suits with different bed charges, consultant, nursing charges etc. Few departments are out sourced like laundry, housekeeping, security, engineering, canteen etc in which only man power is outsourced but the infrastructure is provided by the hospital.

2. OPD (Out-Patient Department)

There are 4 parts of OPD's building: Ground floor – South wing, Ground floor – North wing, First floor – South wing and First floor – North wing. These various parts of OPD building are described in table format as follows:

1. Ground floor - South wing

Area Visited: OPD - Orthopedic and spinal

Sr. No.	Topic	Observation
1.	Location	Ground floor - South wing
2.	No. of consultation chambers	5
3.	OPD timing	9am - 5pm
4.	No. of procedure room	1 + 3 (PT room - 1, Hydrotherapy - 1, Cardiac Rehabilitation Unit - 1)
5.	Sitting capacity	29
6.	No. of front desks	1 (Common for ortho, spinal, PT, Obesity clinic, Dietician clinic)
7.	Appointment system	Yes - Computerized - Rcare Magna software

Sr. No.	Topic	Observation
8.	Manpower with hierarchy	12 Consultants + 12 PT + 1 Receptionist + 1 Nurse + 1 Housekeeper + 2 Medical Assistants
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	50

Sr. No.	Topic	Observation
15.	Equipments	8 Physiotherapy Equipments - Interpharancial therapy, Ultrasound, Traction, Electric Muscle Stimulator, Ginjar machine, Suspension machine, Short wave diathermy, Parallel bars
16.	Supportive Departments	Physiotherapy, Obesity Clinic, Dietician Clinic, Medical Social Worker Service

2. Ground floor - North wing

Area Visited: OPD - Internal Medicine, Oncology and Endocrinology

Sr. No.	Topic	Observation
1.	Location	Ground floor - North wing
2.	No. of consultation chambers	Internal Medicine - 4, Oncology - 2 and Endocrinology – 1
3.	OPD timing	9am - 5pm
4.	Sitting capacity	69
5.	No. of front desks	1

Sr. No.	Topic	Observation
6.	Appointment system	Yes - Computerized - Rcare Magna software
7.	Manpower with hierarchy	13 Consultants + 2 Receptionist + 2 Nurse + 1 Housekeeper
8.	Duty rosters	8.5 hourly
9.	Tariff	First visit - 550, Follow-up visit – 400
10.	OPD record keeping	Computerized - Rcare Magna software
11.	Retrieval of records	Computerized - FRS (File Request System) software
12.	Recording of follow up records	Computerized - FRS (File Request System) software
13.	Daily Volumes-No. of OPD per day	95 (Internal Medicine), 5 (Oncology)
14.	Supportive Depts	Oncology, Endocrinology, Sample collection dept.

Sr. No.	Topic	Observation
1.	Location	Ground floor - North wing
2.	No. of consultation chambers	4
3.	OPD timing	9am - 5pm
4.	No. of procedure room	2
5.	Sitting capacity	24

Sr. No.	Topic	Observation
6.	No. of front desks	1
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 10 + 2 Receptionist + 2 Nurse + 1 Housekeeper
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	95

Sr. No.	Topic	Observation
1.	Location	Ground floor - North wing
2.	No. of consultation chambers	4
3.	OPD timing	9am - 5pm
4.	No. of procedure room	2
5.	Sitting capacity	42
6.	No. of front desks	1

Sr. No.	Topic	Observation
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	7 Consultants + 2 Receptionist + 4 Nurses + 1 Housekeeper
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	60
15.	Supportive Depts.	USG

3. **First floor - South wing**

Area Visited: OPD - Cardiovascular & Pulmonary medicine

Sr. No.	Topic	Observation
1.	Location	First floor - South wing
2.	No. of consultation chambers	8

3.	OPD timing	9am - 5pm
4.	No. of procedure room	2 (Cardio diagnostic lab - 1, Pulmonary function lab - 1)
5.	Sitting capacity	38
6.	No. of front desks	1 (common for Cardiology & Chest depts.)
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 9 + 1 Receptionist + 1 Nurse + 1* Housekeeper (*- only housekeeper work for all dept on 1st floor south wing) + 2 Medical Assistants
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400

11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	65
15.	Equipments	2D Echo, ECG, Holter & ambulatory, 2 Treadmill machines

Sr. No.	Topic	Observation
1.	Location	First floor - South wing
2.	No. of consultation chambers	5
3.	OPD timing	9am - 5pm
4.	No. of procedure room	1+ 1(Telemedicine room)
5.	Sitting capacity	24
6.	No. of front desks	1 (common for GS & Neurology depts.)

7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 7 + 2 Receptionists© + 1 Nurse© + 1 Housekeeper* (© - common for GS & Neurology depts.©, *- only housekeeper work for all dept on 1st floor south wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	40

Sr. No.	Topic	Observation
1.	Location	First floor - South wing
2.	No. of consultation chambers	4
3.	OPD timing	9am - 5pm
4.	No. of procedure room	3 (EEG room - 1, EMG room - 1, Procedure room - 1)

5.	Sitting capacity	24
6.	No. of front desks	1 (common for GS & Neurology depts.)
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 7 + 2 Receptionist© + 1 Nurse© + 1 Housekeeper* (© - common for GS & Neurology depts, *- only housekeeper work for all dept on 1st floor south wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	30
15.	Equipments	EEG, EMG machine

Sr. No.	Topic	Observation
1.	Location	First floor - South wing
2.	No. of consultations chambers	3
3.	OPD timing	9am - 5pm
4.	No. of procedure room	2
5.	Sitting capacity	22
6.	No. of front desks	1
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 9 + 1 Receptionist + 1 Nurse + 1 Housekeeper* (* only housekeeper work for all dept on 1st floor south wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	20
15.	Equipments	co2 Laser & Diode laser

16. First floor - North wing

Area Visited: Dental Department

Sr. No.	Topic	Observation
1.	Location	First floor - North wing
2.	No. of consultation chambers	2
3.	OPD timing	9am - 5pm
4.	No. of procedure room	1
5.	Sitting capacity	8
6.	No. of front desks	1
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 7 + 1 Receptionist + 1 Nurse + 2 Housekeepers* (* - 2 housekeeper work for all dept on 1st floor north wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	15

Sr. No.	Topic	Observation
1.	Location	First floor - North wing
2.	No. of consultation chambers	4
3.	OPD timing	9am - 5pm
4.	No. of procedure room	2 (Lithotripsy - 1, Urodynamic - 1)
5.	Sitting capacity	24
6.	No. of front desks	1 (common for Nephrology & ENT depts.)
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 4 + 1 Receptionist© + 1 Nurse© + 2 Housekeepers* (© - common for Nephrology & ENT depts., *- 2 housekeeper work for all depts. on 1st floor north wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software

13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	35
15.	Equipments	Lithotripsy Machine

Sr. No.	Topic	Observation
1.	Location	First floor - North wing
2.	No. of consultation chambers	2
3.	OPD timing	9am - 5pm
4.	No. of procedure room	2 (Speech therapy - 1, Audiometry - 1)
5.	Sitting capacity	16
6.	No. of front desks	1 (common for Nephrology & ENT depts.)
7.	Appointment system	Yes - Computerized - Rcare Magna software
8.	Manpower with hierarchy	Consultants 4 + 1 Receptionist© + 1 Nurse© + 2 Housekeepers* (© - common for Nephrology & ENT depts., *- 2 housekeeper work for all depts. on 1st floor north wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400

11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	25

Sr. No.	Topic	Observation
1.	Location	First floor - North wing
2.	No. of consultation chambers	3
3.	OPD timing	9am - 5pm
4.	No. of procedure room	6 (Angiography - 1, Photo coyag laser - 1, A & B scan - 1, Yag laser - 1, Refraction room - 1, Perimetry room - 1)
5.	Sitting capacity	40
6.	No. of front desks	1
7.	Appointment system	Yes - Computerized - Rcare Magna software

8.	Manpower with hierarchy	Consultants 5 + 1 Receptionist + 1 Nurse+ 2 Housekeepers* (*- 2 housekeepers work for all depts. on 1st floor north wing)
9.	Duty rosters	8.5 hourly
10.	Tariff	First visit - 550, Follow-up visit – 400
11.	OPD record keeping	Computerized - Rcare Magna software
12.	Retrieval of records	Computerized - FRS (File Request System) software
13.	Recording of follow up records	Computerized - FRS (File Request System) software
14.	Daily Volumes-No. of OPD per day	30
15.	Equipments	A & B scan, Yag laser, Photo Coyag laser, Angiography, Auto refraction machines
16.	Supportive Depts.	Eye bank, Optician Shop

- There are 2 software's used in OPD building which is as follows:

I. **R care magna software:** It is used for following services

R care magna software:
Lab
Patient A/C billing
Patient services
Admin
Dietary
ADT
Appointment scheduling
CSSD
HLL
Inventory
Registration
Procurement
CPR

II. **FRS (File Request System):** It is used for following services

FRS (File Request System)
OPD file request
OPD file receive
OPD file return

3. Diagnostics

There are total 5 units in diagnostic department as follows:

Sr. no.	Procedure	Topic	Observation
1.	ECG	TAT	5 min
		No. of Procedure per day	12
		Consent Form	No
		Tariff	Rs.275
2.	USG	TAT	15 min
		No. of Procedure per day	40
		Consent Form	Yes (for Obstetrics pts)
		Tariff	Rs.1040
3.	Tread Mill Test	TAT	25-40 min
		No. of Procedure per day	15
		Consent Form	Yes
		Tariff	Rs.1275
4.	2D Echo	TAT	10 min
		No. of Procedure per day	25
		Consent Form	Yes
		Tariff	Rs. 1500

4. Endoscopy Department

Details of endoscopy departments as follows:

Sr. no.	Procedure	Topic	Observation
1	Gastroscopy & Duodenoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	3
		Equipments	Gastroscope - 1, Duodenoscope - 1, Cautery machine -1, Anaesthesia machine-1 Cardiac Monitor - 1, Endoscopy trolley - 1 (Fixed), Biopsy forcep - 1, Pulsoximeter - 1, Monitor - 1, Light source - 1, Processor - 1, Suction machine - 1, Ultrasonic disinfectant machine- 1, Difibrillator - 1, Accessories,
		Time per procedure	5 mins
		Tariff per procedure	Rs. 4200
2	Colonoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1
		Equipments	Colonoscope – 1
		Time per procedure	10 mins
		Tariff per procedure	Rs. 4600

Sr. no.	Procedure	Topic	Observation
3	Bronchoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1
		Equipments	Bronchoscope - 1, Monitor - 1, Endoscopy trolley - 1 (Portable), Light source - 1, Processor - 1, Accessories
		Time per procedure	15 mins
		Tariff per procedure	Rs. 17000
4	ERCP	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1
		Equipments	ERCP machine
		Time per procedure	1.5 hour
		Tariff per procedure	Rs. 17000

5. Dialysis Department

Details of dialysis department are as follows:

Haemodialysis

Topic	Observation
Dialysis per day	45 (15 per batch * 3 batches) For HCV and HBV – 2 batches
Manpower	Consultants - 2, Technician - 8, Nurses - 6, Guest relation officer - 1, Housekeeping - 4
Medicines	from dialysis dept
Consumables	from in house pharmacy
Tariff per procedure	Rs. 1320
Facilities	Yes

6. Blood Bank

Structure and equipments

1. Screening and physical examination room:

It is used for screening and physical medical examination of blood donor before donation of blood

2. Blood donation room: consists of beds-3 (for blood collection),

Equipment: Blood collection monitor-3 (It collects fix quantity of blood automatically in blood bag, and it prevents blood from coagulation by keeping the blood bag continuously in motion.

3. Aphaeresis room:

It is used for aphaeresis which is a medical technology in which the blood of a donor or patient is passed through an apparatus that separates out one particular constituent and returns the remainder to the circulation. Whole blood enters the centrifuge and separates platelets. Remaining blood enters back into circulation.

Equipments: Bed- 1, Amicus machine- 1 (for aphaeresis)

4. Refreshment room:

It is rest room for blood donors after blood donation.

5. Clean area room:

This room is used to separate blood components.

Equipments:

- i. Laminar airflow machine: It is used for blood components separation under strict sterile conditions with the help of sterile airflow and ultra violet rays.
- ii. Sterile docking machine: It is used to transfer some quantity of blood from mother bag to other bag. This machine keeps mother bag and the bag in which blood has been transferred unexposed to air and sterile.

6. Component separation room:

Equipments:

- i. Centrifuge machine – 2: A centrifuge machine is used to separate the components of blood. The centrifuge works using the sedimentation principle, where the centripetal acceleration causes denser substances to separate out along the radial direction (the bottom of the tube).
- ii. Untested blood storage cabinet – 1: It is used to store untested whole blood or RBC's. Temperature maintained 2-6 degree C
- iii. Plasma storage cabinet – 2: It is used to store separated NHP (Normal Human Plasma) and cryoprecipitate. Temperature maintained below –25 degree C up to -40 degree C.
- iv. Plasma freezer – 1: It is used to freeze plasma at faster rate. Temperature maintained below –40 degree C up to -80 degree C.

7. Blood Grouping and serological lab:

Equipments:

- i. Plasma freezer – 1: In this freezer, plasma is arranged blood group wise for issuing. Temperature maintained below –25 degree C up to -40 degree C. There is arrangement of continuous measurement of temperature of freezer called thermograph which can record change in temperature in graphical presentation for 7 days. After 7 days, this thermograph is changed.
- ii. Thawing bath – 1: It is used to bring frozen plasma to normal room temperature. Temperature maintained 37 degree C.
- iii. Reagent storage cabinet – 1: It is used to store testing kit and anti sera stock. Temperature maintained 2-6 degree C.
- iv. Micros 60 machine – 1: It is used to get haemogram of blood donor before apheresis as pre donation testing
- v. Incubator – 1: It is for ELISA plate incubation.
- vi. Quality control is done by discarding blood crossed expiry date and examining blood for microorganism culture.

8. Washing and sterilization room:

Equipments:

- i. Outdoor camp equipments
- ii. Hot air oven – 1: It is used for drying test tubes and slides.
- iii. Autoclave – 1: It is used for sterilization of hiv positive or hbv positive blood before discarding.

9. TTI (Transfusion Transmitted Infectious diseases) room:

TTI test is done for HIV, HbsAg, HCV, VDRL and Malaria Parasite

Vacutainers are used for blood collection and storage. Red colored called plain vacutainer is used for testing blood for test other than blood grouping. Purple colored vacutainer called EDTA consists of anticoagulant used for blood grouping.

Pre donation testing is done only before apheresis which consists of haemogram, blood group and TTI test. It is not done for whole blood donation for which only 3 parameters are examined hemoglobin, BP and medical test – physical examination, history taking.

Equipments:

- i. Rapid Machine – 1: It is used for ELISA testing for HIV and HbsAg
- ii. Untested sample storage cabinet – 1: Temperature maintained 2-6 degree C.

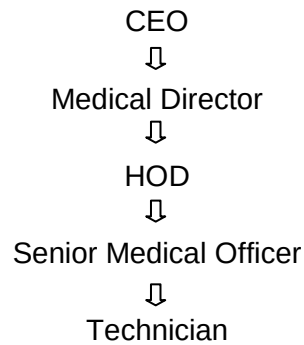
10. **Record room:** Record of blood donation and issuing of blood is maintained for 5 years.

11. Issue counter and cross matching room:

Equipments:

- i. Issue blood cabinet – 1: It is used to store blood bags blood group wise and reservation wise for issuing to patients. Temperature maintained 2-6 degree C.
- ii. Platelets agitator – 1: It is used to keep platelets in continuous motion to avoid coagulation. . Temperature maintained 22-24 degree C.
- iii. Cross matching equipments.

Organogram of Blood bank:



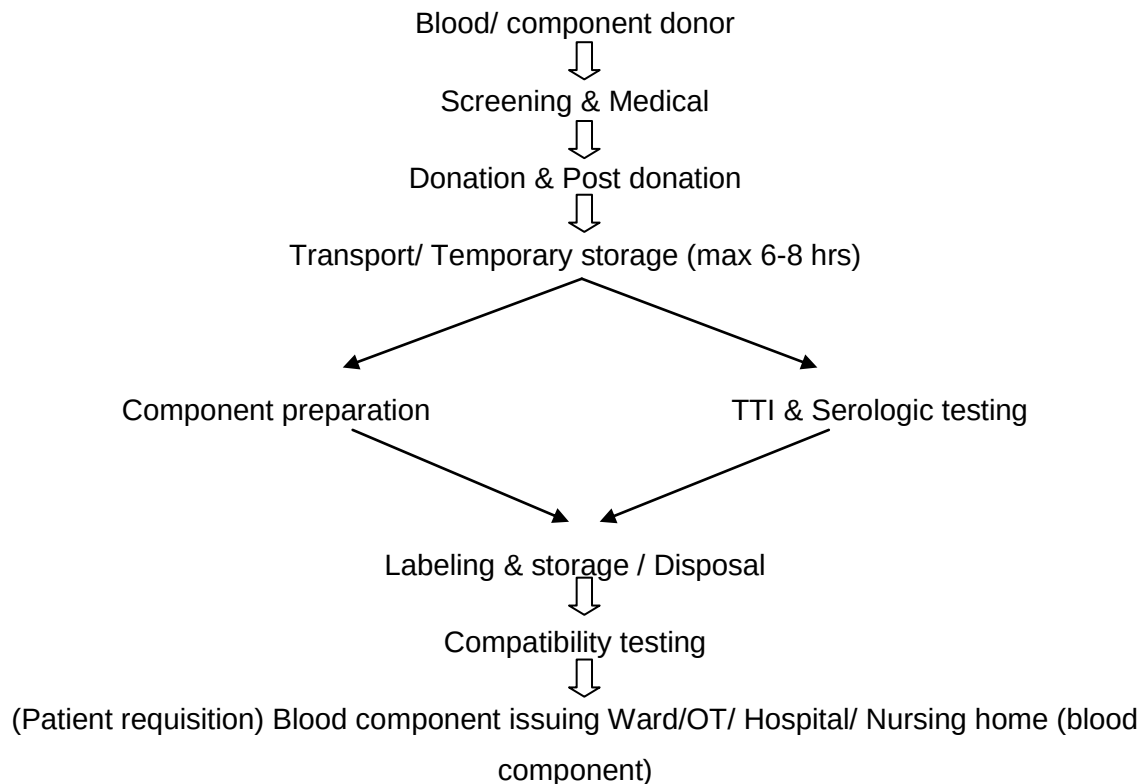
Labs in blood bank:

- i. Donor lab
- ii. Apheresis lab
- iii. Grouping lab
- iv. Medical record
- v. Quality Control lab
- vi. TTI lab
- vii. BMW lab
- viii. Component lab
- ix. Compatibility testing lab
- x. HIS/ software/ Computer

Criteria for whole blood donor selection procedure:

- i. Donor registration
- ii. Donor screening (medical interview and physical examination)
- iii. Obtain informed consent of donor
- iv. Generation of donor registration no.(blood unit no.)
- v. Interpretation
- vi. Documentation

Work flow in blood bank:



Issue of red cells containing components process:

Issue slip from concerned doctor is essential, then to verify the information on issue slips, such as patient name, registration no., and type of blood component required, ward & sign of doctor



Request from OT, incase of telephone, issue all the above details except doctor sign, ask name, documented and location



Using name & MRN no. of the patient from issue slip, identify blood bank id from issue register



Using PB no, take out requisition form of patient from pending issue file, tally name & MRN no. of patient on slip, and attach issue slip with requisition form



Take out required no. of units from storage, identify blood/component unit by crosschecking BD

no., BG, date of expiry



While processing issue scan the donation no. from bag. Do not write after preparation of issue report & compatibility sticker



Check the unit for expiry date, abnormal appearance, leakage, discoloration, gas formation and haemolysis



Paste compatibility sticker on appropriate unit



Recheck details on compatibility sticker on respective unit



Confirm the information on issue report with that on blood unit



Unit is ready for issue. Blood unit should always be issued with issue report



Make all the remaining entries in the issue register against the respective patient. Mention date and time of issue in the column provided.



Issuing technician should put his / her sign in issue register and take sign of receiving person and mention name below.

Issue of non red cell containing components:

No prior processing / reservation are done for these components



All the frozen plasma components are issued only after thawing in 37 degree Celsius (for 30



min)

Prior to putting the frozen plasma for thawing, one attached segment is used for reverse grouping of the component by the tube method



Confirm the group with that on the label of the component bag



No information of the blood group for platelet concentration and cryoprecipitate is required

List of records in blood bank:

1. License file
2. TTI lab testing register
3. Discard record register
4. TTI reactive units records
5. Blood donor consent record
6. Emergency drugs record
7. SDP procedure record
8. Blood component stock register
9. Patient investigation register
10. Blood donor grouping register
11. Blood and component issue register
12. Consumable inventory register
13. Daily QC record for antisera
14. Master donor record
15. Issue lab equipment cleaning record
16. OC record for RBC and whole blood
17. QC record for platelets
18. QC record for cryoprecipitate and FFP
19. Component preparation record
20. Sterile docking procedure record
21. Indent receiving register

- 22. Technician over register
- 23. QC record for antisera

Blood bank licenses:

Central Drugs Standard Control Organization and the state licensing authorities issue licenses

Form of application for license for operation of Blood Bank/processing of whole human blood for components/manufacture or Blood Products for sale or distribution

Provided further that a licensee holding a license in Form 28-C or Form 28-E as the case may be for operation of blood bank/processing of whole human blood for components/manufacture of blood products shall apply for grant of license under sub-rule (1) before the expiry of the said license on Form 27-C or Form 27-E as the case may be and he shall continue to operate the same till the orders on his application are communicated to him.

7. Pathology Laboratory

There are 5 units of pathology laboratory as follows:

1. Sample Collection Room:

- Equipments:
 - Research Centrifuge machine
 - Pneumatic System
 - Barcode machine
 - Trays for sample segregation department wise: for Hematology, Biochemistry, Immunology, Microbiology and Clinical pathology
- Sample is received from various departments like OT, wellness, A&E, NICU, OPD, and blood bank through pneumatic system. While sample is received from IPD through housekeeping staff.
- After sample receipt, lab assistant make entries of sample reception in system (HIS)
- Centrifugation of sample is done.

- Sample receiving from OPD is already bar-coded, while sample received from IPD need to be bar-coded. After bar-coding of sample, CR number is generated in system.
- Samples are segregated unit wise in respective assigned trays and sent to respective units.

2. Hematology:

- Equipments:
 - Single Analyzer
 - Batch Analyzer
 - Stago – PT, PTTK, Fibrinogen test can be performed
 - ACL Machine Analyzer: Fully Automatic
 - Microscope: 1
- Tests performed: CBC, ESR, Glycolated Hb, Reticulocyte count, D-Dymer test, coagulation test
- FQAS
- Quality Control: External
- Technician- 9
- CAP

3. Immunopathology:

- Equipments:
 - Cobas e 411: at a time 30 samples can be processed
 - Electro Immuno Chemoluminiscence: hormonal assessment like T3, T4, TSH, Insulin, B12, etc tests can be processed. It processes serum sample. It takes half hour per sample for processing
 - Siemens VIDAS ROCHE
- QC: Everyday
- Sample processing per day: 70 to 80

4. **Histopathology:**

- Registration number is generated after receiving specimen. Sample contains 1 gm of specimen and 10 times of formaline.
- Three types of tests are performed in histopathology
 - Surgical pathology
 - Cytology
 - Immunohistochemistry
- Surgical pathology: Specimen grossing and storage is done for biopsy
- Trimming of specimen is done and it is stored in fully automatic tissue processor.
- After tissue trimming, trimmed tissue is kept in small cassette. Then cassettes are placed in bucket. This bucket is then kept in tissue processor. It has 14 hours schedule program.
- Embedding of specimen is done in embedding machine.
- Embedded specimen is cut very fine and staining done.
- Specimen is mounted on slide. Then it is sent to pathologist for reporting
- This slide is stored for 10 years.
- Cytology:
 - Gynaecology cytology: PAP smear – vaginal and cervix.
 - Non Gynaecology cytology: all body fluids.
- Immunohistochemistry: Marker tests are performed.
- Staff: Technician – 2, Pathologist – 2
- Daily number of tests performing:
 - Biopsy – 10
 - Cytology – 10
 - Marker test – 2
- Time required for completion of tests:
 - Small Biopsy – 3 days
 - Big Biopsy – 5 days
 - Cytology – 1 day
- Equipments:
 - Stained H&E Slide Storage cabinets – 2
 - Microwave Oven – 1

- Microscopes – 3
- Linear Stainer – 1
- Cytospin Centrifuge
- Paraffin Blocks
- Water bath

5. **Biochemistry:**

➤ Equipments:

- AVL 9180 – Electrolyte Analyzer – Na, K, Cl for urine, serum. Auto calibration: 4 hourly
- Hitachi 902 – Fully Auto analyzer – 72 types of tests like serum BSL, urea, Sr Creatinine, etc – 30 samples can be processed at a time
- Cobas – b 121 – ABG Analyzer – fully automatic – models i) 5856, ii)6085, whole blood is processed in this equipment
- Cobas 4232 – for Trop-T and D-dymer test
- Vitros 4600 – Biochemistry Analyzer fusion of dry + Wet chemistry – Automatic report transmission to HIS
- Vitros 250 – Dry biochemistry
- Vitros DT 6011 Biochemistry Analyzer
- DTSC II: Enzymatic test biochemistry semiautomatic

8. **Radiology**

Radiology department is located at ground floor of IPD building. It includes x-ray, CT scan, MRI, Mammography, Color Doppler and ultrasonography:

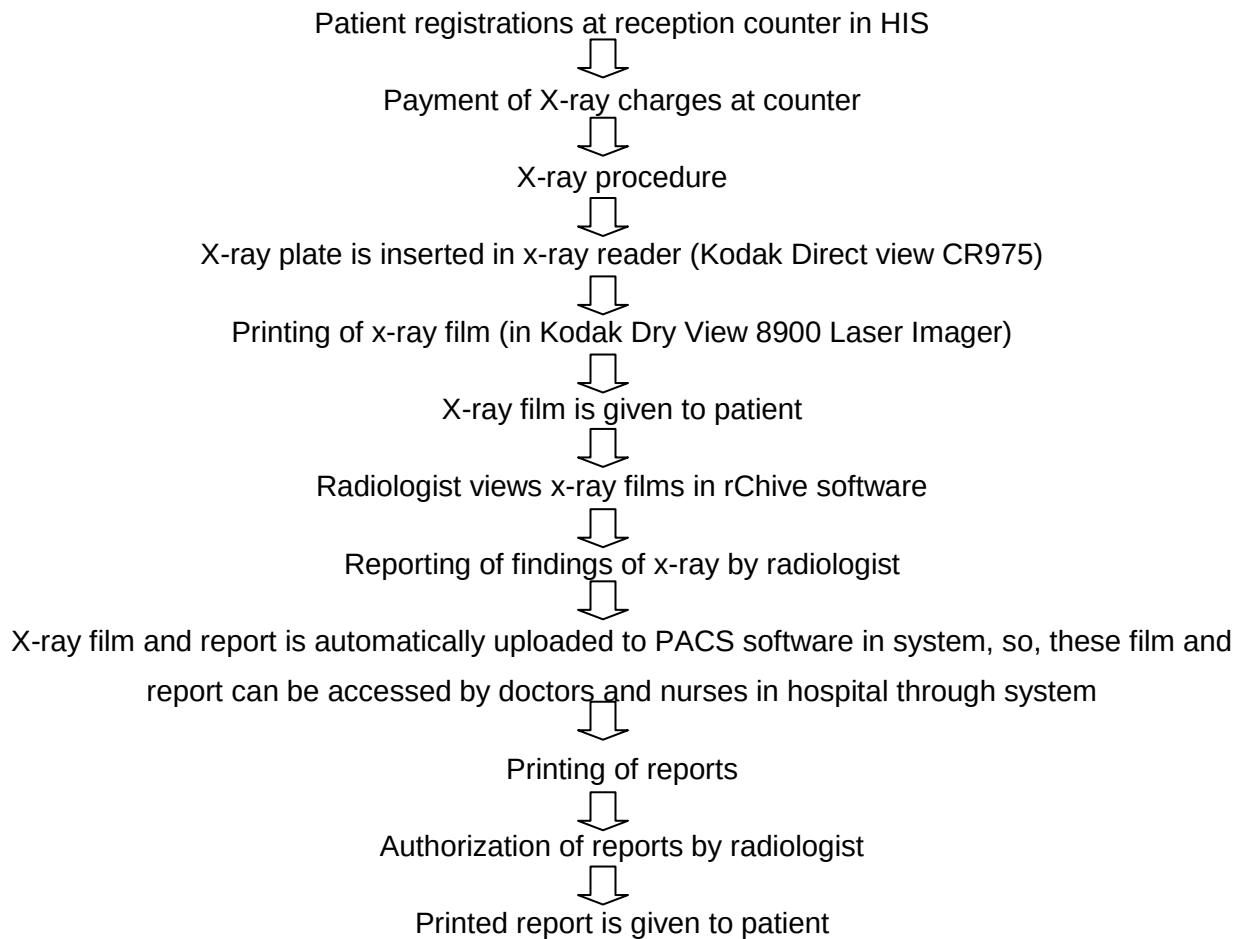
1. **X-ray Department:**

➤ There are total 5 x-ray machine. These are located as follows:

- X-ray Dept: 2 (Fixed: 1 for X-ray and 1 for Fluoroscopy)
- Wellness Dept: 1
- ICU: 2 (Portable)

- Cassette Rack: 11 cassettes (x-ray plates) available
- Available software in system for radiology dept.
 - PACS (Picture Archiving Communication System)
 - rChive software: for reading, reporting of images; viewing history, HIS orders, work list and scheduling.
 - Masterview software: for image cropping and contrast adjustment.

➤ **Process flow of in X-ray Dept:**



- TAT for X-ray procedure (from registration to completion of x-ray procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of x-ray procedures per day: 100
- Tariff: Rs. 350/film/view

➤ Staff:

- Technician-6 (shifts: Morning-3, Afternoon-1, Night-1, Off-1)
- Nurse-2 (for USG, Mammography, Color Doppler)
- Housekeeping-3

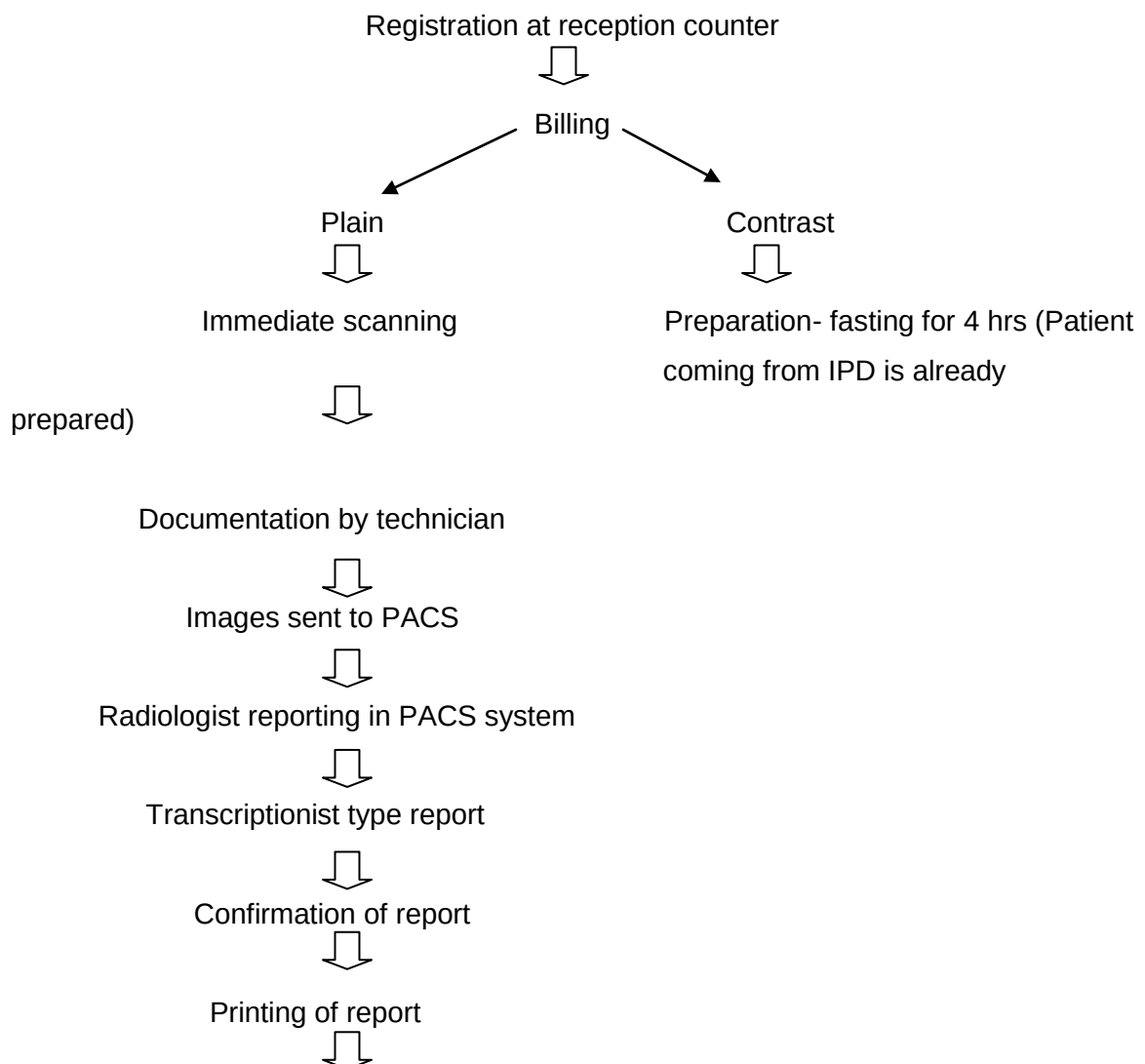
2. **CT Scan:**

➤ Machine: Siemens-Sensation 64 slice

➤ Contrast used: Non-ionic IV contrast- Inj Iomeron 350mg IV, Oral contrast-Gastrovideo for abdominal scan

➤ Console Room: 1 (common for CT scan and MRI Scan)

➤ **Process flow of in CT Scan Dept:**



Authorization of report by radiologist



Report is given to patient

- TAT for CT scan procedure (from registration to completion of CT scan procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of CT scan procedures per day:15-20
- Tariff: Rs. 2500-12000
- Staff: (common for CT scan and MRI Scan)
 - Technician-5 (shifts: Morning-2, Afternoon-2, Night-1)
 - Nurse-1
 - Housekeeping-2
- Quality Control:
 - AERB(Atomic Energy Regulatory Board) visit per year
 - TLD (Thermo Lumination Dosimeter) Badge for staff which is checked after every 3 months
 - CT scan machine is checked by biomedical engineer daily.

3. **MRI Scan:**

- Machine: Siemens1.5 Tesla

Process flow of in MRI Scan Dept:

Registration at reception counter



Billing

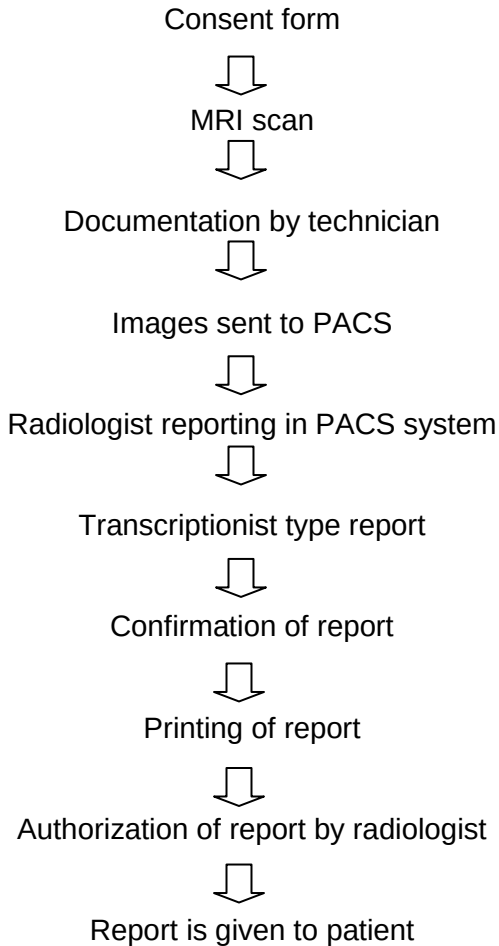


Schedule entry



Procedure is explained to patient



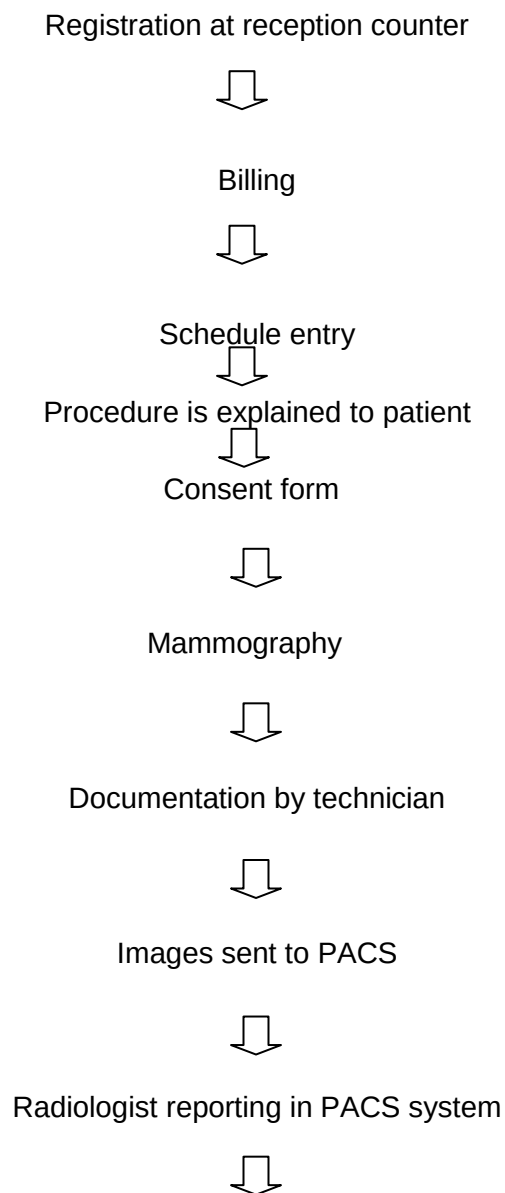


- TAT for MRI scan procedure (from registration to completion of CT scan procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of MRI scan procedures per day: 8-10
- Tariff: Rs. 8500-12000
- Quality Control:
 - AERB(Atomic Energy Regulatory Board) visit per year
 - TLD (Thermo Lumination Dosimeter) Badge for staff which is checked after every 3 months
 - MRI scan machine is checked by biomedical engineer daily.

4. **Mammography:**

- Machine for mammography:
 - Mammomat – Siemens 3000 Nova
 - Biopsy Unit – Stereotactic Biopsy Unit
 - Cassette

➤ **Process flow of in Mammography Dept:**



Transcriptionist type report



Confirmation of report



Printing of report



Authorization of report by radiologist



Report is given to patient

- After each mammography, breast USG is done
- Mammography is done in separate room. It consists of operating cabin, system and change room.
- There is coding lock system of door and entry is given inside room only for staff to protect privacy of patients.
- TAT for mammography (from registration to completion of procedure): 25 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of mammography procedures per month: 70-80
- Tariff: Rs. 1780
- Staff: Technician:1 (for general shift)

5. Color Doppler and Ultrasonography :

- Machine: Siemens – Acuson Sequoia 512
- TVS probe for internal sonography
- 4C1 probe for abdomen and obstetrics
- 5L8W Linear probe for neck, breast and thyroid USG.

9. In-Patient Department

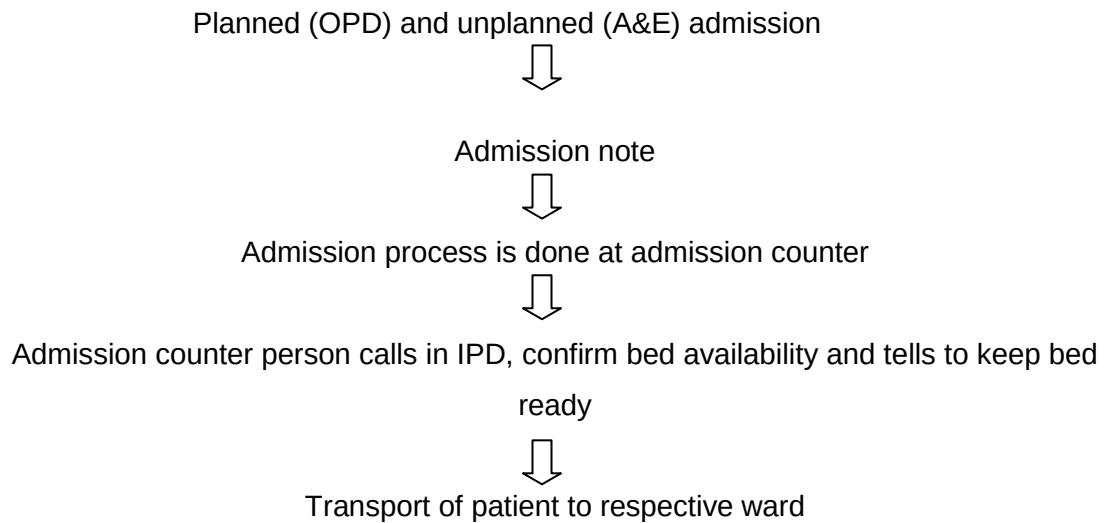
- Types of beds: There are different types of wards with different name. Amenities are provided category wise. Details are mentioned as follows:

Sr No.	Category	Floor	Bed Charges	Nursing Charges	Consultant Charges	Room Amenities
1	Gold Male	3rd floor	1000	200	275	General
2	Gold Female	3rd floor	1000	200	275	General
3	Gold Pediatrics	3rd floor	1000	200	275	General
4	Gold Plus	3rd floor	1500	250	325	4 beds in single room, sofa cum bed for relative
5	Platinum A	3rd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
6	Platinum B	3rd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
7	Platinum 2nd floor	2nd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
8	Emerald A	3rd floor	3900	500	550	Single room, TV, Sofa cum bed, Lockers, Telephone
9	Emerald B	3rd floor	3900	500	550	Single room, TV, Sofa cum bed, Lockers, Telephone
10	Safire	2nd floor	4750	550	750	Single room, TV, Sofa cum bed, Lockers, Telephone
11	Diamond	2nd floor	6750	600	1000	2 rooms (for patient:1, for relative: 1), oven, freeze, phone, lockers, TV, Telephone, Sofa cum bed

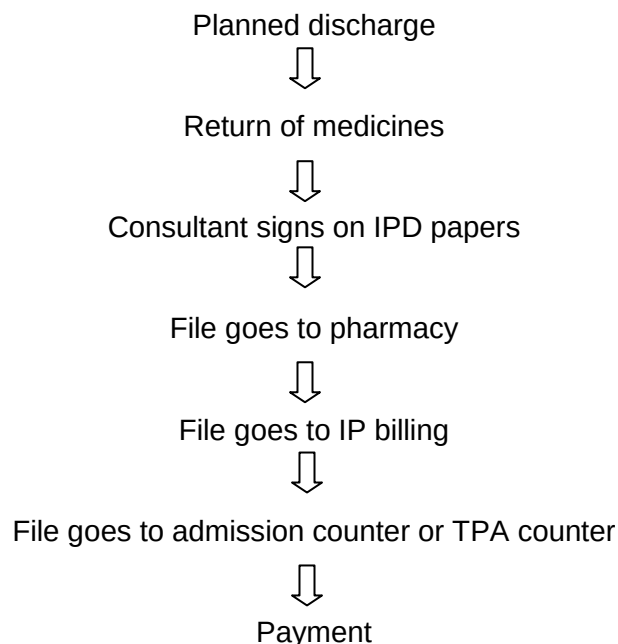
12	MICU	2nd floor	3200	500	600	NA
13	SICU	2nd floor	3200	500	600	NA
14	SICU 1st floor	1st floor	3200	500	600	NA
15	PICU (Level 3)	2nd floor	3000	500	650	NA
16	PICU (Level 2)	2nd floor	2500	500	600	NA
17	NICU (Level 3)	G floor	3000	500	650	NA
18	NICU (Level 2)	G floor	2500	500	600	NA
19	Obs & Gynaec Ruby Twin	G floor	2200	300	400	2 beds in single room, sofa cum bed for relative
20	Obs & Gynaec Ruby Deluxe	G floor	3900	500	550	4 beds in single room, sofa cum bed for relative
21	Obs & Gynaec Gold	G floor	1000	200	275	General

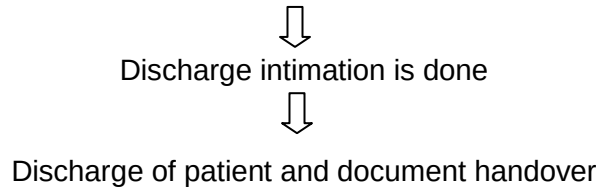
- Nursing stations are well equipped with all necessary and emergency equipments like ECG machine, Glucometer, Crash cart, etc
- Record Keeping : Manually in patients IPD files and in system like in softwares like Rcare magnum/ Magnum Hybrid, HIS, etc.
- IPD beds arrangement is open and also specialty wise.
- Manpower and hierarchy: Consultants, RMO's, Team leader – 1 and 12 nurses under TL, housekeeping
- Duty Rosters: Duties are done in morning (7:30 AM – 2:30 PM), Evening (1:30 PM – 8:30 PM) and Night (8:00 PM – 8:00 AM) shifts
- Daily patients volume: 16-17/day
- Quality Indicators: Medical auditing of files and other factors

➤ Process flow of admission:



- Rounds of consultants: Morning and evening
- Medicines for patients are brought from IPD pharmacy.
- Dieticians takes round 3-4 times a day and decide and arrange food for patients
- Cleaning of wards is done thrice a day and washing is done after discharge
- Nurse call system: Medisystem
- Patient is prepared in IPD ward for operation before taking him to OT.
- Visiting hours of IPD is 4:00 PM to 8:00 PM
- BMW management is done according to standard protocols.
- Process flow of discharge:





10. Operation Theatre

- Location: It is situated on 1st floor.
- No of O.T: Total 8 O.T.
6 O.T on 1 floor: (1 general, 1 urology, 1 ortho ,1 neurology O.T, 1 Ophthalmology O.T, 1 Cardiac O.T), 1 gynaecology O.T on ground floor, 1 In vitro fertilization O.T
- Design: 1 Scrub station and induction room attached to every O.T
1 perfusionist room, 1 fluid warming cabinet room, 1 theatre sterile supply room. Medical gas valve attached to every O.T. 1 engineer round daily for temperature, humidity and pressure control. 1 biomedical engineer round daily for medical equipments. Dirty corridor attached to operation, 1 unsterile lift and 1 sterile lift in O.T, 1 doctors lounge, 1 biomedical department, 1 nurses lounge.
- Equipments: crash cart, trolley, defibrillator, C arm, anaesthesia machine, 1 cautery, 1 harmonic machine, 1 suction machine, 1 body warmer, central supply for oxygen and nitrogen, laser machine, fracture table, tourniquet cuff, sand bags, headrings, 1 video trolley, O.T light.
- After every case O.T sterilised by echo shield. Terminal cleaning of O.T done.
- Process:

Patient comes in preoperative area



Preoperative verification done



Patient in holding area monitored by anaesthetist and nurses



Patient brought inside O.T, time out done



Surgery



After surgery patient kept in post operative area till he/she is stable



Surgeon notes , and other documents noted down and signed by doctors and nurses.

- Standard operating protocols on quality assurance:
 - 1 .Strict hand hygiene.
 - 2 Surveillance and monitoring of hospital acquired infections.
 3. Anesthesia equipment checklist prior to each of session.
 4. Preoperative check list.
 5. Post operative check list.
- Staff: Anesthetist 11 ,HOD Senior consultant 1,registrar +DNB students (6)

Nursing staff (25), team leader (2), senior nursing staff (8), nursing staff (15).

Housekeeping (6), transport (1)
- Duty :MORNING :7:30 TO 4:00,EVENING :1:30 TO 8:30 PM,NIGHT 8 PM -8AM
- Recommendations: proper scheduling of cases, proper preoperative verification should be done. More attention to be laid on cleaning of O.T.

11. Intensive Care Unit

- 1.MEDICAL I.C.U.(2nd floor),16 beds.2 isolation,
- SURGICAL I.CU(2).(2nd and 1st floor),2 isolation,
- PAEDIATRIC I.C.U(2nd floor) .7 beds,
- NEONATAL I.CU (ground floor) 32 beds.
- Type: Semiclosed I.C.U.
- Staff: 1 intensivist,1 senior consultant intensivist,2 R.M.O,1 Registrar,8 nurses in each shift.

(24 staff)-8 in each shift,8 ventilators in sicu.im MICU and SICU.

➤ Quality indicators:

1. To achieve VAP rate below 5 per 1000 ventilator days by year end.
2. To achieve CRBSI rate less than 5 per 1000 ventilator days by year end.
3. To decrease urinary tract by 5 per 1000 urinary catheter days by year end.

➤ Ward rounds are done by intensivist daily. Intrahospital transportation of patients is monitored by I.C.U Nurses. Infection control nurse takes round daily for monitoring of ventilator and central line.

➤ I.C.U EQUIPMENTS:

1. Monitor	2. NBP Cuff.
3. ECG	4. Syringe pump.
5. Oxygen flow meter.	5. Oxygen flow meter.
7. AMBU bag	8. Pressure bag
9. Patient shifter	10. DVT Pump
11. Vacutainer.	12. Blood box
13. Oxygen cylinder	14. TPA Stamp.

➤ Documents: Transfer in, transfer out form, shift out form, discharge form, nurse assessment notes, plan of care etc.

12. Accident and Emergency Department:

- Triage station: Patient being sorted according to the condition.
- Red zone: 2 Cardiac beds , 1 paediatric bed ,1 poly trauma bed
- Equipments: Monitor, Defibrillator, Ventilator,1 crash cart,1 emergency drug cupboard,1 ECG machine,1 syringe pump.
- Green zone: Stable patient.
- Yellow zone: less critical patients .6 beds.
- Black zone:1 bed
- Ambulance: There are 2 Cardiac,2 non cardiac,

1 doctor, 1 housekeeping, 1 nurse, in cardiac ambulance.

1 housekeeping in non cardiac ambulance.
- Staff: 1 registrar,3 doctor, in each shift,1 casualty medical officer.,3 nursing staff.

1 Trauma team for code blue in emergency. Within 3 min all faculty reach.
- 1 operation theatre for emergency.

1 disaster kit room.(20-25 patients can be managed).

1 nursing manger room, 1 doctor room.

1 reception area , 1 billing area.

1 ambulance counter.

13. MRD

MRD is the medical records department where records of the patients are maintained by the hospital. Medical records are maintained for legal purpose and also for treatment.

There are different types of medical records with different retention period for each department like

1. OPD records – Retained for a period of 3 years.

2. IPD records – Retained for 5 years.
3. Medico-legal records – Retained for 10 years.
4. Birth records – Retained for 21 years.

In MRD there are 2 units

1. Transcription unit – which takes care of report typing
8 Transcriptionist – 1 in cardiology, 2 in radiology (1 within the radiology department and 1 in MRD), 5 in IPD for preparing discharge summary.
2. Record keeping unit – which takes care of all the record keeping, retrieval, maintenance etc
In this unit there are 7 technicians

In addition to this there is 1 manager, 1 senior executive who take care of the department. There are 2 housekeeping staffs as well for support services.

Arrangement of the medical record is done by MRN number.

If the patient comes to OPD with prior appointment his/her records are already sent to the department if not after the file request is sent to the MRD it takes 20 minutes to send his record to the OPD. Electronic Medical record is also maintained through Magnum Hybrid for clinical purposes and through Magnum for general purposes.

For the retrieval of the record if the patient is self payee he/she can retrieve their record by submitting a request form. For a TPA patient request form along with a deficiency letter from insurance company has to be submitted for the retrieval of any particular record.

14. Housekeeping

Housekeeping is out sourced in this hospital. Manpower for housekeeping is supplied by two companies

1. Sumeet- which supplies 96 staff
2. Rare hospitality- which supplies 130 staff.

In this department there is a manger who is common for MRD and support services, below which there are 3 supervisors. These 4 staff are in house i.e. they are on ABMH pay scale.

Under these 3 supervisors there are around 12 supervisors, 6 from Sumeet and 6 from Rare who takes care of all the remaining staffs.

Housekeeping staff are given a training of around 1 week by their respective companies and after joining 3 days on duty training is provided to them by the hospital.

15. Dietary Department:

- Total dieticians =9
- Medical superintendent
 - ↓
 - Chief dietician
 - ↓
 - Senior dietician
 - ↓
 - Junior dietician.
- Process: Patient admitted in hospital
 - ↓
 - Information from Hospital information system/nursing staff, dieticians round—
 - ↓
 - food is decided according to the diagnosis-
 - ↓
 - Informed to room service
 - ↓
 - Diet sheet is given
 - ↓
 - Food is delivered according to the time.
- Staff: 85 staff. Below captain level all staff is outsourced.
- License: FORM C, Given by FSSAI: FOOD SAFETY AND STANDARD ACT [Pimpri Chinchwad Municipal Corporation).
- Recommendations: food should be served on time, and patient choice should also take into account.

16. Biomedical Engineering Department

According to need purchase is being made .Indent is raised by user, approved by management. Technical specifications are taken from different vendors for new equipments. Commercial specifications of equipments are done. After specifications it has to be recommended by doctors then again sent to management for further approval. Biomedical engineers round daily in o.t, i.c.u, pathology, radiology, and accident and emergency. Rest areas are visited according to need. Preventive and maintenance schedule is there for equipments.Callibration is done once in year except blood bank and pathology.3rd party contract for collaboration. Internal auditing yearly, external auditing by I.S.O, NABH, J.C.I.

Staff: 1 HOD,1 assistant manager,3 biomedical engineer,1 clerical staff.

17. Material Management

This department takes care of all the stationary items like materials needed for plumbing, electrical, civil, chemicals for water treatment plant, furniture, computers, printers, computer related parts, linen, shoes, slippers etc. There are a total of 4 staffs in this department- 1 supervisor, 2 assistant, 1 housekeeping staff.

Analysis of the material is done by three ways:

1. ABC Analysis (Always Better Control Analysis) - This is based on the consumption value
 - A class goods – High consumption as well as high individual cost – one month stock is maintained for these goods.
 - B class goods – Medium consumption and cost is also at the mid level – 15 days stock is maintained.
 - C class goods – Individual cost is also low as well as consumption is also less – 2-3 months stock is maintained for these goods.
2. HML Analysis – High, Medium and Low value Analysis – This is based on unit value.
3. FIFO – First in and first out analysis – Goods which are purchased first should be used first.

Process flow

For regular items purchase requisition is generated from store/ for non regular items purchase requisition is generated from the respective department.



Approval signature for the purchase is taken from CEO



Purchase and ordering process is carried out by the department (quotation)



Order is signed by the management and the order is placed.



Vendor sends the material with the bill and invoice.



Goods receiving note along with invoice is sent to finance department for the payment.

There are various forms which are maintained by the department like- purchase from, requisition form, stock form etc.

18. Pharmacy

- There are 4 pharmacies in the hospital & 1 central store pharmacy, 1 O.P.D Pharmacy, 1 gynae pharmacy, 1 O.T pharmacy, 1 IPD pharmacy.
- Narcotics drugs are licensed by National drug and psychotropic substance act. O.P.D pharmacies and O.T pharmacies have license of narcotics. Quota of narcotics is fixed. For transport distributor has to take permission from drug office. Major documents for narcotics is nursing narcotic request book, narcotic central drug book, narcotic consumption book for unused medicine record. Doctor's sign is must. Rubber stamp mandatory. Empty ampoules are returned back to pharmacy. Permission is taken from drug office to discard the drugs. These are crushed then discarded. Narcotics are stored

in double lock and key cupboards. Daily 3 times inventory of narcotics are checked for how much drugs are sold and the remaining drugs. If misplaced then informed. Prescription of narcotics is stored for 10 yrs.

- Inventory management:
 - A B C : (Priority wise)
 - A-Costly Drugs constitutes 10% of pharmacy.
 - B- constitutes 30 TO 35%
 - C-Value of items less, no. of items in the store more.
 - VED Analysis: Vital and essential drugs. These drugs amount are always kept in excess.
 - FIFO: First in and first out.
 - Look alike medicines are kept at different places.
 - Tallman labeling: To reduce error main part is highlighted.
 - Different place of storage of lookalike drugs.
- Process: Indent is sent from every pharmacy to central pharmacy through Hospital information system. Auto indenting system from every pharmacy to the central store at 12:00 am night. Stock is filled for 4 days from central store to each pharmacy in the hospital. Empress stock used in emergency in nursing station. It is also maintained and replaced from in patient pharmacy. Purchase return is made for the near expiry drugs before 3 months.
- Purchase: Particular vendor is authorized by company and then demand is send to the vendor, they will send the supply.
- Pharmacy training is being given for correct method of handling cytotoxic spillage.
- Cytotoxic admixture unit on 3rd floor: For diluting antibiotics and cytotoxic drugs. 2 HEPA filters are there for safe handling of drugs.
- 1 Clinical pharmacy : 2 pharmacist are there for rechecking of drug dosage of the patients in I.P.D
- Audits: JCI, NABH and ISO.
- License of whole sale in central pharmacy. Food and drug association gives license. FORM 21B and 20 B license, O.P.D pharmacy Form 20 G +NDPS 2, O.T: NDPS 2, I.P.D: FORM 20+21 +21 C. Licenses are issued according to location, storage, pharmacist qualifications.

- Staff: 13 Staff in inpatient pharmacy, 6 staff in o.p.d,1 incharge,1 senior placement,1 data interpreter. Rest all are pharmacist.

19. Central Sterile Supply Department (CSSD)

CSSD department consists of 3 areas:

A) Decontamination area:

- This area receives used instruments, dressing, linen from OT, OPD, IPD, etc
- This area has unsterile lift to receive infected instruments from OT.
- These infected instruments are washed in hot water with the help of pressure air guns and water guns.
- Then these instruments are cleaned at 45 degree C temperature in Ultrasonic washer machine (Trans-o-sonic).
- After thorough cleaning, instruments are disinfected in washer disinfectant at 90 degrees C.
- Instruments are dried in dryer and sent to assembly area for set preparation

B) Assembly area:

- Sets of instruments are prepared according to requirement of operations.
- These sets are then packed in fabric linen which has expiry date of 7 days from packing date or Non oven which has expiry date of 3 months from packing date or paper package which has expiry date of 1 month from packing date or peel pouches which has expiry date of 1 year from packing date.
- These are packed with help of fix sealing machine.
- A chemical indicator strip is placed in instruments set before packing.
- There are two types of sterilizer:
 - Steam sterilizer: It is high temperature steam sterilizer used to sterile instruments. There are 2 steam sterilizers in CSSD dept; Steris Amesco century 250 liters and 760 liters. It generate steam of 134 degree C. It works on 3 parameters; time required for quality of steam exposure to instruments, 97% saturated steam and temperature of 134 degree C.

- ETO (Ethylene Oxide) Sterilizer – Steris Amsio Eagle: It is low temperature (37-55 degree C) sterilizer used for sterilization of plastic tubing. It conducts actual sterilization cycle of 14-16 hours. But it takes 48 hours to complete one cycle of sterilization.

C) Sterile storage area:

- This area stores all sterilized instruments set and linen set.
- This area has sterile lift to provide sterilized instruments and linen to OT

D) Quality assurance and sterilization process monitoring:

- Bowie-Dick Test Packs are used daily to evaluate the performance of air-removal (vacuum) system of dynamic pre-vacuum type sterilizers. Available as test cards or preassembled test packs.
- Biological indicators are used for sterility testing
 - 1 lacs Bacillus Sterothermophilus are used for steam sterilization. Color of chemical indicator strip inside container changes from purple to yellow.
 - Bacillus Subtilis or Atrophaeus is used for ETO sterilization. Color of chemical indicator strip inside container changes from green to yellow.
- Chemical indicators are used in each and every pack for sterilization testing.
 - Color of chemical indicator strip inside pack changes from red to green in case of steam sterilization
 - Color of chemical indicator strip inside pack changes from red to dark brown or black in case of ETO sterilization

20. Bio Medical Waste Management

In every department there are various color coded bins for proper segregation of the waste generated in the hospital. Various color coded bags and the waste collected in them includes

- Black bag – For general, domestic and kitchen wastes etc.
- Red bag – for plastic tubing's, syringes and other plastic items.
- Yellow bag – only for infectious wastes such as soiled dressing, cotton, laboratory, cultures and specimens etc

- Red colored plastic container – Needles, blades, Insuline Syringe
- White container – all glass articles (broken and unbroken) in puncture proof white container.

There is a supervisor and 2 housekeeping staff who takes care of all the bio medical waste management. Waste from all the departments of the hospital is collected 3 times a day:

Morning: 7am to 8am

Afternoon: 1:30pm to 2:30pm

Evening: 7:30pm to 8:30pm

Process flow

Waste generated from the hospital is collected 3 times a day.



All the waste is transferred to BMW yard present in the hospital premises.



Waste from the yard is collected once every 24 hours by the vehicle of Pasco environment solutions limited which has been authorized by PCMC (Pimpri Chinchiwad Muncipal Corporation) to transport and dispose off the waste.

21. Laundry

Manpower in laundry is outsourced to Sparkle associates, where as machines and the infrastructure is provided by the hospital. Laundry department is taken care by support service supervisor under whom there are a total of 16 staffs in laundry- 2 supervisors, 2 washer man, 5 pressman and 7 for collection.

In laundry there are 3 large washing machines- 85 kgs machine for while linen, 60 kgs machine is for green linen and 25 kgs machine is for infected linen. In addition there is a regular washing machine for guest laundry. In drying area there are 2 machines of 45 kgs each for drying clothes. There are 3 flat press for ironing the linen. In addition there is a calendar

press for pressing and drying. Each machine is attached to big tubes for steam which in turn is attached to hot water tank present behind the hospital.

From the hospital linen is collected 2 times in a day once between 7am to 8am and again between 3:30 pm to 4:30 pm during which infected and soiled linen is collected from different departments and replaced by equal number of fresh linen. The infected linen is collected in a dirty utility room, then it is taken into the chemical room where it is soaked in the chemical and then washed separately in the 25 kgs washing machine.

For the staffs, uniform is given and collected on a daily basis by the staff from the laundry. There is a separate uniform room in the laundry where uniform is stored or stacked according to the ID number. Requirement for the new clothes are sent to purchase department and is then stored in the store.

Exposure to various departments in Aditya Birla Memorial Hospital – Some Observations

S #	Department Visited	Visite d On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
1	DAY CARE	9th April to 13th April	Patient comes to the day care registration, registration is done and bed is allotted. ↓ Patient is made to change and is prepared for the procedure ↓ Patient is taken for the procedure ↓ After the completion of the procedure patient is shifted back to day care ward. ↓ Patient is kept under observation for the required duration. ↓ After the patient is stable discharge form is signed by the doctor and the discharge process is started ↓ After the completion of the discharge process the patient is physically discharged.	Doctor-1	12 9th April	→ Discharge process takes around 3-4 hours for self payee patients and around 4- 5 hours for TPA patients.	→ Addition of one housekeeping staff could speed up various processes.
		4th May		Nursing Staff- 5 (3 in morning+ 2 in afternoon)	10th April - 6	→ 90 % of the patients were dissatisfied with the long discharge duration and were complaining.	
				Housekeepin g Staff- 1	12th April - 12	→ Delay of upto 30 mins- 45 mins was observed in discharge process as the house keeping staff was not available to take the discharge file.	→ Billing for day care patients within the department itself at the registration counter could help in decreasing the discharge time.
					13th April - 11	→ Dust bins were over flowing and were not cleaned regularly.	

S #	Department Visited	Visited On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			pharmacy and gets the medicine and nurse explains the patient about medicine dosage and the report is handed to the patient.	Technician - 1		lead to delay.	
			Consent for the procedure is taken by the assistant doctors before the patient comes to the endoscopy room.	Nurse -1 comes from day care during procedure. Housekeeping staff - 1			
3	ULTRA SONOGRAPHY AND RADIOLOGY	15th and 16th April	Patient comes at the USG and Radiology reception and makes payment for the procedure ↓ Registration is done and the request form is sent to the concerned department ↓	Receptionist- 2 Doctors - 5	15th April USG- 43 (OPD- 28 + IPD- 15)	→ At the reception there was long waiting period for billing of around 30 mins. → In radiology the reports were given either in the evening or next day morning.	→ Radiology and Sonography reception should be separated.

S #	Department Visited	Visited On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			Patient is called for the procedure as per his/ her turn and the procedure is carried out. ↓ In radiology film is given within 20 mins after the procedure and report is given within 2 hours as per the protocol. ↓ In USG both film and report is given at once after the procedure.	Technicians-6 (for radiology) Morning-3, Afternoon-2, Night-1 Nurses- 2 (for USG) Morning-1, Afternoon-1	16th April USG- 36 (OPD- 23 + IPD- 13)	→ TAT for sonography was on an average around 3 - 4 hrs, delay was majorly because printing of the films was carried out by the nurses and the report was generated in the reporting room	→ If the provision for a medical transcript is provided within the USG room the reporting time and overall report generation time could be reduced.
				Housekeeping staff - Morning- 1 and Afternoon-1)			
4	CT and MRI	17th and 18th April	Patient comes at the registration and billing is done ↓ Patient is made to change and scheduled entry is made in the department ↓ Patient is explained the	Doctors-3 Technician- 5 (2- morning, 2- afternoon and 1- night) Nurse - 1 (general shift)	17th April- CT- 13 MRI- 3 18th April CT-12 MRI-9	→ Briefing of the patients for the contrast should be done by the front office desk which was not done and the technician had to come out of the procedure room and do the	→ Front office desk should be trained to explain all the procedures about CT and MRI as well as about the contrast as well as time required for the procedure.

S #	Department Visited	Visited On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			complete procedure and is made to sign the consent form. ↓ Actual procedure is carried out and the images are sent to the radiologist through PACS ↓ Radiologist prepares the report and the report along with the film is handed over to the patient by evening. The best part is if there is any emergency the concerned doctor comes and checks the CT or MRI themselves along with the radiologist.	Housekeeping- 2 (1 - morning and 1- afternoon)		briefing.	
5	DIALYSIS	19th and 20th April	Patient comes to the OPD registration. ↓ After consultation with the doctor, doctor suggests for dialysis ↓ All the blood tests of the	Doctors- 2	19th April - 40 (OPD - 39 + IPD-1)	→ 10% of the patients were dissatisfied with the food and complained that after complaining about the food also were given the same food.	→ GRO should be given additional responsibility to take care of all these complains.

S #	Department Visited	Visited On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			and 1 for HBV patient. Machine utilization was almost 100%. Consultant doctor takes round in all the 3 batches and checks their respective patients. Sharp disposal was carried out properly in the proper container after cutting the needle from the tubing.				
6	BLOOD BANK	22nd and 23rd April	Blood/ component donor comes to the blood bank. ↓ Screening of the donor is done and the donor is made to sign the consent form. ↓	Doctor-1	22nd April	→ Man power seemed to be more than that required.	→ The department could be managed by 7 technicians as most of the time 1 or the other technician was seen sitting idle.

S #	Department Visited	Visited On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			Sample is then received in HIS, which is then collected by respective sections. ↓ Sample is processed and result entry and validation is done by the technician. ↓ Result is authorized by the Pathologist after which the reports are printed and dispatched Observed all the procedures taking place in the lab. 5- 6 samples every day were seen to be either clotted or hemolysed and had to be repeated Observed TAT of 50 samples each in Hematology, Biochemistry, Immunology, Clinical Pathology and Microbiology In around 95% of the cases there was compliance as the tests were carried out within the set protocol of 4 hours.	Phelbotomist-8 Hematology + Clinical Pathology-9 Immunology + Biochemistry-9 Histopathology- 2 (The staff seemed to be just sufficient for smooth running of such a big lab.)	Immunology- 70-80 samples/day Clinical Pathology- 70-80samples/day Histopathology- Around 10 biopsy and 10 cytology and 1 or 2 markers/day	→ So could not conclude or comment on the TAT of the In patients. → Although there was a register to keep a record of the rejected samples but it was not being maintained	→ A record of the hemolysed/ clotted samples should be maintained so that the staff making repeated mistakes during sample collection could be given special training.

S #	Department Visited	Visite d On	Observations			Observation	Possible solution
			Process Flow	Human Resources	Case load		
			There were separate stat and critical value register. Critical values in case of any patient was informed to the concerned doctor on phone and a separate register was maintained in which details of who informed the critical value to which doctor at what time everything was recorded.				

Project 1:
**Knowledge of Health Care Workers towards Needle
Stick and Sharp Injuries: A Study**

1. Introduction

Percutaneous injuries, caused by needle sticks and other sharps, are a serious concern for all health care workers (HCWs) and pose a significant risk of occupational transmission of blood borne pathogens. Needle stick and sharp injuries are wounds caused by needles such as hypodermic needles, blood collection needles, IV cannulas or needles used to connect parts of IV delivery systems and sharp instruments, including, lancets, scalpels, and contaminated broken glass.

The causes include various factors like type and design of needle, recapping activity, during injection puncture or surgical intervention, collision between HCWs or sharps, during processing instruments like cleaning, sorting, disinfecting , manipulating needles in patient line related work, leaving the sharps unattended, wrong segregation or failure to dispose of the needle in puncture proof containers.

Because of the environment in which they work, many HCWs from physicians, surgeons, and nurses to housekeeping personnel, laboratory technicians and waste handlers are at an increased risk of accidental needle stick and sharps injuries. As a result, these workers are prone to occupational acquisition of various blood borne pathogens, including the microorganisms causing HIV/AIDS, hepatitis B and C, malaria, infectious mononucleosis, diphtheria, herpes, tuberculosis, brucellosis, spotted fever and syphilis. According to world Health report 2002 published by WHO, health care workers incur 2 million needle stick injuries per year that result in infections with 40% of hepatitis B, 40% of hepatitis C, and 2% of HIV infection

Needle stick injuries cause a high burden of death and disability among health care workers. Available statistics underestimate the severity of problem because many cases go unreported as HCWs do not report their injuries. This makes it more difficult to know severity of problem and how well prevention is possible. Preventing needle stick injuries is the most effective way to protect the HCWs from the infectious diseases caused by it.

To prevent needle stick injury it is important to have knowledge about NSI, their hazards, prevalence, preventive measures and the protocol to be followed after NSI. There are many comprehensive programs to prevent NSI which includes; employee training, controlled work practice, implementing engineering control, surveillance programs, safe recapping procedures, effective disposal systems.

2. Need for the Study

Needle-stick injury is a major occupational health and safety issue faced by healthcare professionals globally. Globally, more than 35 million Health Care Workers face the risk of sustaining a percutaneous injury with a contaminated sharp object every year. While 90% of the occupational exposures occur in the developing world, 10% of the reported infection occurs in the United States and Europe.

The incidence of NSI is considerably higher than current estimates, due to gross under-reporting (often less than 50%). In USA 6,00,000 to 10,00,000 receive NSI from conventional needles and sharps every year, while in UK it is 1,00,000 HCWs/year. In India, authentic data on NSI are scarce.

In developing world overuse of injections in medical care is common; due to patient demand on assumption that it gives rapid recovery, injection promotion by provider to reduce non compliance and aggressive promotion of injections by pharmaceutical companies; unsafe injection practice and poor health care waste management are the common predisposing factors to medical worker for incurring needle prick and blood borne pathogens exposure

The risk of infection after exposure to infected blood varies by type of blood borne pathogen. The financial impact of NSI includes both direct and indirect costs. The risk of transmission after a contaminated needle prick injury had been estimated for HIV to be up to 0.3%, whereas Hepatitis B virus as much as 100 times greater than HIV (30%) and about 10% for hepatitis C. Although HBV exposures pose the highest risk for infection, it has an effective vaccine and post exposure prophylaxis (PEP) for HCWs which can dramatically reduce the risk. This is not so for HCV and HIV. Therefore, prevention is the only recourse for these.

Clearly, there is much room for improvement in protecting the health care workers from needle stick injuries. Hence greater collaborative and educational efforts should be made to improve the knowledge and attitude of HCWs towards NSI.

3. Literature Review

An extensive review of literature on the research topic was carried out to gain deeper insight in to the problem and to collect maximum relevant information for building up the study in a scientific manner so as to achieve the desired result.

A study was conducted in a hospital in England. Nurses were asked to complete a 20-item questionnaire on perceived susceptibility, seriousness, benefits of action and health

motivation concerning needle stick injury. Only a small proportion considered their personal risk of infection was low. Only about 10% of all the nurses thought they had more risk. The result shows a considerable lack of knowledge of nurses regarding risk of needle stick injury.³

In USA 4,085 nurses were sent questionnaire in different hospitals asking about needle stick injuries, staffing, organization and use of protective equipments. The result revealed that more experience of staff leads to a reduced rate of needle stick injuries, but higher work load and less administrative support increase the rate of needle stick injuries. So feature suggests here that needle stick injury rates heavily influenced by much higher workloads, less organizational support, lower nurses experience and knowledge.⁴

A study conducted at Armed Forces hospital, Saudi Arabia regarding knowledge and attitude of nurses about needle stick injury. The study included 70 nurses male and female. Overall, 30% of the nurses were unaware of the fact that AIDS, hepatitis B and C can be transmitted by needle stick injuries. 74% had a history of needle stick injury. Only 7% reported injury to doctors to get post exposure treatment. Only 27% were in habit of using gloves regularly for procedures. 61% had knowledge about universal precaution guidelines. Only 50% of the subjects had adequate knowledge of needle less safety devices. The study highlights the need for further education of nurses about the risks associated with needle stick injuries and measures to prevent it.⁵

A study was carried out in three hospitals of Karachi. Total of 222 health care providers in which 52 were nurses participated in the study. Approximately 60% of health care providers had experienced needle stick injury at least once during their service. The most frequency source of injury occurred while recapping the syringe. None of the health care provider had adequate knowledge regarding immediate measures following in needle stick injury.⁶

A study conducted at a hospital in Lucknow, to estimate the prevalence of needle stick injury among health care workers and knowledge and attitude of health care workers towards needle stick injury. More than half (53%) had experienced needle stick injury at least once during their service. The most common device causing injury was the syringe used for withdrawing samples and the injury resulted from attempting to recap the needle.⁷

A cross sectional study conducted in southern England to know the knowledge and attitude of health care workers including staff nurses regarding glove techniques and precautions followed in needle stick injury at a teaching hospital. The result showed knowledge could be improved in relation to standard precautions to be taken to avoid needle stick injury. Respondents had negative attitude towards use of gloves. Interventions could be aimed at staff education and training.⁸

A study conducted at a hospital in Britain to know the attitude of health care workers including nurses. The study revealed some general and psychological factors contributing to low reporting attitude of personals regarding needle stick injury. Continued training of staff, a sympathetic attitude and clarification of some general issues might improve reporting of needle stick injury.⁹

Study conducted to know knowledge and nurses attitude regarding gloving practice and risk factors of needle stick injury at a metropolitan hospital, Taiwan. 210 nurses included in study, in which all nurses use, gloves because fear of contracting HIV. The knowledge of nurses was deficit regarding risk factors of needle stick injury. Continuous education program may alleviate these nurses attitude and concerns regarding risk factors of needle stick injury.¹⁰

Needle stick injury causes a high burden of death and disability among health care workers. The severity of problem becomes worst when cases go unreported as many workers do not report their injury. . Needle stick injuries may be reduced by HCWs education and use of safe equipments.

4. Objective of the Study

To assess knowledge of health care workers (housekeeping staff, nurses, technicians, RMO's and consultants) on Needle stick injury and the risk associated with it.

5. Methodology

The study was carried out in a Quaternary healthcare centre, Pune (Maharashtra), during 1st May to 20th May.

5.1 Design

The design of the study is cross sectional analytical type.

5.2 Population

The population under study included consultants, residents, RMO's, nurses, housekeeping staff and technicians working in the various clinical departments of a large quaternary care

hospital in Pune. They comprise mainly of staff that are frequently exposed to needles and sharp instruments.

6.2.1 Inclusion criteria

- All cadres of staff in contact with needles or sharps instruments.

6.2.2 Exclusion criteria

- Security people – they are considered not be exposed to needles and sharp instruments.
- All secretariat staff – by the fact that they mostly engage in administrative works.
- Pharmacy technicians – they do not deal with uncapped needles.
- Medical record officers – on ground of being mainly engaged in data management.

5.3 Sampling Technique

Stratified random sampling technique was used as the sample was divided into various strata based on their job category i.e. housekeeping staff, nurses, technicians, RMO's and consultants.

6.3.1 Sample size

A purposive sampling was done aimed at covering 20% respondents among each cadre of health care workers, resulting in a total sample size of 180 HCW's.

Number of respondents in each cadre includes

Job Category	Total Staff	No. of HCW's from each category (20%)
Housekeeping	220	43
Nurses	345	70
Technicians	160	32
.RMO's/ Residents	98	20
Consultants	77	15
Total	900	180

5.4 Data Collection Tool

The data was collected using self administered semi structured questionnaire. Questionnaire was prepared in both English and Marathi so that there was no difficulty in understanding the questions. The health care workers were contacted in person and told about purpose of the study and assured that their responses shall be kept anonymous. Informed consent was taken from each respondent.

The questionnaire consisted of 3 sections:

Section A:

Socio–demographic variables such as sex, designation, experience, etc.

Section B:

Questionnaire on knowledge and attitude of HCWs towards needle stick injury.

Section C:

Questionnaire on preventive measures practiced to prevent needle stick injury.

6. Results

A total of 180 HCWs participated in the study and were divided into five major categories depending on their job category. About 30% of the respondents have been working in the hospital since last 5 years.

The data analyzed and presented into frequency tables, to show results of the findings.

Table 7.1: Demographic characteristics of respondents (n=180)

Demographic Characteristics		Number	Percentage
Sex	Male	95	52. 8
	Female	85	47.2
Job Category	Housekeeping	43	23. 9
	Nurses	70	38. 9
	Technicians	32	17. 8
	RMO's and Registrars	20	11.1
	Consultants	15	8.3
Work experience in the Institution	< 6 months	30	16.7
	6 months to < 1 year	25	13.9
	1 year to < 2 year	25	13.9
	2 years to < 5 years	48	26.7
	> 5 years	52	28.9

History of NSI

Out of 180 around 49 healthcare workers gave a history of exposure to needle stick injury throughout their work life. About 60% of the victims were housekeeping and nursing staff which clearly shows that these people are more prone to needle stick and sharp injury and there is a need to give them training about hazards of needle stick injury and how to prevent it.

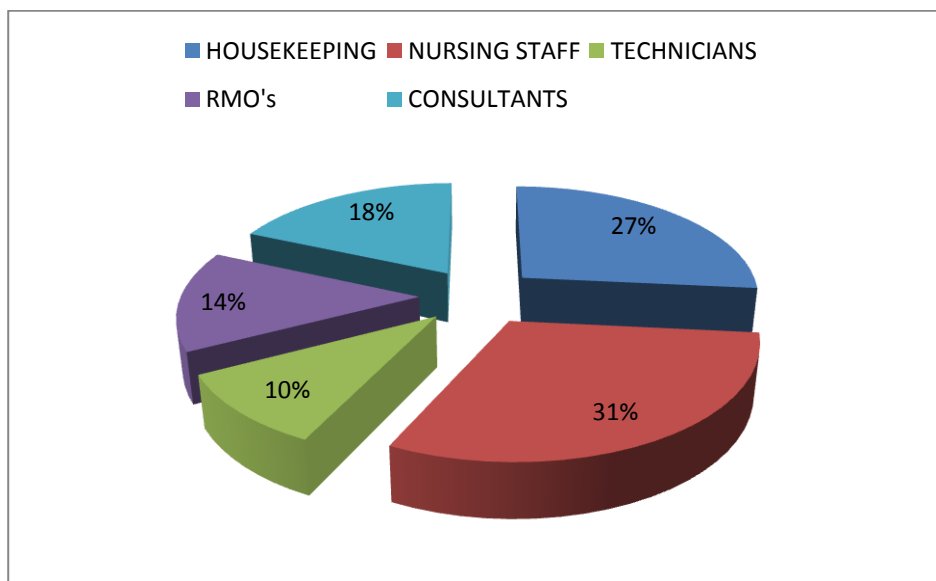


Fig1: Percent distribution of the respondents by their any exposure to Needle stick injury (n=49)

Activity leading to NSI

When asked about the most common activity leading to needle stick injury, 62% of the healthcare workers believed that recapping of used needles was the most common cause for the injury followed by wrong segregation of sharps (13%) and leaving the sharps unattended (12%). Recapping of used needles though banned was still followed by many of the healthcare workers and improper disposal of sharps was another issue as mostly housekeeping staff was exposed to NSI if the needles and sharps were disposed in wrong containers.

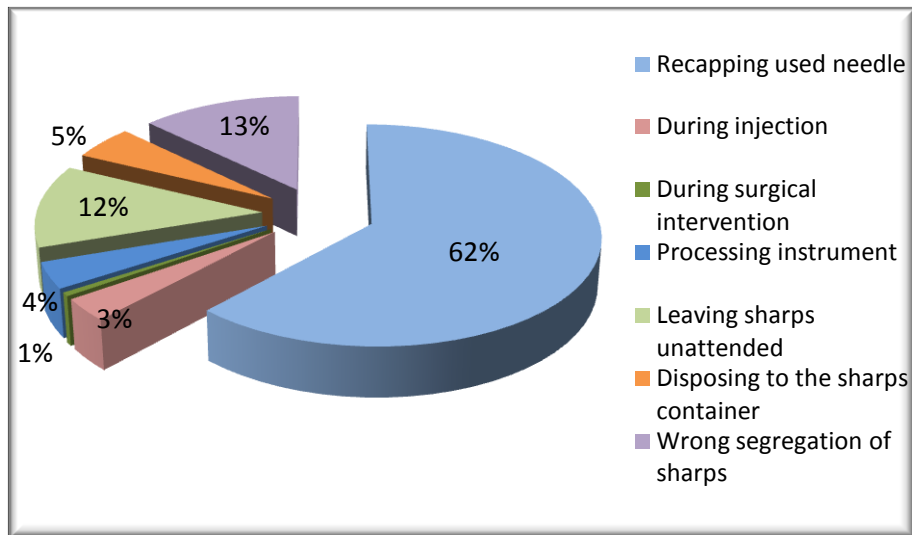


Fig 2: Percent distribution of the respondents based on their belief of the activity leading to needle stick and sharp injury (n=180)

Most common cause of injury

When enquired about the most common cause leading to needle stick and sharps injury it was found out that 57% of the healthcare workers believed that carelessness was the most common cause of injury followed by heavy work load (22%) and inattention (20%).

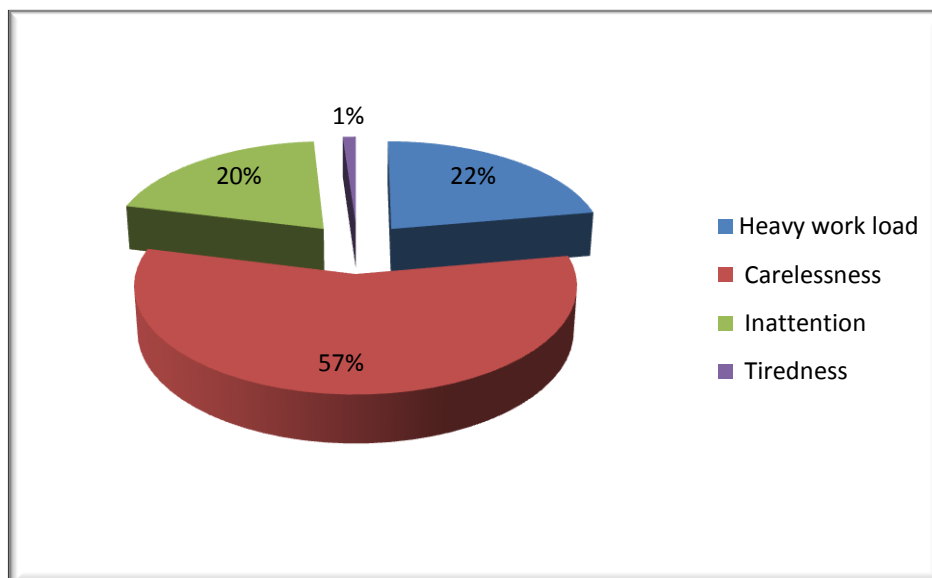


Fig 3: Percent distribution of respondents by their belief of the cause leading to needle stick injury

Reporting of needle stick injury

Needle stick injury being one of the biggest occupational hazards and a key indicator of NABH it is very important that every hospital keeps a record of needle stick injury occurring within its premises. Thus it is important that all the staffs report any incidence of needle stick and sharps injury. When asked about the reason for non-reporting 31% of the healthcare workers said that most common reason for non-reporting is lack of knowledge about the protocol, 18% of HCW's said that it was lack of time and 17% of HCW's did not think it to be important. Thus it is very important that all the healthcare workers have proper knowledge and all the incidences of needle stick injury are reported.

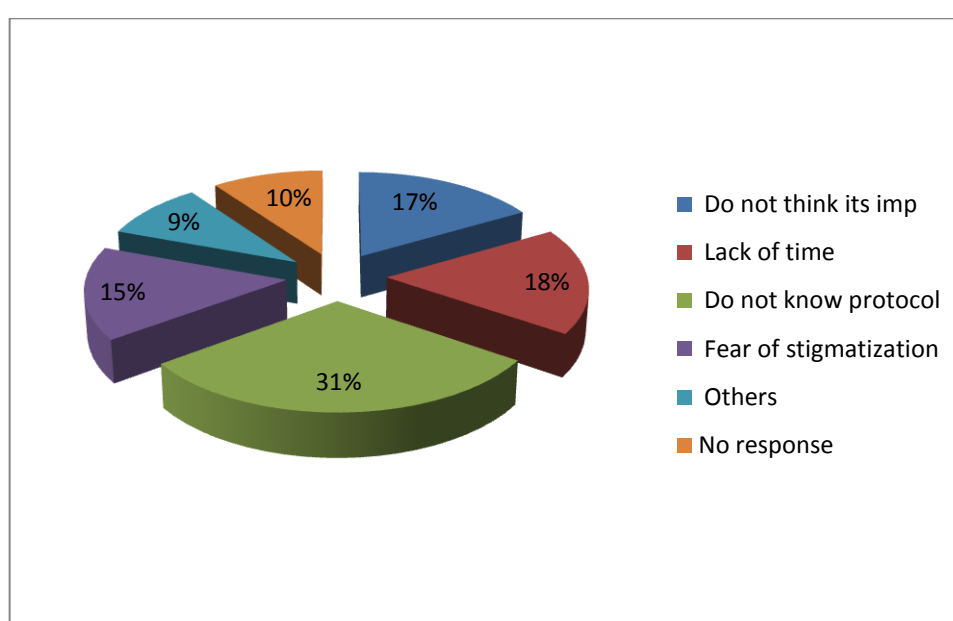


Fig 4: Percent distribution of respondents showing reason for non-reporting

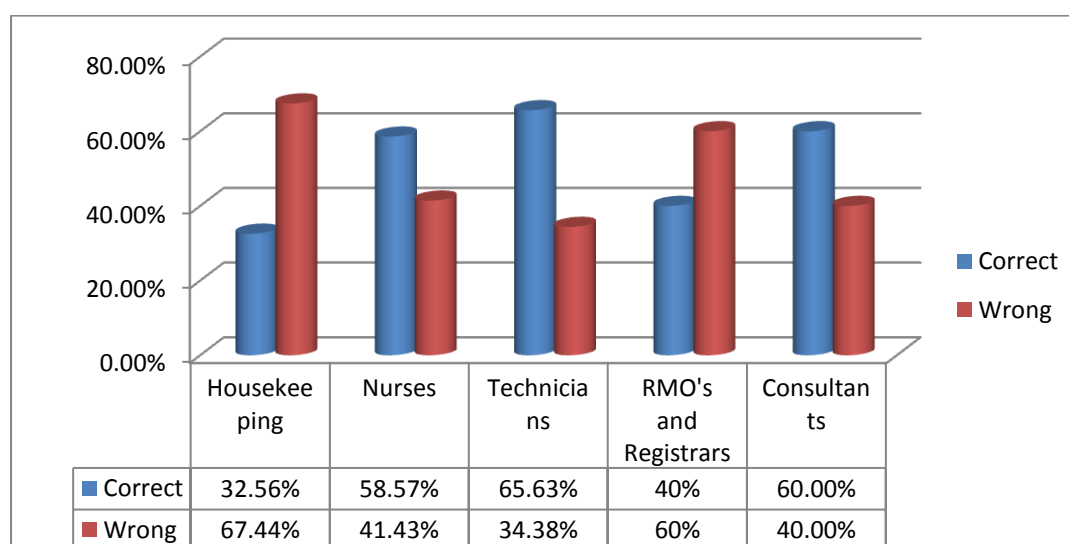
Knowledge of needle stick and sharp injury

To assess the knowledge of healthcare workers towards needle stick injury various questions like what is needle stick injury, what should be done immediately after injury and about the protocol followed in the hospital after injury as well as the diseases transmitted by needle stick or sharp injury. 90% of respondents knew about needle stick injury. Among housekeeping staff a large percentage i.e. 37.21% did not know about needle stick injury. When asked about what should be done immediately after injury around 46% of respondents did not know what should be done immediately after injury?

Table 7.2: Responses on knowledge about needle stick injury.

		Correct		Incorrect	
	Job category	Frequency	Percentage	Frequency	Percentage
What is Needle stick injury?	Housekeeping	27	62.8%	16	37.2%
	Nurses	68	97.1%	2	2.9%
	Technicians	32	100%	0	0%
	RMO's and Registrars	20	100%	0	0%
	Consultants	15	100%	0	0%
	Total	162	90.0%	18	10%
Task to do immediately after injury?	Housekeeping	10	23.3%	33	72.1%
	Nurses	46	65.7%	24	34.3%
	Technicians	17	53.1%	15	46.9%
	RMO's and Registrars	14	70%	6	30%
	Consultants	11	73.3%	4	26.7%
	Total	98	54.4%	82	45.6%

When asked about the protocol followed in the hospital after injury only 52% of the respondents knew about the protocol which was followed in the hospital after NSI despite the training provided to them at the time of induction period. The biggest surprise was that 60% of RMO's and 67% of housekeeping staff did not about the protocol.



Graph 7.5: Knowledge about protocol followed in the hospital after injury

Regarding awareness about the diseases caused by NSI 36.4% named HIV and Hepatitis B, 6% named HIV alone, 3% named Hepatitis B and C, where as 46% included HIV, Hepatitis B and C in the list. 8.6% of the staff did not know about the diseases caused by NSI all of whom were housekeeping staff.

Status of Hepatitis B vaccination

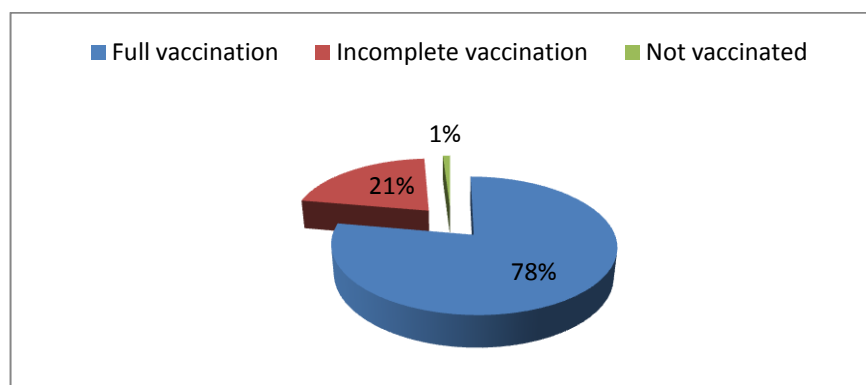


Fig 7.5: Status of Hepatitis B vaccination

Table 7.3: Awareness about PPE (Personal Protective Equipment)

Variable	Frequency	Percentage
Aware	188	95%
Unaware	10	5%

7. Discussion

The present study addressed certain aspects of NSI in a quaternary care hospital. It was found that 24.74% of HCWs had experienced NSI at some point in their careers. Among the HCWs, nurses (31%) were most prone to NSI, followed by housekeeping staff (27%), consultants (18%), RMO's (14%) and technicians (10%). The reported incidence of NSIs in USA is 49% in nurses 10% in physicians. In developing countries the incidence of needle

stick injury is much more than developed countries, in Iran alone the reported incidence of NSIs in nurses is 63.3%.

According to a study conducted in Mulago, national referral hospital in Kampula, Uganda, the most important risk factors were recapping needles and handling needles without using gloves. Our study has shown that the maximum number of Needle stick injuries 61% occur at the time of recapping the syringe; followed by 13% each due to wrong segregation and leaving the sharps unattended, 5 % during disposal, 4% during processing the equipment and 3% while giving injection to the patient.

These results are in contrast to a study carried out at Aga Khan Hospital, Pakistan which reported that more than half of the injuries (52.8%) occurred while drawing the blood samples or injecting the medicine. According to the USA OSHA's blood-borne pathogen standards (1996), in order to reduce the risk of transmission of blood-borne pathogens recapping a needle is prohibited. Poor compliance of the prohibition by the nurses is one of the reasons for high rate of NSIs.

Under reporting of NSI is also a major problem. 30.19% of the HCW's said that lack of knowledge of the protocol was one of the major reason for non-reporting, followed by 17.68% who did think it was important to report, 15.66% who said lack of time and 13.64% believed that fear of stigmatization was the major reason for non- reporting. Almost 100% of the HCW's had received sharp management course while in another private setting of Pakistan, 88% of Aga Khan University nursing school graduates have received sharp management course.

Regarding awareness towards NSIs, 6.06% knew that only HIV could be transmitted via contaminated needles while 3.03% knew about both HBV and HCV and 45.96% were aware that HBV, HCV and HIV all could be transmitted through infected needles. Whereas 8.59% of the staff did not know about the diseases caused by NSI. These results are considerably less than those reported in the KAP study at Aga Khan Hospital, Karachi in which overall knowledge regarding the potential transmission of Hepatitis B, C and HIV was high among the participants.

Despite of the knowledge about NSI and the protocol followed in the hospital after injury being provided to all healthcare workers at the time of induction period, only 51.01% of HCWs knew about the protocol. In our subjects 77.78% had been completely vaccinated against HBV while 21.21% were incompletely vaccinated and prone to get infected. In Enugu a study indicated about 34.6% of HCWs had HBV vaccination. Similarly in Taiwan, 52.1% of HCWs were reported to have been vaccinated against HBV.

Almost all of the healthcare workers (94.95%) of HCWs were aware about personal protective equipment. Training (51.01%) was considered as the most common preventive

measure by the respondents to prevent needle stick injury followed by stop recapping of used needles (27.78%).

The risk of transmission after a contaminated needle prick injury had been estimated for HIV to be up to 0.3%, whereas Hepatitis B virus as much as 100 times greater than HIV (30%) and about 10% for hepatitis C. This information suggests that a sizeable number of Health Care Workers are at potential risk of infections with blood borne pathogens after a needle stick injury. Needle stick injuries and their associated biological hazards therefore, are one of the most important hidden problems in the health care workers.

Given the serious, and even fatal, consequences of sharps injuries and the limited effectiveness of post exposure therapies, it is crucial that measures to prevent sharps injuries from occurring be adopted. Therefore, it is high time to introduce disposable syringes and other safety devices as their use in the developed world has reduced the number of Needle Stick Injuries significantly.

8. Conclusion

Needle stick injury is the most important occupational health hazard in all categories of HCWs. It is important to plan and implement strategies for spreading awareness regarding risks associated, proper handling techniques and effective preventive measures against incidences of needle stick injuries. Infection control centers should be established where absent and their working should be enhanced in terms of training of nurses for sharp management. Reporting to the concerned authorities must be encouraged for accurate estimation of the situation. Screening of HCW's after needle stick injury should be promoted and safety measures against it should be enhanced by encouraging the HCW's to wear gloves while dealing with sharps. It is recommended that every hospital should develop a multi-pronged strategy to deal with NSI. Besides health promotion, there should be setting up of an adequate surveillance mechanism in every large hospital and also of facilities for prompt response and treatment of NSI.

9. Suggestions

After conducting this study, the following suggestions were made:

1. Regular courses and seminars should be conducted on universal basic precaution and training on sharp management
2. To provide enough personal protective equipments for health care workers.

3. Provision of free and adequate occupational health services both curative and preventive to all health workers
4. To educate health care workers on the importance of reporting needle prick/sharp injuries, hepatitis B virus immunization and post exposure prophylaxis.
5. Avoidance of needle recapping; by educating HCWs not to recap needles at all.
6. To avoid use of needles where safe and effective alternatives are available.
7. Reporting of needle stick injuries should be mandatory to higher officials of infection control committee

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Project 2: Staff's perception on their Job satisfaction

1. Introduction

Human asset is the most important asset and retaining them is more important than finding a successor to the vacant position. Retaining talented employees is the greatest challenge faced today by organizations. The challenge is not only to attract the best talent but also to retain them. Rising opportunities for career development, lifestyle decisions, job changing, unbalanced work life, poor mentoring and stress are some factors which influence an individual's decision to continue or quit.

Employee job satisfaction is the fulfillment, gratification, and enjoyment that come from work. It's not just the money or the fringe benefits, but the feelings employees receive from the work itself. Employment should be a mutually rewarding experience. The facility has certain expectations for productivity, dependability, and cooperation and the employees have certain expectations for good pay, benefits, quality supervision, and good working environments.

To the worker, job satisfaction brings a pleasurable emotional state that can often lead to a positive work attitude. A satisfied worker is more likely to be creative, flexible, innovative, loyal and will tend to add more value to an organization.

For the organization, job satisfaction of its workers means a work force that is productive, retained, motivated, committed to high quality performance and reduction in complaints, grievances, absenteeism, turnover, and termination; as well as improved punctuality and worker morale. Job satisfaction is also linked with a healthier work force and has been found to be a good indicator of longevity.

2. Importance of Evaluating Employee Satisfaction

There is a definite link between employee attitudes and patient satisfaction. In a healthcare setting, employee satisfaction has been found to be positively related to quality of service and patient satisfaction (Tzeng, 2002). Employees can directly influence patient satisfaction in that their involvement and interaction with patients plays a significant role in quality perception. A number of studies have looked into job satisfaction in the healthcare setting (Seo, 2004; Lyons, 2003; Chu et al, 2003) and the focus was on the need to understand job satisfaction of healthcare providers. If employees are unhappy or dissatisfied, despite their best efforts; it is difficult for them to conceal this factor when interacting with patients and other staff members.

One of the primary reasons for evaluating employee satisfaction is to identify problems and try to resolve them before they impact on patient care and treatment. Improving the quality of patient care in hospitals is a vital and necessary activity. Patients report they receive less individual attention than ever before. They complain that doctors and nurses are too busy tending to the technical aspects of care to provide the much needed attention to patients' personal needs. Not only is it important in terms of quality of patient care, assessing employee satisfaction is a critical component in retaining qualified health professionals.

Employee satisfaction surveys can provide managers with good information about the organization's health. In addition to improved patient satisfaction, other benefits of measuring and improving employee satisfaction include:

- ❖ Reduced turnover
- ❖ Associated reductions in training costs
- ❖ Identifying cost-saving opportunities
- ❖ Curbing absenteeism
- ❖ Strengthening supervision
- ❖ Evaluating patient-service issues
- ❖ Assessing training needs
- ❖ Streamlining communication
- ❖ Benchmarking the facility's progress in relation to the industry
- ❖ Gauging employee's understanding of, and agreement with, the facility's mission.

Most importantly, an improved reputation of your organization as a place to work may make it easier to attract quality employees.

3. Objectives of the Study

1. To assess the level of job satisfaction among employees in a Quaternary healthcare centre, Pune (Maharashtra).
2. To identify the factors which influence job satisfaction.

4. Methodology

The study was carried out in a Quaternary healthcare centre, Pune (Maharashtra).

4.1 Study design

The design of the study is cross sectional type.

4.2 Study population

The study population consisted of employees from various departments of the hospital, clinical as well as non – clinical.

4.3 Sampling Technique

Simple random sampling technique was used.

4.4 Sample size

A purposive sampling was done aimed at covering 10% of employees ,special care was taken to include managers and mid-managers of each department, resulting in a total sample size of 120 employees .After the survey the whole sample was divided into 3 categories :

1. Managers and Consultants
2. Executives and above
3. Remaining staff

4.5 Data Collection Tool:

A semi-structured self-administered questionnaire was used to collect data from the participants. It consisted of two sections. Section A comprised the socio-demographic characteristics consisting of six items, while Section B consisted of 19 job satisfaction statements measured on a five-point Likert scale ('strongly agree' to 'strongly disagree'). Three additional questions on how long they plan their employment in the hospital, overall job satisfaction and what they expected from the hospital were also included in it.

5. Results and Discussion

A total of 120 employees participated in the study and were divided into three major categories depending on their grade within the organization.

- a) Grade 1: Managers and consultants which constituted 25% of sample size.
- b) Grade 2: Executives and above which constituted 38.33% of sample size.
- c) Grade 3: And the remaining staff which formed 36.67% of the sample size.

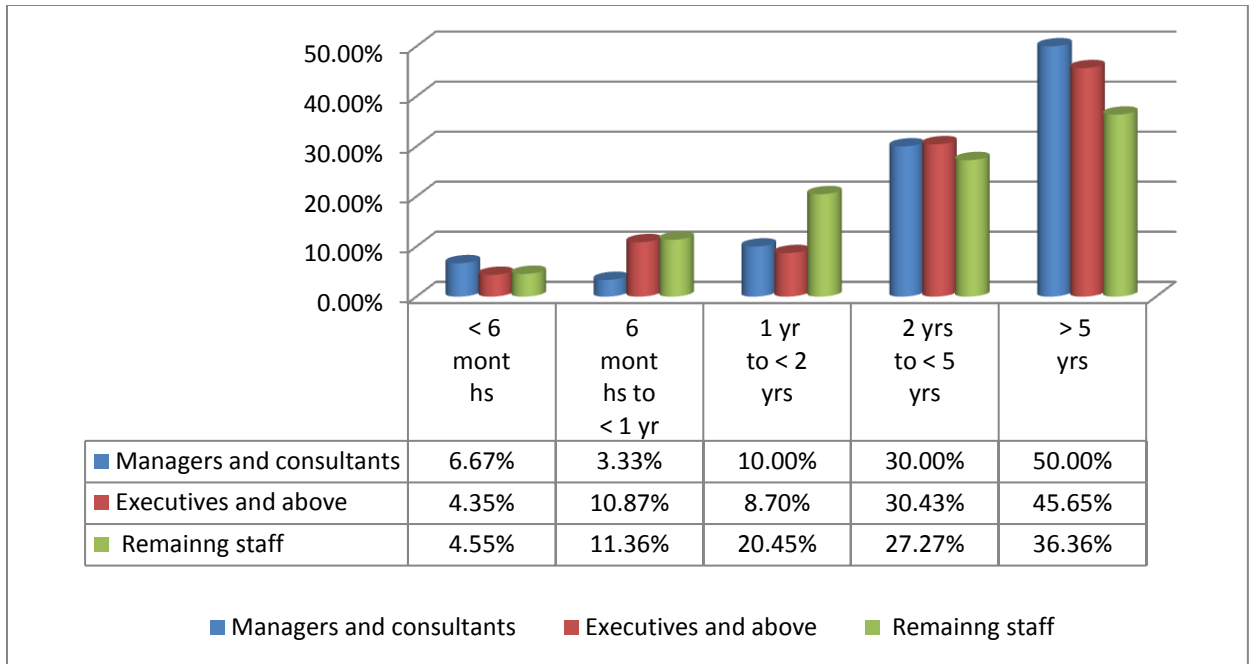
The data was analyzed and presented into frequency tables, to show results of the findings.

Table 6.1: Demographic characteristics of employees

	Variable	Frequency	Percentage
Gender	Male	66	55%
	Female	54	45%
	Total	120	
Age	Under 21	0	0%
	21-34 Yrs	67	56%
	35-44 Yrs	41	34%
	45-54 Yrs	8	7%
	55 Yrs or Older	4	3%
	Total	120	
Job Category	Clinical	56	47%
	Non-clinical	64	53%
	Total	120	
Designation	Managers and consultants	30	25%
	Executives and above	46	38%
	Remaining staff	44	37%
	Total	120	

Work experience of employees

When the respondents were categorized based on their work experience in the hospital it was found that majority of employees 43% of the total sample had an experience of greater than 5 years in this hospital. Only 5% had an experience of less than 6 months within the organization.



Graph 6.1: Classification of employees in each category based on their work experience in this hospital.

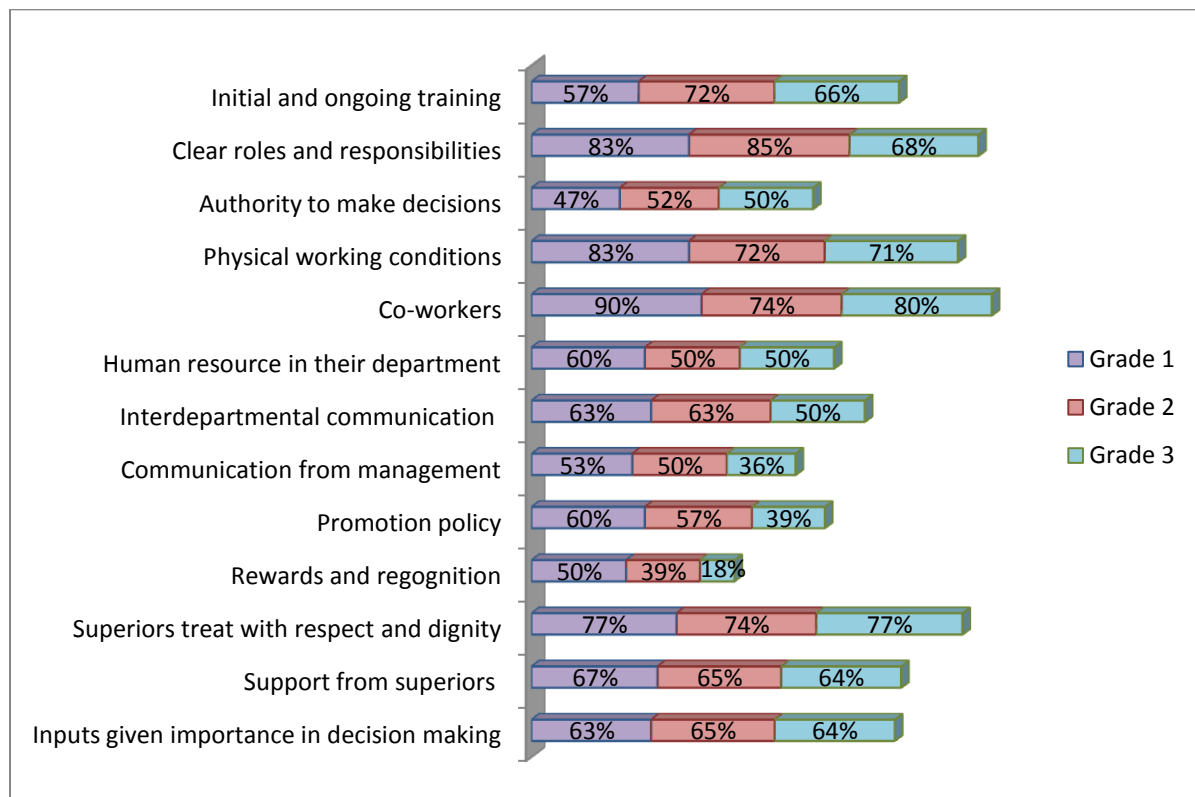
6.1 Agreement level:

A set of around 13 statements were given to the employees and their general level of agreement with each statement was found out. Then a comparative study was done between different categories of employees to find out their level of agreement with each.

Grade 1 employees: It was found out that in grade 1 category the major problem was regarding the authority to make decision. Only 47% of Grade 1 employees agreed that they were given authority to make decisions. Rewards and recognition and promotion policy were other problems where only 50% and 60% of employees respectively agreed with the statement that rewards and recognition and promotion policy was adequate. Around 50% of them believed that the communication from the management was not frequent.

Grade 2 employees: In this category again the major level of disagreement was with rewards and recognition and promotion policy, where only 39% of them believed that the rewards and recognition was adequate and 57% agreed that if they did good work they were promoted. They also believed that there was a shortage of human resource in their department and communication from the management was not frequent.

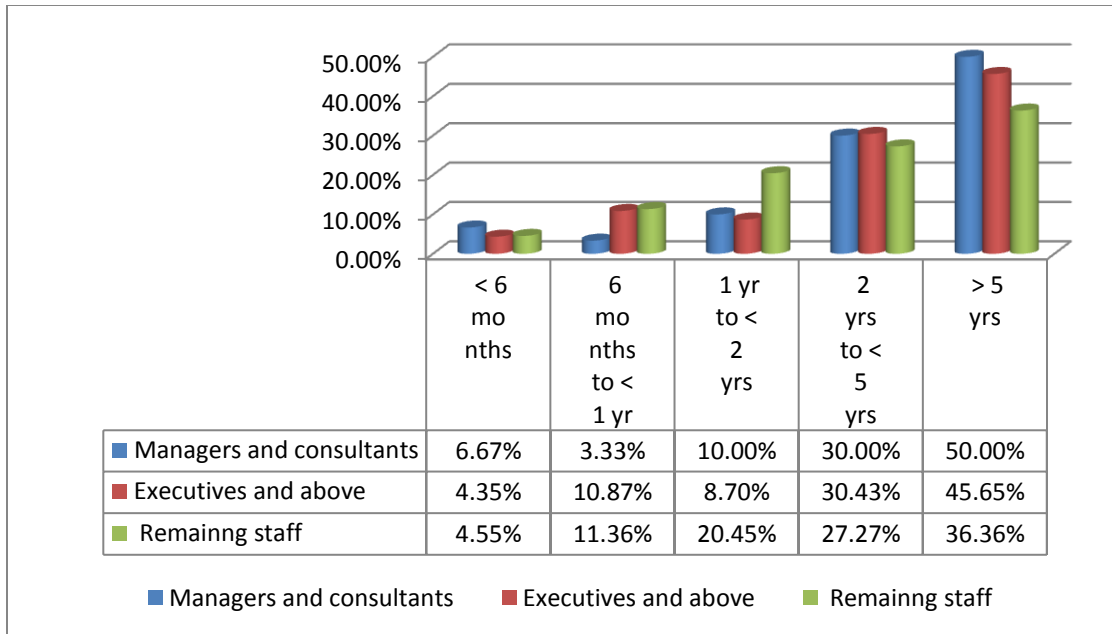
Grade 3 employees: Only 18% of employees agreed that the rewards and recognition was adequate and only 39% believed that they were promoted in case they did good work. Another major problem which was observed in this category was that they were not very clear about their roles and responsibilities.



Graph 6.2: Percent distribution of respondents by their grades on satisfaction on different factors

Future work plan

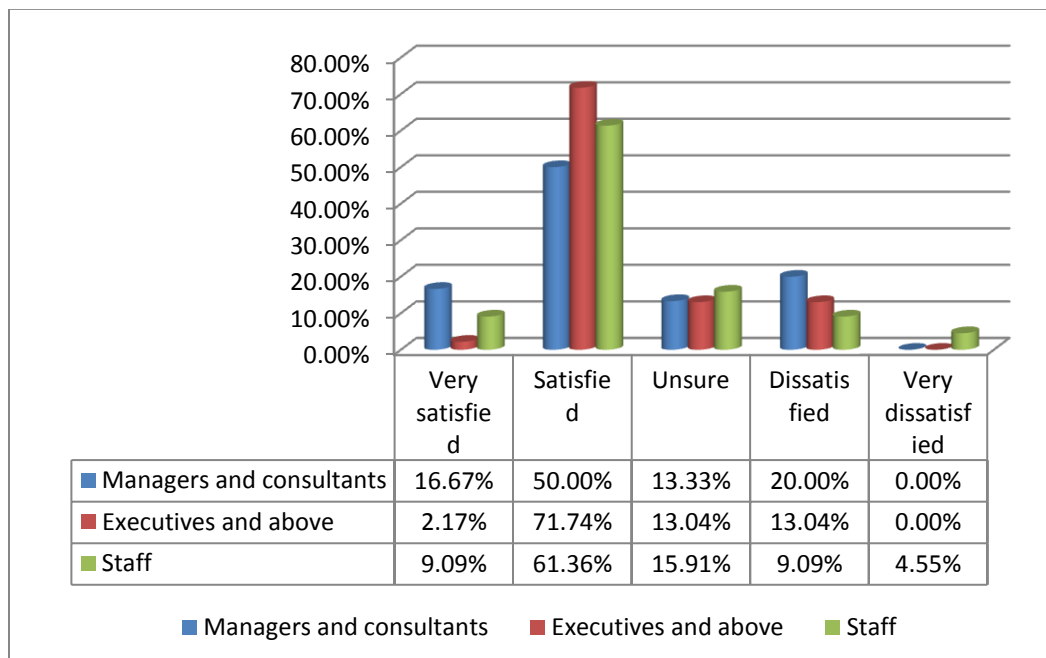
When the employees were asked about how long they plan to continue their employment in the organization it was found out that majority 48% of employees, including 50% of grade 1 employees were planning to leave the organization within a duration of 3 years which is one of the major concerns. Around 30% of grade 3 employees were planning to leave hospital within 1 year.



Graph 6.3: Future work plan

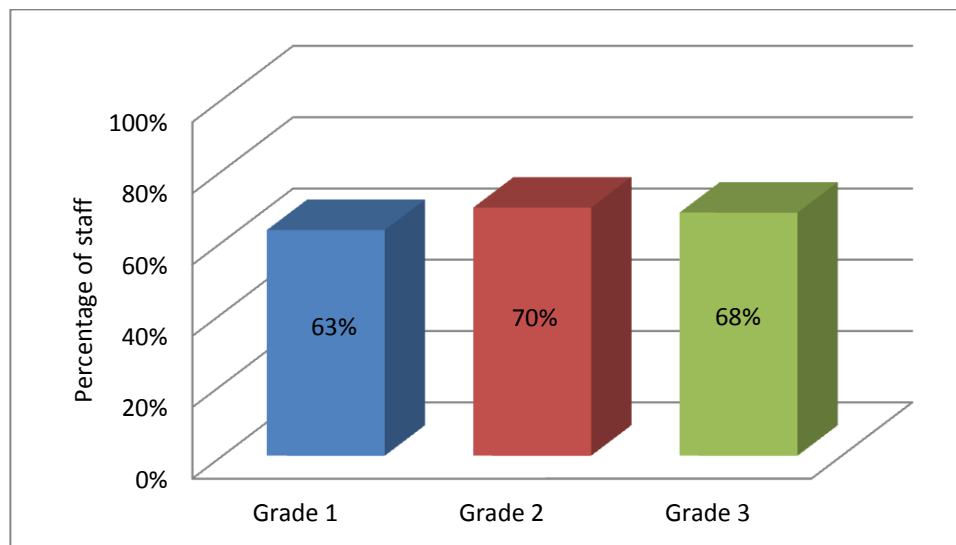
Overall job satisfaction

When the employees were asked about their overall job satisfaction it was found out that only 15% of employees were dissatisfied.



Graph 6.4: Overall job satisfaction among different categories of employees

But when the level of overall job satisfaction was calculated based on all the questions it was found out that the actual overall level of dissatisfaction among employees was much higher around 40%. There were different factors contributing to this dissatisfaction among different categories of employees. Among grade 1 employees dissatisfaction was majorly because of lack of autonomy and somewhere or the other they wanted frequent interaction with the management. Consultants wanted cordial relationship between doctors and top management and faith of management on the doctors. Salary and employee benefits were one of the major concerns for dissatisfaction among all 3 categories.



Graph 6.5: Percent distribution of overall job satisfaction calculated from all the answers

6. Conclusion

Satisfaction with one's job can affect not only motivation at work but also career decisions, relationships with others and personal health. Those who work in a profession that is extremely demanding and sometimes unpredictable can be susceptible to feelings of uncertainty and reduced job satisfaction. Job satisfaction of healthcare workers is also an essential part of ensuring high quality care. Dissatisfied healthcare providers not only give poor quality, less efficient care; there is also evidence of a positive correlation between job satisfaction and patient satisfaction (Tzeng, 2002).

Participant's responses indicated that workplace benefits (income, job satisfaction and profit from work) were an important factor that facilitates job satisfaction and in turn motivates them to perform better. Enhanced motivation leads to improved performance, while increased job satisfaction leads to reduced turnover (greater retention). Thus every possible effort should be made by the organization to increase the satisfaction level of their employees so that overall working condition of the hospital and the quality care to the patients could be increased.

7. Suggestions

- Employees should be given proper Job Orientation at the time of joining.
- On the job training programs should be conducted to develop interpersonal and soft skills of the employees and keep them updated with new advances in their field.
- The Inter as well as Intra-Departmental communication should be effective, informative and systematic.
- There should be monthly meeting of every departmental head with the top management to discuss problems related to their department and actions to be taken on them.
- A survey of the hospital should be done to find out manpower required in each department and redistribution of the manpower should be done where ever needed.
- Those who are capable could be given some additional responsibilities.
- There should be once in a year employee engagement program over a period of 2-3 days so that all the employees can attend it on a turn basis without hampering the functioning of the hospital which would increase interaction between different departments.
- All the policies should be clearly defined and followed.
- There should be some additional benefits like medical facility to the employee and their family.
- For housekeeping and nursing staff some additional benefits like concession in the food could be provided
- For employee motivation incentives are the most reliable method. In order to be effective, incentive systems should be open and transparent, fair and consistent.
- Staff at same level should have same salary or based on performance. Whenever there is revision in the salary it should be revised for all not only for the new joiners.
- Proper Performance appraisal techniques should be followed periodically.

- Some degree of authority should be given to departmental heads.
- Employee should be aware of their KRAs and also should have development plan discussions with supervisors.
- Develop a highly conducive and proactive work culture.

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Annexure

Questionnaire on Needle Stick Injury

(All the questions are compulsory and the information collected will be kept completely confidential.)

Consent Form

I, Dr. Pinky Sarkar post graduate student at IIHMR Jaipur am doing my internship. As a part of my internship program, I am conducting a survey to study the knowledge and attitude of health care workers towards needle stick and sharp injury. You are requested to answer the following questions which will be of great help for my study. The information collected is solely for project purpose and will be kept completely confidential.

Participant Signature: _____

Date: _____

Part A:

1. Name: _____
2. Sex: 1) Male 2) Female
3. Job Category: 1) Doctors 2) Nurses 3) Technicians 4) House-keeping staff
4. Designation: _____
5. Work experience in this hospital : ____ Years _____ Months
6. Have you attended the induction program? 1) Yes 2) No
7. If yes, was knowledge about needle stick and sharp injury and its preventive measures given during the induction program? 1) Yes 2) No

Part B:

8. What is needle stick or sharp injury?
 - 1) Injury by new needle
 - 2) Injury by surgical blade.
 - 3) Injury caused by accidental penetration of the skin by used or unused needle and sharps.
 - 4) Injury caused during breaking ampoule
9. Do you know whom to contact in case of needle stick or sharp injury? 1) Yes 2) No
10. Personal history of needle stick or sharp injury? 1) Yes 2) No
11. If yes, was the status of the source patient known? 1) Yes 2) No
12. Did you report the incident? 1) Yes 2) No
13. If not, what is the reason for non- reporting of needle stick or sharp injury?
 - 1) Did not think it is important
 - 2) Lack of time

- | | |
|------------------------------------|--|
| 3) Did not know about the protocol | 4) Fear of stigmatization and discrimination |
| 5) Others | |

14. During which procedure are there maximum chances of needle stick or sharp injury?

- | | |
|--|--|
| 1) Recapping used needle. | 2) Breaking ampoules |
| 3) During injection/ puncture | 4) During surgical intervention |
| 5) Processing instrument (cleaning, sorting, disinfecting, sterilizing etc.) | 6) Leaving the sharps unattended on floor, table, bed or other inappropriate places. |
| 7) Disposing to the sharps container. | 8) Wrong segregation of sharps |

15. What should be done after injury?

- | | |
|------------------------------|--------------------------------------|
| 1) Nothing | 2) Wash with water |
| 3) Wash with water and soap | 4) Apply spirit |
| 5) Post exposure prophylaxis | 6) Wash with water and apply spirit. |

16. According to you what is the most common cause of injury?

- | | |
|-----------------------|-----------------|
| 1) Heavy work load | 2) Carelessness |
| 3) Inattention/ Haste | 4) Tiredness |

17. Which diseases are transmitted by needle stick or sharp injury?

18. Rank the following steps in sequence according to the protocol which is followed after needle stick/ sharp injury in your hospital?

- 1) Informing seniors regarding Needle stick or sharp injury.
- 2) Carrying out serology test for victim and patient.
- 3) Reporting to accident and emergency department
- 4) Washing area with soap and water.
- 5) Post exposure prophylaxis.
- 6) Reporting to infection control nurse.
- 7) Do not squeeze the injured area

Part C:

19. Have you been vaccinated for hepatitis B?

- | | |
|------------------------------------|---------------------------|
| 1) Full vaccination (three doses) | 2) Incomplete vaccination |
| 3) Not vaccinated | |

20. Rank the following preventive measures to prevent needle stick injury from most important to least?

- | | |
|--|--|
| 1) Stop recapping of used needles. | 2) Do not leave the sharps unattended. |
| 3) Proper handling and segregation of sharps | 4) Disposing the sharps in proper container. |

5) Training

21. Personal Protective Equipment (PPE) includes?

1) Gloves and Gown

2) Eye goggles and cap

3) Eye goggles, gloves, mask ,cap and gown

4) Eye goggles only

22. What according to you can be done additionally to prevent needle stick injury?

Questionnaire on Needle Stick Injury in Marathi

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Questionnaire on Employee Satisfaction

Serial Number:

Your answers to the following questions will be an important part of the organizational review. Please take a few minutes to complete this survey. The information you provide will be completely anonymous.

Following questions are for statistical use only and will not be used to identify individuals. Select as appropriate.

1. Age:

- | | |
|----------------|-------------|
| 1. Under 21 | 2. 21 to 34 |
| 3. 35 to 44 | 4. 45 to 54 |
| 5. 55 or older | |

2. Work experience in this Hospital:

- | | |
|----------------------------------|---------------------------------|
| 1. Less than 6 months | 2. 6 months to less than 1 year |
| 3. 1 year to less than 2 years | 4. 2 years to less than 5 years |
| 5. 5 years to less than 10 years | |

3. Designation (optional): _____

4. Sex:

- | | |
|---------|-----------|
| 1. Male | 2. Female |
|---------|-----------|

5. Job category:

- | | |
|-------------|-----------------|
| 1. Clinical | 2. Non-clinical |
|-------------|-----------------|

6. What is your gross annual income from this job?

- | | |
|---|---|
| 1. Less than Rs.50,000 | 2. Rs.50,000 to less than Rs.1,00,000 |
| 3. Rs.1,00,000 to less than Rs.3,00,000 | 4. Rs. 3,00,000 to less than Rs. 5,00,000 |
| 5. Rs.5,00,000 to less than Rs. 10,00,000 | 6. Rs.10,00,000 or more |

Describe your level of agreement/disagreement with each statement by circling one number for each statement.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7	I understand the long-term plan of the Hospital.	1	2	3	4	5
8	I have confidence in the hospital leadership to implement the plan.	1	2	3	4	5
9	I contribute to the planning process at this Hospital.	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10	I am proud to work for this Hospital.	1	2	3	4	5
11	I am clear about my roles and responsibilities.	1	2	3	4	5
12	The job I do here is challenging.	1	2	3	4	5
13	I feel valued at this Hospital and I am given authority to make decisions I need to make.	1	2	3	4	5
14	My physical working conditions here are good.	1	2	3	4	5
15	I like the people I work with	1	2	3	4	5
16	Number of staff in my department is adequate for smooth functioning of the department.	1	2	3	4	5
17	There is good interdepartmental communication to seek out any problem.	1	2	3	4	5
18	If I do good work I can count on being promoted.	1	2	3	4	5
19	I am given enough rewards and recognition by management for work that's well done.	1	2	3	4	5
20	Communications from management are frequent.	1	2	3	4	5
21	My superiors treat me with respect and dignity.	1	2	3	4	5
22	My superiors give me adequate support and prompt feedback on my work.	1	2	3	4	5
23	My inputs are given importance by my superiors in making decisions and I feel part of a team working towards shared goals.	1	2	3	4	5
24	I am given adequate initial and ongoing training by the hospital for performing my duties well.	1	2	3	4	5

26. How long do you plan to continue your employment at this Hospital? (Check one)

- | | |
|------------------------|-----------------------|
| 1. Less than 6 months | 2. 6 months to 1 year |
| 3. 1 year to 3 years | 4. 3 years to 5 years |
| 5. 5 years to 10 years | 6. Until retirement |

27. How would you describe the level of your overall job satisfaction with your work in this Hospital?

Circle one answer.

Very Satisfied	Satisfied	Unsure	Dissatisfied	Very Dissatisfied
1	2	3	4	5

28. Please tell us what this Hospital can do to increase your satisfaction as an employee and to improve the overall working conditions in the hospital
