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List of Abbreviations

OPD- Out Patient Department

OT- Operation Theater

SWOT- Strength Weakness Opportunity Threat

TQM- Total Quality Management

VIP- Very Important Person

RML- Ram Manohar Lohia

Internship

1.1 Introduction

Dr. Ram Manohar Lohia Hospital, formerly known as Willingdon Hospital, was established by the British for their staff and had only 54 beds. After independence, its control was shifted to New Delhi Municipal Committee.

In 1954, its control was again transferred to the Central Government of Independent India.

The hospital has grown over the years and is currently having about 984 beds, spread over in 30 acres of land. It caters to the population of New Delhi and Central District, apart from patients from other areas and even from out side Delhi. It is having 71 beds in a Nursing Home for the C.G.H.S beneficiaries, including Maternity Nursing Home.It is fully funded by the Government of India (Ministry of Health Family Welfare).

The following are the departments of the hospital

- Accident & Emergency
- Blood Bank
- Family Welfare
- Anaesthesia & Intensive Care
- Dental Surgery
- Dermatology
- Ear, Nose & Throat (Otorhinolaryngology)
- Eye Ophthalmology
- General & Minimally Invasive Surgery
- Laboratory Medicine (Pathology & Biochemistry)
- Medicine
- Microbiology
- Obstetrics & Gynaecology
- Paediatrics, Neonatology & Adolescent Medicine

- Physical Medicine & Rehabilitation
- Psychiatry
- Radiodiagnosis
- Orthopaedics
- Department of Library
- Physiotherapy
- Medical Records

Super Speciality departments include the following

- Burns and Plastic Surgery
- Cardiology
- Cardiothoracic and Vascular Surgery
- Endocrinology & Metabolism
- Gastroenterology
- Nephrology
- Neurology
- Neurosurgery
- Paediatric Surgery
- Urology

1.2 Internship at Ram Manohar Lohia Hospital was from 15th January 2011 to 15th April 2011. During this time, observations were made and a Strengths Weakness Opportunity and Threat analysis was done for OPD, OT, ICU, Dietary and Ward. The internship was in Neurology outpatient department. Also, postponement with its reasons was studied from 24th January 2011 to 24th February 2011 in the New OT of Dr. RML Hospital. Recommendations were made for both OPD and New OT.

Outpatient Department

Outpatient department provides medical consultations in specialized department, investigations such as pathology, radiology, ECG etc., pharmacy for dispensing medicines, minor procedures, counseling and health education. Functions of OPD are to

provide for the community a major source of specialist diagnostic medical opinion where the knowledge skills and resources of the specialist are backed up by the resources of the hospital. These include not only the physical resources but also the presence of a wide range of other specialists, which facilitates early referral when necessary and of supportive paramedical staff of the allied health profession. It treats on ambulatory and domiciliary basis all cases, which can be treated in the Outpatient Department (e.g., surgery for hernia). OPD refers patients for admission to the hospital of those who need it. About 80% of total admissions are through OPD.

Strengths

1. The registration system computerized.
2. There is token system for waiting.
3. It has satellite lab in appointment OPD.
4. There is separate waiting area for specialized OPD.
5. There is café for waiting patients.
6. Audit is done daily.
7. There is information counter for queries.
8. Information, education and communication activities present in OPD

Weaknesses

1. There is chaos during peak hours.
2. There is no streamlining of procedure.
3. There is no health educator.
4. There is long waiting time for reports to be generated.
5. Patient has to wait for long time.
6. There is no formation of queue.
7. There is no computerized system in appointment OPD to call patients.
8. List of appointments is not present at the registration
9. There is only one person at registration during peak hours.
10. Patients not informed prior to coming to appointment.
11. There is burden on handling the patients for one person.
12. There are patient complaints.

13. There is very minimal signage for OPD
14. There is no patient suggestion box

Opportunities

1. They can have primary health care check ups.

Threats

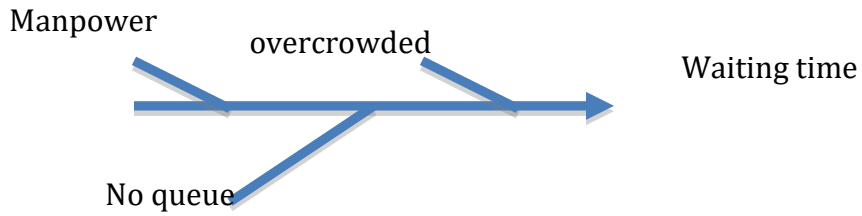
1. There is increased patient waiting time.
2. Pharmacy is not available during late OPD hours.
3. Patient complains about waiting time.
4. There are free OPD services.

Recommendation

1. There is delay and wastage of time during OPD hours. There is a need of streamlining the procedure. Every patient has a complaint about the wastage of time. They have to wait for 2-3 hours to see the doctor. However the doctor complains that the patient visits the hospital an end number of times without seeing the previous records. Patients were not happy because they felt that the doctors examine VIP patients first. In order to better the situation, queuing theory, a mathematical study of average waiting time in queue, can be used to control the crowd. It comprises of the time when the patient arrives, waits and being served at the hospital. It has two applications. First is based on the first come first serve basis, which states that the person who had the longest waiting time should be served first. This should better the situation of controlling the chaos. However, the second application based on last come first serve basis is not applicable in the current scenario.
2. The delay can be avoided if during registration time the patient told about their appointment time and waiting period. This way they can chalk out their schedules. Patients from the village can be given more preference so that they don't wait and crowd. There should be a digitalized roll call number system. When the patient's turn comes, a buzzer is given to the doctor as well as the patient.

3. Six-Sigma is continuous quality improvement methodology. In Six-Sigma we don't know the root cause of the problem and we try to develop a robust solution to the root cause we identified. Six-Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects. Six Sigma's implicit goal is to improve all processes to that level of quality or better. Define Measure Analyze Improve Control method of Six Sigma was recommended. It has the following steps

1. Define- Here we state the problem for e.g. patient waiting time
2. Measure- It was measured that patients have to wait for more that 30 minutes to see the doctor.
3. Analyze



4. Improve – There are approximately 300 patients for OPD hours and it runs overcapacity. There is chaos and patients have to wait for long hours. Improvements can be made if patient coordinator can be increased to two, thus there would not be a lot of burden on one person in controlling the crowd and streamlining can be done. There are more patients and doctors are less. Hence manpower should be increased.
5. Control- Waiting time can be solved by employing queuing theory and having a computerized token system so that queuing theory can be utilized. By increasing OPD hours more patients can be seen with the same amount of doctors. Patient attendant should be hired to have better control of the chaos created by the crowd.

New Operation Theater

The operating department is a unit consisting of one or more operating suites together with ancillary infrastructure for common use of these suites such as changing room, reception, recovery area, circulating space etc. An operating suite is a self-contained unit inclusive of the operating theater, and its own ancillary areas namely anesthetic induction room, preoperative room, scrub up and exit area. An operation theater is a room or twin theater in which the actual surgical procedure is carried out.

This study as carried out in 2nd floor OT block, Dr. Ram Manohar Lohia Hospital. The OT timings are 9 am to 4 pm. There are three OT's in the new operation theater. The types of surgeries carried out are general surgery, obstretic and gyenaecology, plastic surgery, urology, peadiatric surgery and ENT.

The OT list is prepared one day before planned surgery based of severity of case , and sent to the operation theatre.

It was found that postponements are mainly due to lack of available time.

As from the data it was noted that the OT did not start on time. The OT time is 9 am. This means the doctor is ready with the knife to do the surgery. However, the start time of the first surgery always got delayed due to staff members not being present there on time. The OT is not ready for the surgery to start.

Since there was no proper procedure followed, prioritization of the surgery can be done by asking the doctor beforehand and patients can come roll call wise thus streamlining the procedure. This can prevent delays.

Delays in first surgery would cause delays in subsequent surgery. Hence it would cause postponements in surgery of that day.

Hence, these are the several reasons why there were postponements in surgery.

Table 1: Postponements in NEW OT

24th jan	OT2	OT3	OT4
Start time of 1st case	9:30 am	9:45am	9:30
No. of surgery	10+local cases	6	Same as OT3
Postponement	2	2	-

25th jan	OT2	OT3	OT4
Start time of 1st case	9:15 am	9:15am	9:30
No. of surgery	8+local cases	4	Same as OT3
Postponement	2	-	-

27th jan	OT2	OT3	OT4
Start time of 1st case	9:30 am	10:00am	9:30
No. of surgery	5+local cases	3	4
Postponement	3	2	3

28th jan	OT2	OT3	OT4
Start time of 1st case	9:30 am	9:45am(induction went wrong)	9:55
No. of surgery	4+few local cases	8	Same as OT3
Postponement	2	-	-

29th jan	OT2	OT3	OT4
Start time of 1st case	9:30 am	9:30am	9:30
No. of surgery	2	2	3
Postponement	-	-	-

31st jan	OT2	OT3	OT4
Start time of 1st case	11:45 am(not started)	9:30am	9:45
No. of surgery	6	7	Same as OT3
Postponement	4	2	-

1st feb	OT2	OT3	OT4
Start time of 1st case	10:00am	9:50(not started)	9:30
No. of surgery	4	1	4
Postponement	3	-	1

2nd feb	OT2	OT3	OT4
Start time of 1st case	9:30am	9:30	9:45
No. of surgery	2	6	Same list
Postponement	-	-	-

3rd feb	OT2	OT3	OT4
Start time of 1st case	9:45am	9:50	9:30
No. of surgery	8(3 patients not there)	5	4
Postponement	3 p not there	1	1

4th feb	OT2	OT3	OT4
Start time of 1st case	9:30am	10:00am	9:45am
No. of surgery	3	6	Same list
Postponement	-	2	-

5th feb	OT2	OT3	OT4
Start time of 1st case	10:00	9:30	10:45
No. of surgery	6	Same list	Same list
Postponement	1	-	-

7th feb	OT2	OT3	OT4
Start time of 1st case	9:50	9:30	9:30
No. of surgery	5 + local cases	2	2
Postponement	2	-	-

8th feb	OT2	OT3	OT4
Start time of 1st case	9:45	12:30	9:30
No. of surgery	3	2	2
Postponement	1	-	1

9th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:15	9:30
No. of surgery	5	4	9
Postponement	3	-	-

10th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:30	9:45
No. of surgery	7+ local cases	2	6
Postponement	2	-	2

11th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:30	9:30
No. of surgery	5	7	7
Postponement	1	-	-

12th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:30	9:30
No. of surgery	7	7	7
Postponement	-	-	-

14th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:30	9:15
No. of surgery	5+local cases	2	1
Postponement	-	-	-

15th feb	OT2	OT3	OT4
Start time of 1st case	9:50	9:30	9:30
No. of surgery	5+local cases	7	4
Postponement	-	-	-

17th feb	OT2	OT3	OT4
Start time of 1st case	9:30	9:30	9:30
No. of surgery	4+local cases	5	4
Postponement	-	2 &1 cancelled	-

18th feb	OT2	OT3	OT4
Start time of 1st case	9:00	9:15	9:15
No. of surgery	7	Same list	5
Postponement	-	-	-

Fig 1: Distribution of males and females in New OT

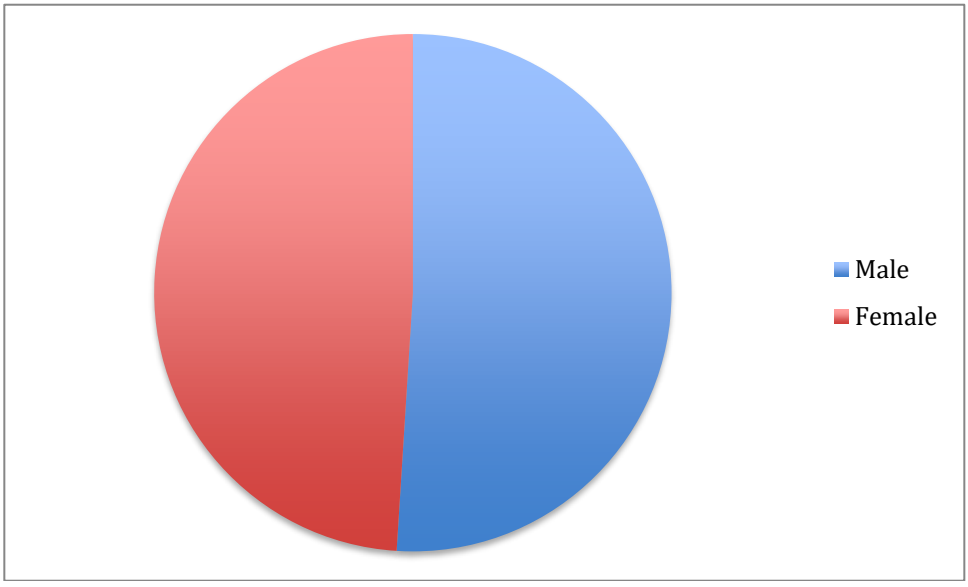


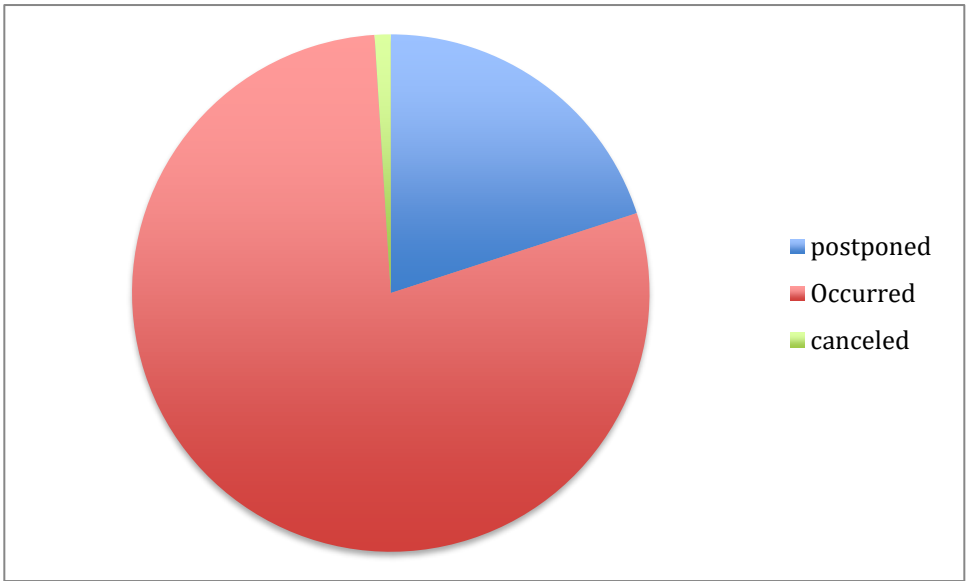
Table 2: Distribution of percentage of males and females

Gender	Percentage
Male	51%
Female	49%

Table 3:Distribution of percentage of Postponement in New Operation Theater

Postponed	20%
Cancelled	1%
Occurred	79%

Fig 2: Distribution of percentage of postponement in New Operation theater



It was observed that there was more number of males than females. The total percentage of males was 51% and total number of females was 49%. The total percentage of postponements was 20% and cancelled was 1%. Total percentage that occurred was 79%.

Delay in the first surgery leads to delay in subsequent surgeries. It was observed that on some days the OT did not start ‘till 10 am and the OT time- in is at 9 am. Hence there is delay in the start of the surgery itself. In order avoid postponements, the surgery should start on time.

Medical cancellations are generally presumed to be another reason of cancellations. “Cancellations may occur due to scheduling errors, inadequate preoperative evaluation, inadequate patient preparation, lack of surgical linen, equipment shortage, non-availability of the trained staff etc. This is because of the lack of coordination of different departments involved in the functioning of operating rooms and lack of efficient

management of operating theatre floor. These cancellations may lead to dissatisfied patients and can be quite costly. Surgical cancellations could be regarded as adverse events and monitored routinely in hospital clinical incident monitoring systems." [20

Recommendations

1) Six Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects. Six Sigma's implicit goal is to improve all processes to that level of quality or better. Define, Measure, Analyze, Improve, Control was used.

Define- Here we state the problem example postponements in OT
Measure- There was 21% postponements in OT.
Analyze- Medical cancellations, scheduling cancellations, first surgery should start on time.
Improve- Medical cancellations can be avoided by telling the patients to be prepared beforehand for the surgery. Schedule should be prepared depending on the number of patients who are there for the surgery. First surgery should start on time in order to avoid postponement of the surgery.
Control- Computerized scheduling should be utilized to create a realistic elective schedule. Audit should be carried out at regular intervals to find out the effective functioning of the OR.
Hence by using six-sigma we can reduce the number of postponements

SWOT of New Operation Theater
Strengths

1. There is computer facility in each block
2. There are proper registers maintained for cases
3. There is cleaning after every case
4. There is TSSU (Theater Supply Sterile Unit)

Weakness

1. There is no proper scheduling of cases.
2. There is no proper communication between the staff and patients.

3. There is prioritization of surgery.
4. There is no serial number for surgery to be performed.
5. There are postponements of surgeries everyday.
6. Surgery doesn't start on time.
7. They run out of time thus surgeries left.
8. The surgeries are postponed for next week not the day after.
9. There were outside slippers allowed at times.
10. Sometimes surgery is allowed without cleaning.

Opportunities

1. Proper monitoring of time to avoid postponements and delays in OT.

Threat

1. There are patients complaints.
2. The patients may be dissatisfied.
3. There is hindering of quality of services.

1.3 For the following departments, a SWOT analysis was done

Wards

A hospital ward may be referred to as a section, unit, or even a floor of the hospital. The wards are typed according to the patients within the ward and their specific needs, diseases, or even their ages. The function of hospital wards is to keep similar patients together, either according to age, disease, or condition.

Strengths

1. The visiting hours are restricted to ensure security.
2. The nurses are polite.
3. There is barrier nursing.

Weakness

1. The records are not computerized.
2. There is lot of paperwork.

Opportunities

1. There should be visitor's badges
2. There should be patient identification bands

Threats

1. There is overload on nursing staff.

Dietary

Overall goal of the dietary service is to provide nourishing and appetizing meals to all patients and personnel as efficiently and economically as possible.

Strengths

1. It is located on ground floor.
2. It is close to gate for easier transportation of food.
3. There is no waiting inventory.
4. There is good ventilation.
5. There is assembly line system of preparing food.
6. There is food trolley sufficient to cater 25 patients.
7. There is proper storage of food.
8. It is a separate refrigeration system.

Weakness

1. There is no proper light.

Opportunities

1. There should be expansion of kitchen

Threats

1. Rodents may go inside the kitchen.

Intensive care unit

An intensive care unit (ICU), critical care unit (CCU), intensive therapy unit, or intensive treatment unit (ITU) is a specialized department in a hospital that provides intensive-care medicine. Many hospitals also have designated intensive care areas for certain specialties of medicine, depending on the needs and resources of the hospital.

Strengths

1. 1 staff for ventilator patient.
2. There is central monitoring system.
3. There is call bell facility.
4. There is record maintenance.

Weakness

1. Outside shoes are allowed sometimes.
2. There is no barrier nursing.
3. There is a lot of paperwork.

Opportunities

1. There should be shoe covers and change shoes to inside ICU.
2. There should be masks and head covers.
3. There should be closed crash carts.

Threat

1. There is overload on staff.
2. The privacy of female patient at stake.

1.4 The learning experience can be described as follows:

The internship was carried out in New Operation theater from 24th January 2011 to 24th February 2011 and in Neurology OPD from 15th January to 15th April 2011 of Dr. RML hospital. It was observed that the hospital faces a lot of challenges. There is increase in awareness among the patients. There is rapid developing medical technology etc. The challenges are both external and internal. The internal environment consists of lack of infrastructure, lack of information of staff and

overcrowding. External factors include right to information, legal issues, public relation, political influence. Then there are technological factors, and the new concept of accreditation example NABH, ISO etc. If these challenges in a hospital are met then there will be smooth functioning of the hospital. In order to meet the challenges the hospital would have to use several strategies. They are technological advancement, increase in efficiency, improve patient safety, relationship with the outside agency, marketing of hospital services, leadership and motivation, carrier development, recreation training, clear cut response and hospital infection control practices.

Dissertation

Chapter 1

Introduction

Health is fundamental to quality of life. Healthcare system provides preventive, promotive, curative, and rehabilitative care. Hospitals such as primary, secondary, and tertiary care, are key elements in health care system that caters to the needs of people. Hospital is a phenomenon of 20th century. Hospital has originated from the word 'hospice', which is a type and a philosophy of care that focuses on the palliation of a terminally ill patient's symptoms. Hospices were places of hospitality for the sick, wounded, or dying, as well as those for travelers and pilgrims. Hospitals used to be religious places, for example churches, where patients could die peacefully. World Health Organization defines hospital as an integral part of a social and medical organization, the function of which is to provide for the population complete health care, both curative and preventive, and whose outpatient services reach out to the family and its home environment; the hospital is also a centre for the training of health workers and bio-social research. Being centers of specialized medicine and technology, with large multidisciplinary teams, these institutions deliver a whole range of specialized services. Many hospitals also have a role to play in biomedical research, and in teaching and training of health professionals. Hospitals have, moreover, a key role in health promotion, environmental concern, social human resources, and the creation of patient oriented service and management. [20]

An organization's environment consists of the forces and conditions that surround and pervade it. An organization's success or failure is wholly dependant on how effectively it copes with the competing demands of its environment. A typical hospital has two environment components: one external and other internal. The external environment can be further subdivided into two: the general and the task environment. The general environment consists of political legal dimension, technological dimension, and the organization's internal dimension. These dimensions might affect its activities and pose a threat or an opportunity to it. The task environment includes those external groups and

forces with which an organization has direct contact and transactions-competitor, supplier, regulators, patients, healthcare professionals and agencies, unions and professional associations.

The primary components of internal environment consist of self, the tasks, the process and skills, the formal organizational design, the organizational culture, the individual employees or people system, together with the leadership function and shared vision of organization.

It is important to analyze the external environment and the effects it has on the internal environment so that management can develop appropriate strategies and structures to meet the demands and keep patients satisfied.

In this study patient in the task environment will be analyzed. The aim is to determine if the patients are satisfied with the Neurology OPD both General and 'Appointment' OPD. Patient satisfaction is a major concern of all hospitals. It is therefore important to find if patients are satisfied with the internal environment i.e. the processes, the organizational design, the organizational culture, the employees etc. By analyzing the patient satisfaction in the general environment, internal environment can be improved. It is of key importance to find patient satisfaction as it determines the quality of hospitals. Consumer choice was chosen as it is one of the most powerful ways of deciding whether the quality of care is reasonable. Patients who have been treated were asked as to how the services of the hospital affected them. Patient satisfaction is important as satisfied patients are likely to cooperate with the people giving them health care. They are more likely to take advice they have been given. [20] Hence patient satisfaction is of key importance.

The center of this study is patient. The key to sustainable competitive advantage in today's market is that customer organizations must know who their customers are, which customer population most directly drive their profits and what will keep their customers loyal and happy over time. Present scenario poses tremendous competition in the healthcare market, which can be attributed to globalization, customers becoming savvy and demanding due to level of knowledge and information awareness and health consciousness among the population.

Every patient has his own views about the OPD services and describes the degree to which he is satisfied in both General and 'Appointment' OPD. Patient is asked to answer questions based on internal environment so that quality of services could be improved. By getting their feedback, the internal environment was analyzed in order to deliver quality of services. By this we could figure out what needed improvement in the Neurology OPD.

An outpatient is a patient who is not hospitalized overnight but who visits the hospital, clinic or associated facility for diagnosis or treatment. Of the many departments e.g. pharmacy, emergency, outpatient department is one of the first point of contacts between the patient and the hospital staff. The activities of outpatient department (OPD) are to provide preventive, curative, promotive, and rehabilitative care to the sick. Preventive care is done to check for the prevalence of disease as well as risk factors through provision of immunization screening, antenatal, well baby, counseling family welfare clinics etc. [3] Outpatient Department promotes health of the individuals under care by means of health education. [3] It carries out after care and medical rehabilitation, when necessary, after discharge from hospital. OPD trains medical students, house physicians and other professional staff such as nurses and technicians with valuable and diversified clinical experiences. It also compiles, collates and analyses records of patients using outpatient services for epidemiological, social clinical research and for periodic assessment of clinical outcomes.

Outpatient department provides medical consultations in specialized department, investigations such as pathology, radiology, ECG etc., pharmacy for dispensing medicines, minor procedures, counseling and health education. Functions of OPD are to provide for the community a major source of specialist diagnostic medical opinion where the knowledge skills and resources of the specialist are backed up by the resources of the hospital. These include not only the physical resources but also the presence of a wide range of other specialists, which facilitates early referral when necessary and of supportive paramedical staff of the allied health profession. It treats on ambulatory and domiciliary basis all cases, which can be treated in the Outpatient Department (e.g.,

surgery for hernia). OPD refers patients for admission to the hospital of those who need it. About 80% of total admissions are through OPD.

There are two types of OPD

Centralized OPD: **"**In centralized outpatient services, all the outpatient care relating to all the specialties, are provided in a compact area, which includes all diagnostic and therapeutic facilities being provided in the same unit. Polyclinic in various hospitals is based on this concept." [7]

Decentralized OPD: "In decentralized outpatient services, the outpatient care is provided with the respected department. The same holds true for diagnostic and therapeutic services also. The specialty clinics are usually based on this concept." [7]

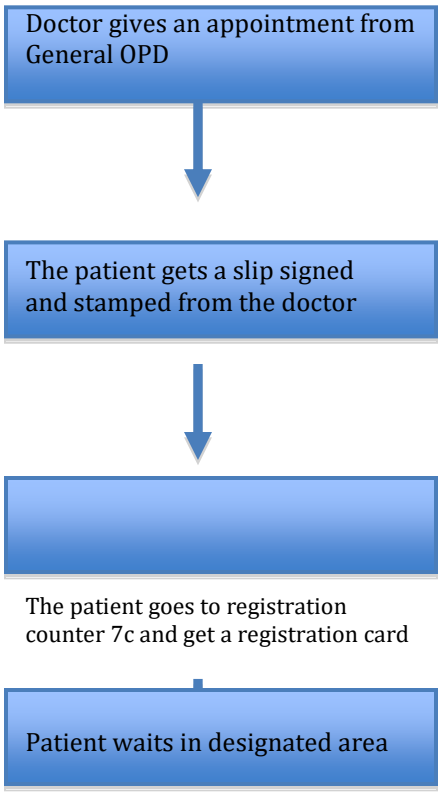
The outpatient services provide main linkage of the hospital with the community. It should be near the main roads and close to main hospital entrance, but with sufficient space to provide for parking etc and to prevent noise and dust pollution.

It should be separate from inpatient wards and other departments, but connected with them. OPD can function more efficiently in terms of scheduling and communications. It is easier for patients to find their way around. It should have less patient attendant traffic through central hospital. OPD should be kept close when not in use and it should have expansion area as the need arises. OPD should be close to Medical records, laboratory, radiology, and pharmacy. It should be adjacent to casualty. OPD of all specialities should be in the same building to facilitate cross-reference between various specialities. [19]

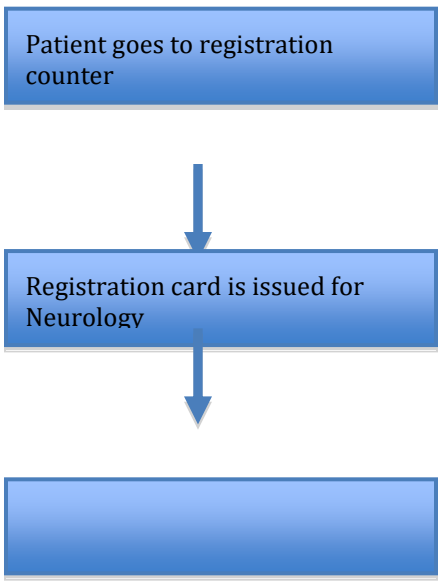
Finding the OPD in Dr. RML Hospital

OPD is located near the entrance gate of the hospital. As the person enters the OPD, there is a waiting area in the center enclosed by two walls. One has the enquiry counter and the other has the registration counter. The OPD registration hours are 1:15 pm to 2:45 pm in the afternoon. The timings of neurology OPD are 9:00 am to 4:00 pm (appointment OPD) and 2:00 pm to 8:00 pm(General OPD). The appointment neurology OPD is located in room number 16 and general neurology OPD in room number 7.

The process of registration for ‘Appointment OPD’ is as follows:



The process of registration in General OPD is as follows:



Patient waits in designated area

There are various problems in functioning of OPD. They are mainly patient complaints. The study focuses on patient satisfaction so patient complaint will be highlighted. Patient complaints are prolonged waiting time. This is due to too many patients in relation to doctor; doctors busy elsewhere in the hospital at the time of OPD; doctors come late, or absent from OPD for prolonged durations; delays for registration, collection of laboratory specimens, payments because procedure not streamlined for efficiency, lack of sufficient helpers during peak hours, bottlenecks because of non availability of consultant laboratory results in delays, patient referred by registration staff to wrong consultant, and critical equipment shortage or out of order.

Then there is dissatisfaction with quality of service. This is because doctors do not spend sufficient time with patient, possibly due to heavy workload; there is lack of undivided and uninterrupted consultation, especially, by senior doctors; no privacy in larger hospitals; consultation only by junior inexperienced doctor; too many investigations ordered, resulting in unnecessary repeat visits; unfamiliar with procedures to be followed to avail services to carry out laboratory investigations after consultation; improper guidance of procedures to be followed, location of departments; multiple service points often located distantly from each other; certain speciality may not function on same day; necessitating a revisit of cross-reference advised.

Lastly there is dissatisfaction with amenities. They are insufficient toilets; lack of seating accommodations; poor transport facilities to hospital; absence of a female attendant when a lady is being examined by a male doctor. [19]

In order to avoid dissatisfaction, there has to be quality of services in a hospital. Quality is defined as degree of adherence of a product or service to a predetermined specification. It may be termed as good or bad, high or low depending upon the extent of conformity to the expected specified criteria. [22]

Joint Commission of Accreditation of healthcare Organizations defines quality of health services as the degree to which health services for individuals and population, increase the likelihood of the desired health outcomes and are consistent with the current professional knowledge. [22]

International Organization for Standardization (ISO 8402) defines quality of services as the totality of features and characteristics of a service that bear on its ability to satisfy the stated implied needs of patients.

This definition has two important elements. First means the totality of features and characteristics, which means the combined net-effect of hospital services. Second element is the ability of the service to satisfy the stated and implied needs of the patient. That means not just curing the presenting complaints of the patient but to treat and cure all the underlying causative factors and help restore her health to normal.

In the context of health service the stated needs can be availability, accessibility, appropriateness, effectiveness, efficiency, and affordability of the service to the community. The implied needs, on the other hand may be the kind of service that is comprehensive enough to prevent diseases from occurrence, educate the community on how to promote positive health, cure the diseases promptly on occurrence and help in rehabilitation of the unfortunate disabled to lead a self reliant and productive existence. [22]

In medicine poor quality is more expensive because longer a patient requires treatment and more complicated it is, the higher the cost. Quality management is the scientific search for the most effective ways to deliver the best care to patients. Quality management is saving life and money when standard of care is met, the standards are raised, improvement process continues, and cost continues to decrease.

There are two types of quality management: continuous quality improvement and total quality management. Continuous quality is a comprehensive management philosophy that focuses on continuous improvement by applying scientific methods to gain knowledge and control over variation in work processes. It emphasizes objective measurement, benchmarking, and ongoing improvement of work processes, beginning at smallest work units of organization and aggregated upward to the whole.

In total quality management, by changing actions of management with the culture and actions of an entire organization be transformed. The concept has replaced the traditional view of quality control, by strategic commitment to defect prevention, continuous process improvement and system driven by needs of the customers. It is not just improving quality, it is about customer satisfaction. Total quality management seeks to integrate all the resources and functions with the aim of a unified thrust focused at meeting the customer's needs and organization's objectives. [23]

In order to provide quality, hospital should strive for the following:

1. **Safety:** Avoiding injuries to patients from the care that is intended to help them.
2. **Effectiveness:** Providing services based on scientific knowledge and best practice.
3. **Patient-centered:** Providing care that is respectful of and responsive to individual patient preferences, needs and values, ensuring that patients' values guide all clinical decisions.
4. **Timely:** Reducing waits and sometimes harmful delays for both those who receive and provide care.
5. **Efficient:** Avoiding waste, including waste of equipment, supplies, ideas and energy.
6. **Equitable:** Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.

Customer can be defined as the recipient or beneficiary of the outputs of work effects or the purchaser of products and goods. The types of customers in a hospital can be defined as follows:

Patients are those persons who come to the hospital for treatment and to avail the facilities rendered by the hospital.

Attendants are the accompanies of the patients or the visitor who come to visit the patient during his/her stay in the hospital.

Clients can be the employers of companies who refer their employees to a particular hospital on emergency. They can also be the doctors who refer their patients to a particular hospital in certain contexts. [20]

There are two distinct types of customers- external and internal. An external customer can be defined as one who uses the product or service, the one who purchases the product or service, or the one who influences the sale of the product or service. An external customer exists outside the organization and generally falls into three categories: current, prospective, and lost customers. Each category provides valuable customer satisfaction information for the organization. Every employee in the organization must know how their job enhances the total satisfaction of the external customer. Performance must be continually improved in order to retain existing customers and to gain new ones. [23]

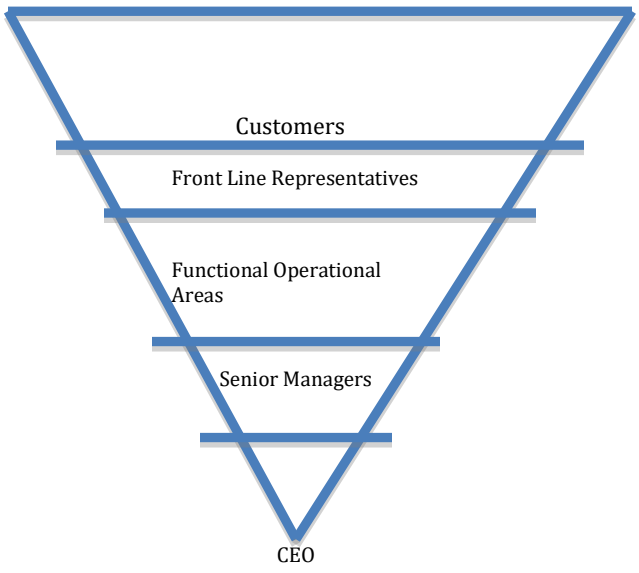


Figure 1: Customer satisfaction organizational diagram

The most important asset of any organization is in its customers. An organization's success depends on how many customers it has, how much they buy, and how often they buy. This comes when the customer is satisfied with the organization. Customers that are satisfied will increase in number, and buy more frequently. Quality is meeting or exceeding customer's expectations. Patient satisfaction is approached as a general quality of care issue through the setting and monitoring of standards. Customer perceives quality based on performance, features, service, warranty, price, and reputation. Performance indicated that the product and the service are ready for the customer's use at the time of sale.

Rationale

The aim of this study is to do a comparison of patient satisfaction in General and 'Appointment' OPD of Neurology department of Dr. Ram Manohar Lohia Hospital.

Ware and his colleagues developed a questionnaire on patient satisfaction in assessing the quality of medical care. Questions were based on accessibility, technical quality, interpersonal manner, general satisfaction, communication and convenience. Time spent with the doctor was eliminated as it was approximately same for all patients and financial aspect was eliminated as majority of the patients were BPL, CGHS, and Sr. citizens who just have to pay a minimal fee or have free services. It was also analyzed how many males and females attended each OPD and which age group was prominent in both 'Appointment' and General OPD of Neurology department.

Problem Statement

The aim of this paper is to compare patient satisfaction in General OPD and 'Appointment' OPD of Neurology department.

Review of Literature

From the various studies, it is found that patients are of key importance, as without the customer a hospital wouldn't run. The functioning of the hospital depends upon the patient. If the patients are not satisfied with the services, then they would chose

alternatives. These alternatives are going to a different hospital, not coming to the same hospital etc. Thus it is of key importance to keep the patient's satisfied so that the hospitals are running and have patients coming back to avail the services [22] Measurement of patients' satisfaction with services provided by the concerned hospital is important from two angles. Firstly, patients constitute the hospital's direct clientele. Thus overall satisfaction of the patient is an important aspect of the service itself, apart from other dimensions like technical quality of medical care, effectiveness of treatment etc. Secondly, patient satisfaction provides an indirect measure of the other dimensions as well. [22] If the patients are not satisfied, they wouldn't recommend the hospital to other people and the hospital would lose its goodwill. Therefore, hospitals should maintain quality of services. To maintain quality of care in hospital there is a need to offer convenience, easy access, and guarantee patient satisfaction in out patient department [22].

Objectives

General

- The objective of this study is to find patient satisfaction in Neurology OPD.
- The aim was to get the questionnaire filled based on patient's answers and then analyze them based on overall satisfaction, and quality of the hospital.

Specific

- The aim is to see whether patients in General OPD are satisfied or the patients in 'Appointment' OPD are satisfied.
- The object is to find the percentage of males and females attending the Neurology OPD and the age group of people attending the Neurology OPD.
- The goal is to find if the null hypothesis is accepted or the alternate hypothesis is accepted.

Chapter 2

Data and Methods

Research Problem

The research problem is that some patients are satisfied and some are dissatisfied in Neurology OPD. Neurology OPD has two sections, General and ‘Appointment’ OPD.

Let the null hypothesis be that General OPD patients are satisfied.
Let the alternate hypothesis be that ‘Appointment’ OPD patients are satisfied.

Satisfaction was compared in both OPDs to find in which OPD are patients satisfied, which was done by using Ware’s patient satisfaction questionnaire. The questionnaire was based on general satisfaction, technical quality, interpersonal manner, communication, and accessibility and convenience. Then the data was analyzed based on gender and age in each OPD of Neurology Department.

By using two tailed upaired t test, we can predict that if p value is greater than t value, then the null hypothesis is accepted and alternate hypothesis rejected and the value is not highly significant and difference is not due to chance.

The alternate prediction is that if p value is less than t value then the null hypothesis is cancelled, alternate hypothesis is accepted and value is highly significant and difference is due to chance.

Expected result of the study is that patients in General Neurology OPD will be dissatisfied and patients in ‘Appointment’ Neurology OPD will be satisfied. One of the

main reasons is that the average waiting time of General Neurology OPD is much more than ‘Appointment’ Neurology OPD.

Methodology

Empirical study is used to come up with the hypothesis and find the roots and causes of patient satisfaction. The research tool is questionnaire. These questionnaires were close ended.

Neurology patients are source of data. Judgemental technique is employed to get the sample size. Sample size is calculated by the given population of 300 patients in General OPD. By taking 5% as level of significance we calculated the sample size of general OPD to be 171. Since the appointment OPD patients are from general OPD the sample size was 171 was appointment OPD as well.

Formula for sample size used is N/1+N*e^2

N is average population and e is level of significance =.05

For two-tailed unpaired t test the formula is used to calculate t value. Then t value is compared with table t value to find the actual confidence level and see if means are significantly different. Then, t value is compared with p value table to accept or reject the null hypothesis. The t value is calculated by the difference in two means divided by standard error.

Data collection procedure was both primary and secondary data

Primary Data included questionnaires. Questionnaires were used to gather the data. A questionnaire is designed mainly to assess the factors contribution into building a good relationship between the customers and the hospital, so that they come back for a repeat visit, if need arises. It is targeted at the hospital patients. They were formulated based on Ware’s questionnaire. Only 12 questions were used as patients complained it to be lengthy.

Sample ware's questionnaire is based on general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor and accessibility and convenience. [21]

The questionnaire prepared was based on accessibility and convenience, technical quality, interpersonal manner, general satisfaction, and communication. Time spent with the doctor was eliminated as it was the same for all patients and financial aspect was eliminated as majority of the patients were BPL, CGHS, and Sr. citizens who just have to pay a minimal fee or have free services.

Question's were based on the following:

1. Accessibility and convenience consisted of the question if the hospital was easy to access and the waiting experience in OPD and diagnostics and if the pharmacy and diagnostics was available during OPD.
2. Technical quality consisted of the question treatment by physician.
3. Communication consisted of the signs and symbols present in the hospital to guide the patient.
4. Interpersonal manner consisted of cooperation by staff, professionalism at the registration counter.
5. General Satisfaction consisted of hygiene and cleanliness and ambience of OPD.

Since patients find it hard to fill out the questionnaire, all patient were interviewed by the researcher. And questions were both in Hindi and English.

Scaling is from 1-5 for positively frame questions

Choice	Strongly agree	agree	uncertain	disagree	Strongly disagree
Score	5	4	3	2	1

Strongly agree was termed as excellent

Agree was termed as very good

Uncertain was termed as good

Disagree was termed as fair

Strongly disagree was termed as poor

Secondary data consisted of books, journals and articles were referred for gathering data.

Procedure used in administering the questionnaires was that the recorder asked each question to the patient. After explaining on how to answer the questions based on score, the answers were ticked by the recorder, and then average score was taken out.
Data Analysis was done after compiling the scores for each sampling unit for each OPD. Results were analyzed based on the score, age and gender of the people attending the General and 'Appointment' Neurology OPD. Then, tools of continuous quality management used is six- sigma was used to analyze the results. Quality methods of six-sigma includes root cause analysis and case control graph. It was done to find the main reasons of patient satisfaction and patient dissatisfaction. Finally, concepts of total quality management are used to describe how customer satisfaction can be improved.

Chapter 3
Results and Findings

Table1: Distribution of Age, Gender, and patient satisfaction index for appointment OPD.

Sr. No.	Age	Gender	Score
1	47	M	3
2	35	M	3
3	12	M	3
4	50	F	4
5	35	M	3
6	31	F	4
7	20	F	4
8	9	M	4
9	50	F	4
10	11	F	4
11	12	F	3
12	20	M	3.5
13	28	M	4
14	15	F	3
15	5	M	3
16	37	F	2
17	50	M	4
18	7	M	2
19	66	M	5
20	7	F	4
21	58	F	4
22	22	F	3
23	70	M	4
24	39	F	4
25	38	M	3
26	16	M	4
27	55	M	4
28	76	M	3
29	74	F	5
30	35	M	5
31	48	F	1
32	55	M	5
33	56	M	5

34	31	F	5
35	9	M	4
36	38	M	3
37	88	M	4
38	19	F	4
39	19m	M	3
40	58	F	4
41	35	M	2
42	32	F	3
43	40	M	3
44	70	M	4
45	18	M	4
46	63	M	4
47	25	F	3
48	50	M	4
49	58	F	5
50	65	M	4
51	60	M	4
52	76	M	4
53	67	M	4
54	47	M	4
55	40	M	4
56	30	F	3.5
57	20	M	3
58	8	M	4
59	58	M	3
60	31	M	3
61	29	M	4
62	34	F	3.5
63	42	M	4
64	30	M	3
65	30	F	3
66	25	M	3
67	45	M	2
68	43	M	2
69	40	M	2
70	54	F	2
71	60	M	5
72	40	M	2.5
73	64	F	2
74	56	F	3
75	20	M	3
76	37	F	3.5
77	19	F	3
78	40	F	4

79	7	F	2
80	45	M	4
81	35	M	3
82	45	M	3
83	45	F	3
84	28	M	4
85	15	F	3
86	5	M	3
87	37	F	2
88	50	M	4
89	7	M	2
90	66	M	5
91	50	M	4
92	75	M	3
93	71	M	4
94	18	F	3
95	53	M	4
96	73	M	2
97	8	F	3
98	18	F	3
99	40	F	3
100	18	M	3
101	50	F	3
102	86	M	2
103	65	M	1.5
104	40	M	3.5
105	60	M	3.5
106	50	F	3
107	65	F	3
108	78	F	2
109	60	M	3
110	49	M	3
111	20	M	4
112	55	F	2
113	76	F	2.5
114	53	F	2
115	52	M	4
116	54	F	4
117	36	F	3.5
118	20	F	4
119	60	M	3
120	5	F	4
121	50	M	3.5
122	50	M	3
123	50	M	3

124	25	F	3
125	33	F	2
126	35	M	3
127	40	F	3
128	70	M	3
129	4.5	F	4
130	18	M	2
131	11	F	2
132	38	F	4
133	50	F	4
134	28	M	3
135	66	M	3
136	21	F	4
137	32	M	4
138	45	M	4
139	35	F	3
140	60	F	2
141	34	F	3
142	9	F	4
143	12	M	4
144	48	F	4
145	15	F	3
146	60	F	3
147	67	M	4
148	30	M	4
149	48	M	4
150	36	F	4
151	45	F	3
152	38	M	3
153	18	F	3
154	42	M	4
155	25	F	4
156	23	M	3
157	50	M	3
158	38	M	3
159	36	F	3
160	24	F	3
161	33	F	4
162	48	F	3
163	36	M	4
164	25	F	3
165	30	M	5
166	32	F	5
167	20	M	3
168	23	F	4

169	32	F	3
170	38	F	5
171	42	M	5

Table2: Distribution of Age, Gender, and patient satisfaction index for appointment OPD.

Sr. No.	Age	Gender	Score
1	40	F	5
2	32	M	4
3	52	F	5
4	30	M	4
5	33	M	1
6	20	F	2
7	47	F	3
8	50	M	2
9	23	F	1
10	27	M	2
11	38	F	3
12	20	F	2
13	66	M	2
14	32	F	2
15	24	M	2
16	35	F	2
17	45	F	3
18	38	F	2.5
19	20	F	3
20	23	F	2
21	20	M	4
22	55	F	4
23	46	M	2
24	30	F	3
25	45	F	2
26	22	M	4
27	50	M	3
28	61	M	3
29	24	M	3
30	65	M	3
31	19	F	3
32	22	F	2
33	35	F	2
34	62	F	2
35	30	F	2

36	50	M	2
37	26	F	3
38	42	M	2
39	72	F	2
40	55	F	2
41	25	M	4
42	87	M	2
43	53	M	2
44	40	F	2
45	52	M	2
46	13	F	3
47	60	F	3
48	65	F	2.5
49	18	F	4
50	32	F	3
51	45	M	2
52	68	M	2
53	45	M	3
54	50	F	3
55	40	F	2
56	26	F	3
57	19	F	1
58	25	F	3
59	25	F	2
60	75	F	2
61	40	F	2
62	56	M	2
63	45	M	2
64	40	F	2
65	12	M	2
66	76	M	2
67	44	M	2
68	79	M	2
69	30	M	2
70	24	M	1
71	25	M	1
72	26	M	3
73	36	F	3
74	16	M	2
75	42	M	1
76	50	F	2
77	39	F	2
78	40	F	2
79	20	M	4
80	15	M	2

81	11m	M	1
82	74	M	2
83	44	F	2
84	61	M	1
85	64	F	1
86	29	M	2.5
87	42	M	3
88	38	M	3
89	30	M	2
90	35	F	2
91	27	F	3
92	50	F	3
93	60	F	4
94	57	M	2.5
95	62	F	3
96	62	M	3
97	23	F	3
98	28	M	1
99	38	F	3
100	58	F	2
101	21	F	3
102	47	F	3
103	60	M	2
104	68	M	4
105	23	M	3
106	45	M	3
107	42	F	1
108	62	M	2
109	28	M	2
110	50	M	2
111	19	M	3
112	45	F	3
113	45	M	2
114	37	F	2
115	40	F	2
116	60	F	5
117	20	F	4
118	19	M	2
119	29	F	2
120	60	F	2.5
121	52	M	2
122	40	M	2
123	35	M	3
124	40	F	3
125	38	M	2

126	39	F	1
127	29	F	1
128	48	M	1
129	40	F	2
130	30	F	2
131	32	M	2
132	25	M	2
133	20	F	2
134	31	F	2
135	42	F	2
136	36	F	2
137	42	M	2
138	35	F	3
139	25	F	1
140	20	F	3
141	25	M	1
142	29	M	3
143	25	F	2
144	26	M	2
145	22	M	3
146	40	F	3
147	58	M	2
148	62	M	2
149	35	M	1
150	68	F	3
151	39	M	3
152	25	M	1
153	60	F	3
154	40	F	3
155	18	M	3
156	65	M	3
157	62	M	2
158	80	F	3
159	50	F	4
160	36	F	2
161	39	M	2
162	44	M	2
163	33	M	2
164	23	M	2
165	30	F	2
166	35	F	3
167	70	M	1
168	69	M	1
169	21	M	1
170	31	M	1

171	31	M	1

The division of Age group was as follows

Table 3: Distribution of age and their variables

Age	Variable
1-12	A
13-19	B
20-60	C
60+	D

Table 4: Distribution of gender with their percentage in General Neurology OPD

Gender	Percentage
Male	51%
Female	49%

Fig 2: Distribution of gender with their percentage in General Neurology OPD

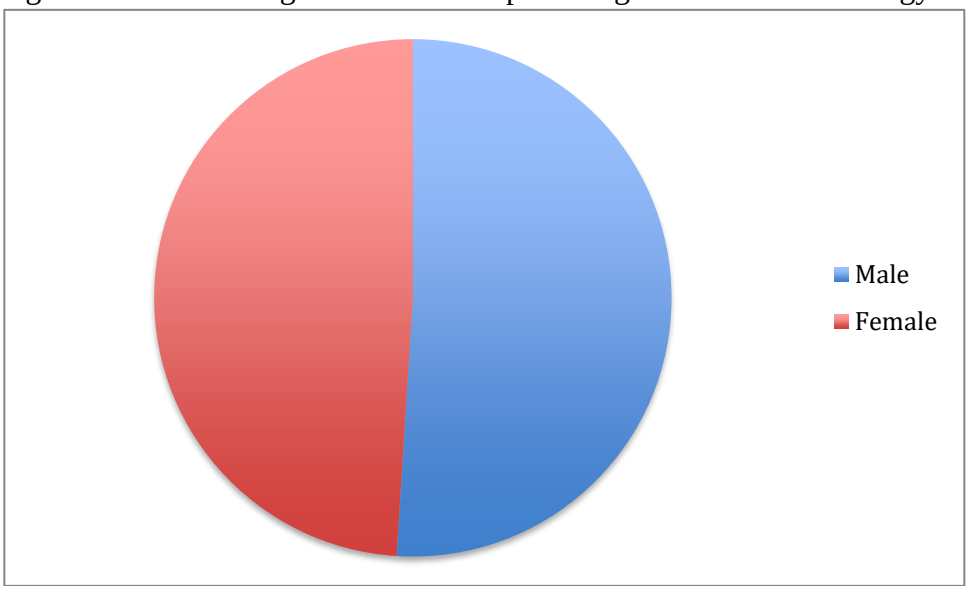


Table 5: Distribution of Age variables and their percentage for General Neurology OPD

Age Variable	Percentage
A	1%
B	5%
C	77%
D	14%

Fig 3: Distribution of Age variables and their percentage for General Neurology OPD

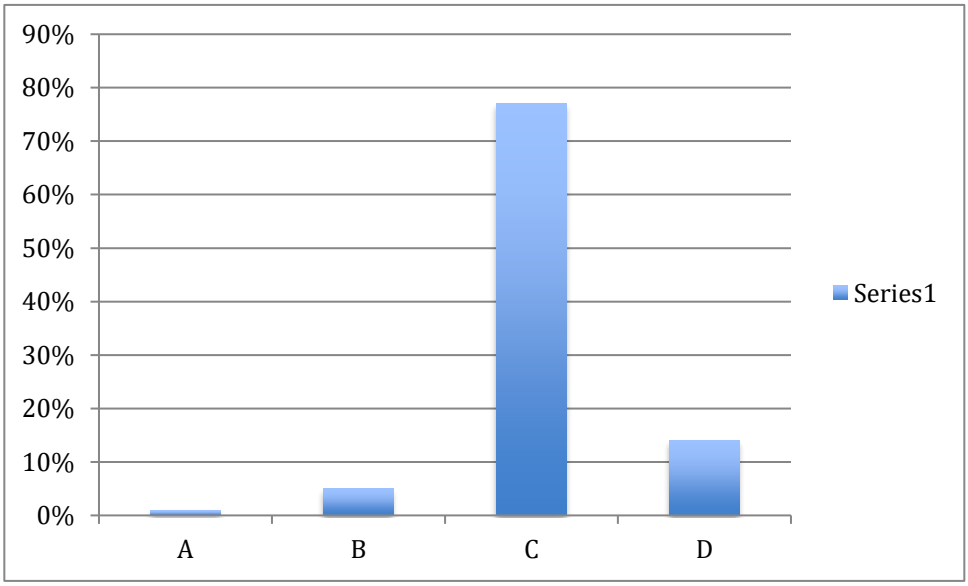


Table 6: Distribution of gender with their percentage in Appointment Neurology OPD

Gender	Percentage
Male	56%
Female	44%

Fig 4: Distribution of gender with their percentage in Appointment Neurology OPD

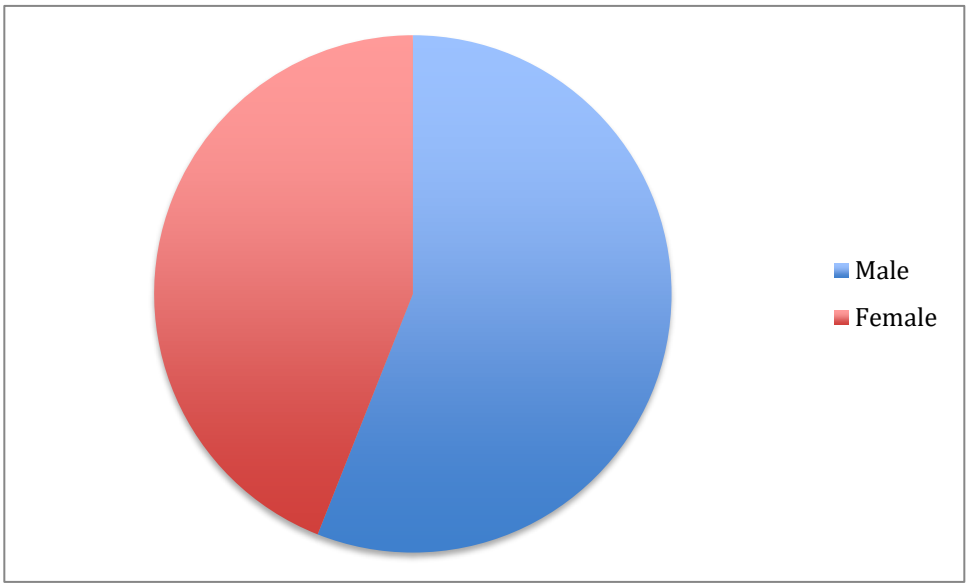
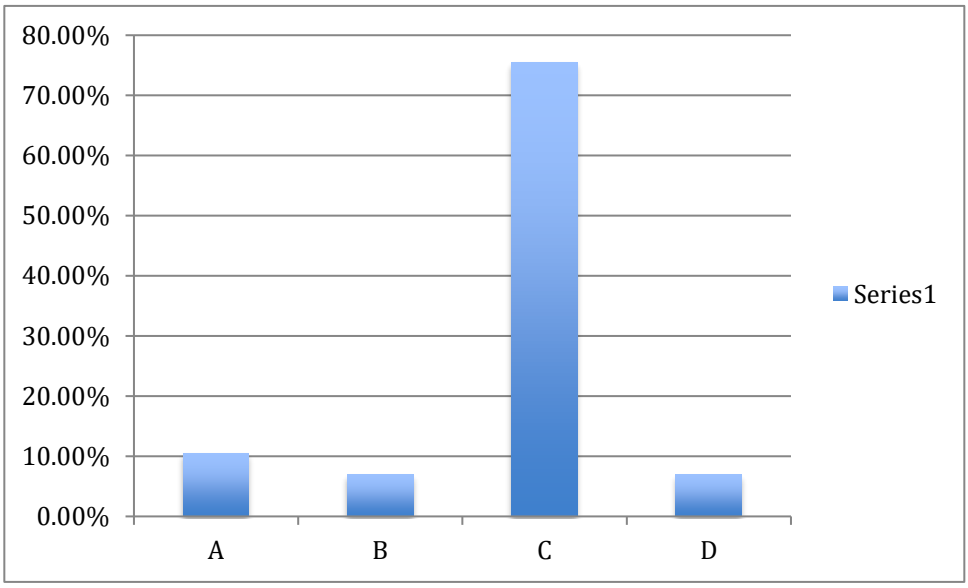


Table 7: Distribution of Age variables and their percentage for Appointment Neurology OPD

Age Variable	Percentage
A	10.5%
B	7%
C	75.4%
D	7%

Fig 5: Distribution of Age variables and their percentage for Appointment Neurology OPD



In general OPD it was found that male patients were 51% and female patients were 49% and it was found that maximum number of patients were among 20-60 years of age.

In appointment OPD it was found that male patients were 56% and female patients were 44% and it was found that maximum number of patients were among 20-60 years of age. It was found that the mean of general score in General Neurology OPD was 2.35 and standard deviation was 4.For Appointment Neurology OPD, the mean was 3.38 and standard deviation was 4.

After using the two- tailed un-paired t test with degrees of freedom 340 at 95% confidence interval, the t value is 2.31, which is much more than 1.98, the table t value at 95% confidence interval for 340 degrees of freedom. Hence, we conclude that means are significantly different. It was found that the actual confidence interval is 98.22%. Null hypothesis was rejected and alternate hypothesis accepted.

Let the null hypothesis be that patients in General Neurology OPD are satisfied.
Alternate hypothesis be that patients in Appointment Neurology OPD are satisfied.
p value for two-tailed unpaired t test is .021 which is less than t value 2.31. Thus it cancels the null hypothesis and alternate hypothesis is accepted. The difference is not due to chance and the value is highly significant. Hence, patients in Appointment OPD are satisfied and patients in General OPD are dissatisfied.

Continuous Quality Improvement
Six-Sigma is continuous quality improvement methodology.
In Six-Sigma we don't know the root cause of the problem and we try to develop a robust solution to the root cause we identified. Six-Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects. Six Sigma's implicit goal is to improve all processes to that level of quality or better.
Methods of six-sigma include root cause analysis and case control graphs.

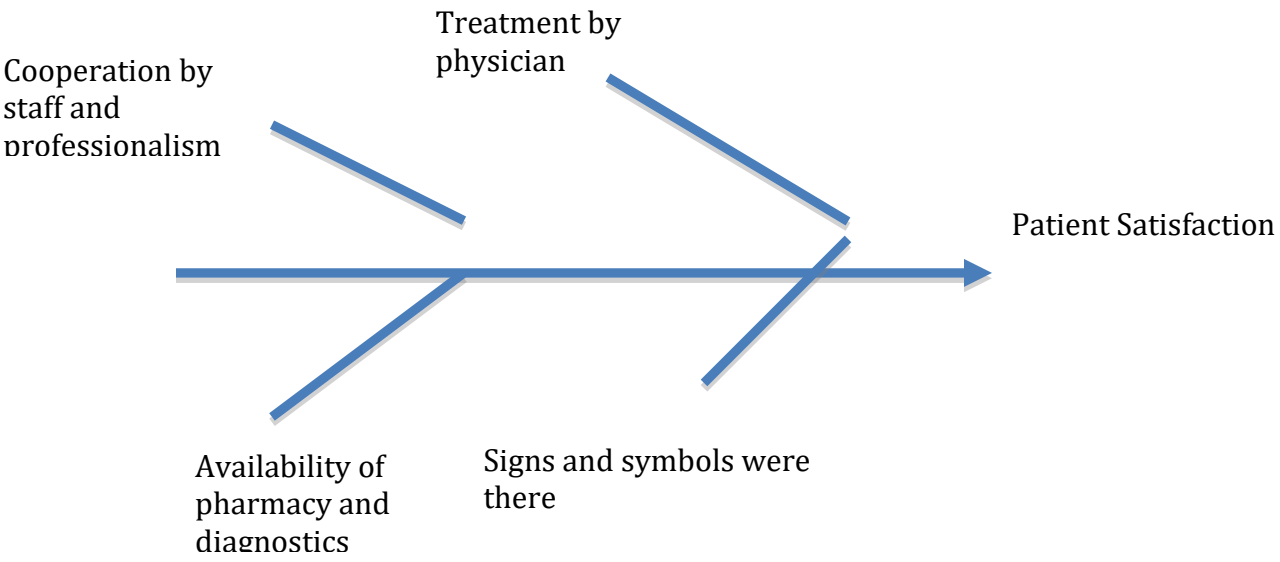


Fig 6: Appointment Neurology OPD

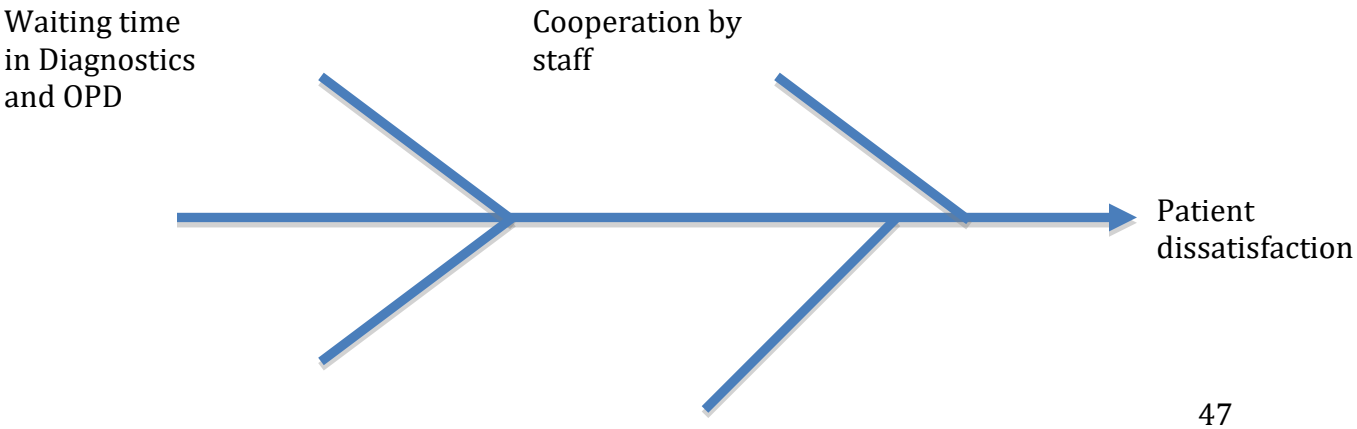
It was found that in 'Appointment' OPD patients were satisfied. The reasons were that there was easy communication. Technical quality was maintained above the standards. The interpersonal manner of the staff was good. Then there was accessibility of services example pharmacy and diagnostics during 'Appointment' OPD hours.

Patients in 'Appointment' OPD found it easier to communicate to the department as there were signs and symbols in the hospital to guide them to come to the desired department. First time 'Appointment' patients reported that the communication facility via signs and symbols was good.

Technical quality was very good. It included treatment by the physician. Patients came to the 'Appointment' OPD because of the excellent treatment provided by the doctor. These made them motivated to stay and forget about the long waiting time to get treated by the doctor.

The interpersonal manner was good. The patients agreed with there being professionalism at the registration counter. The staff at the counter is helpful and maintains professionalism. There is cooperation by staff and is ready to help the patients and guide them with their enquiries. The overall rating was good for interpersonal manner.

Appointment OPD hours are from 9am to 4 pm. During the OPD hours diagnostics and pharmacy was available. This made the department accessible to patients in 'Appointment' OPD. The overall rating was good.



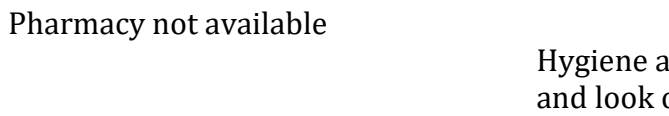


Fig 7: General Neurology OPD

It was found that in General Neurology OPD patients were dissatisfied. The reasons were that OPD and Diagnostics was not accessible and was not convenient due to long waiting hours and pharmacy was not available during OPD hours. The interpersonal manner of the staff was satisfactory. Then there was general dissatisfaction due to unclean area, and low hygiene and the ambience of the hospital.

In General Neurology OPD, there was dissatisfaction mainly due to long waiting time in OPD and Diagnostics. Patients started complaining about the long waiting time as soon as they were asked this question. Patients would get registered by 1 pm and sometimes would not have had an opportunity to see the doctor by 5p.m. This was the major issue for the General Neurology OPD. Due to same reasons the waiting time in diagnostics was long which created dissatisfaction among the patients.

Due to inaccessibility of pharmacy, the patients were dissatisfied. The pharmacy was not accessible during OPD hours, which were from 2 pm to 8 pm. As the hours of hospital pharmacy were from 9 am to 5 pm and after 5 pm the patient has to come next day or purchase it from outside.

Patients also were dissatisfied as the interpersonal manner was not good. The staff was not cooperative and their mannerism with the patients was inappropriate. Many patients were unhappy with this situation and were almost in tears with the staff behavior.

There was general dissatisfaction among the patients due to unhygienic and unclean conditions and the ambience of the waiting area. There was no housekeeping during OPD hours. During rainy season, dirty water would clog near the area and toilets would also be

very dirty. The ambience of the waiting area was poor due to chaotic situation and pushing and pulling in the waiting area. It would run overcapacity and most of the patients would have to wait in the general waiting area. There were insufficient benches and patients would have to sit on the ground and those ill sometimes lie on the ground.

Hence, it is seen that patients are satisfies with the services in the 'Appointment' OPD. But in General OPD it was seen that patients are dissatisfied with the facilities in the General OPD.

It was seen that overall average score of 'Appointment' OPD was more than Ware's average score and General OPD average score was lower than that of Ware's average score. Hence, it also proves that services of 'Appointment' OPD are more satisfactory than General OPD.

Total quality management

Total Quality Management (TQM) is a management approach to long-term success through customer satisfaction. It improves internal quality by taking feedback from patients. In a TQM effort, all members of an organization participate in improving processes, products, services and the culture in which they work.

A core concept in implementing TQM is Deming's 14 points, a set of management practices to help companies increase their quality and productivity:

1. Create constancy of purpose for improving products and services.
2. Adopt the new philosophy.
3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on price alone; instead, minimize total cost by working with a single supplier.
5. Improve constantly and forever every process for planning, production and service.
6. Institute training on the job.
7. Adopt and institute leadership.
8. Drive out fear.

9. Break down barriers between staff areas.
10. Eliminate slogans, exhortations and targets for the workforce.
11. Eliminate numerical quotas for the workforce and numerical goals for management.
12. Remove barriers that rob people of pride of workmanship, and eliminate the annual rating or merit system.
13. Institute a vigorous program of education and self-improvement for everyone.
14. Put everybody in the company to work accomplishing the transformation.

Chapter 4

Discussion

It was found that ‘Appointment’ OPD patients are more satisfied than General OPD patients. There are various reasons for patient satisfaction. The reasons were that there was easy communication. Technical quality was maintained above the standards. The interpersonal manner of the staff was good. Then there was accessibility of services example pharmacy and diagnostics during ‘Appointment’ OPD hours.
It was found that in General Neurology OPD patients were dissatisfied. The reasons were that there was OPD and Diagnostics was not accessible and was not convenient due to long waiting hours and pharmacy was not available during OPD hours. The interpersonal manner of the staff was satisfactory. Then there was general dissatisfaction due to unclean area, and low hygiene and the ambience of the hospital.

It was seen that in both OPD, Doctor’s treatment was rated as very good. Patients were satisfied with the doctor’s treatment in both the OPD. Patients came to the hospital because of the goodwill of the doctor, his treatment and his approach with the patients. Hence patient’s had no complaints against the doctor.

However, they complained that the number of doctors in General OPD should be increased. The doctor patient ratio for OPD is 1:70. There are only 3 specialized doctors. However junior residents and senior residents also write the prescription. But consultation only by junior inexperienced doctor may lead to too many investigations ordered, resulting in unnecessary repeat visits.

Waiting time was one of the major concerns of the patients in both OPD as they complained about long waiting time. The corporate hospitals have standardized the

waiting time from 5-15 minutes. In appointment OPD, it was found from the previous studies that the average waiting time for patients in Appointment OPD was 8 minutes and in General OPD was 2 hours. 'Appointment' OPD waiting time is agreeable as it meet's the standardized time but in General OPD, the waiting hours are beyond the standardized waiting time. Hence it is one of the major concerns.

The pharmacy in General OPD was not available during OPD hours as the timings of pharmacy are 9 am to 5 pm. However, the General OPD goes on from 2 pm to 8 pm. Hence, after 5 pm the patients either have to wait for the next day or buy from their own pocket. This is another concern as the health of the patient might deteriorate that needs immediate concern.
Then in General OPD, cleanliness was not maintained which can lead to Hospital acquired infections. Infection is the invasion of micro-organism in the human body. This can further lead to deterioration of health.

According to the doctors in Neurology OPD, the behavior of the staff in not appropriate with the patients due to the chaos. They are not courteous with the patients. There is a lot of workload hence it is hard to cope up with the patients. There should be programs for staff motivation. One way is to encourage them through word of mouth. This way they will be motivated. Then there should be targets, which when achieved by the staff should be awarded by certificate of excellence. Then there should be performance appraisals. By awarding the staff with small cash price can motivate them to work better.

According to the doctors and the staff waiting time is also seen as the major concern. The major reason for dissatisfaction is long waiting time in OPD. Patients come on time and based on the number of the patient, the patient is called. The long waiting time as discussed earlier caused lot of dissatisfaction. Hence it is the central reason for dissatisfaction of patients and needs to be nullified.

Bias

Customer satisfaction seems simple enough yet it is far from simple. Customer satisfaction is not an objective statistic but more of a feeling or attitude. Although certain statistical patterns can be developed to represent customer satisfaction, it is best to remember that people's opinions and attitudes are subjective in nature.

Because customer satisfaction is subjective, it is hard to measure. There are so many facets to a customer's experience with a product or a service that need to be measured individually to get an accurate total picture of customer satisfaction. Whether or not a customer is satisfied cannot be classed as a yes or no answer. Errors can occur when customer satisfaction is simplified too much. The Tebule Model, for instance describes customer satisfaction as the degree to which the customer's satisfaction level would be the same if the experience were superior in the context of high expectations. Customer satisfaction focus is creating superior experiences, not mediocre experiences.

Since customer satisfaction is hard to measure, the measurement is often not precise. As with most attitudes, there is variability among people, and often within the same person at different times. Often, due to difficulty in measuring feelings, customer satisfaction strategies are developed around clearly stated, logical customer opinions and emotional issues of a purchase are disregarded. This can be a costly mistake.

Customer satisfaction should not be viewed in vacuum. For example, a customer may be satisfied with a product or a service and therefore rate the product or service highly in a survey and yet the same customer may buy another product or service. It is of little benefit to understand a customer's views about a product or service if the customer's views about competitors' product or service are not understood. The value customers place on one product compared to another may be a better indicator of customer loyalty. Customer loyalty can be sustained only by maintaining a favorable comparison when compared with competitors.

Conclusion

Recommendation

1) Screening and disposal of minor illness patients by general duty doctors, thus reducing load on specialist clinics
2) Appointment system should spread out the reporting time of patients either individuals or block appointments. The block appointment system calls for a certain number of patients to be present at a given time so as to provide sufficient pool of patient; thus physicians will at no time find himself idle and it limits the pool to the capacity of the waiting room.
3) Application of queuing theory modules of operations research whereby waiting time can be estimated by noting the patient arrival rate per hour, service rate pre hour and number of servers. By effecting changes in these parameters and in the queue system it is possible to substantially reduce patient waiting time to acceptable levels.
4) There should be special clinics during afternoon hours. The OPD services should be increasing including evening OPD hours.
5) There should be synchronized functioning of ancillary facilities with OPD workload such that laboratory, radiology, and pharmacy are open and adequately staffed during peak hours when patients referred from the OPD arrive for these services. Also these departments should remain open longer than OPD hours.
6) The in built organizational arrangement should deploy doctors and other staff from less busy areas to the OPD and the ancillary service departments if and when queues exceed certain limits.
7) For improving the guidance of patients and facilitate easy understanding of hospital procedures and routines, the information graphics and signage system;

name board, pictorial representation of services provided, directional signs, color coding of different service areas.

8) The enquiry and reception service should be effective. There should be hospital volunteers and guides.
9) There should be procedural instructions to be printed on reverse of investigation requisition slips. [19]
10) Patient safety is one of the major concerns in quality. In Dr. Ram Manohar Lohia Hospital, there is a lot of chaos in the sub waiting area that there is pushing and pulling. There might be patient falls or even stampede. Hence, patients are not safe in this environment. For patient safety there should be enough seating arrangement to cater to 300 patients in the sub waiting area.
11) Patients have to wait for long waiting hours. Waiting time should be no more than 15 minutes but the waiting time in the general OPD are for 2 hours as found in the previous studies. There is a lot of delay and wastage of time during OPD hours. There is a need of streamlining the procedures. Every patient has a complaint about the wastage of time. They have to wait for 2 hours to see the doctor. However the doctor complains that the patient visits the hospital an end number of times without seeing the previous records. Most patients were sore because they felt that the doctors examine VIP patients first. In order to better the situation, queuing theory, a mathematical study of average waiting time in queue, can be used to control the crowd. It comprises of the time when the patient arrives, waits and being served at the hospital. It has two applications. First is based on the first come first serve basis, which states that the person who had the longest waiting time should be served first. This should better the situation of controlling the chaos. However, the second application based on last come first serve basis is not applicable in the current scenario.
12) The delay can be avoided if during registration time the patient told about their appointment time and waiting period. This way they can chalk out their schedules. Patients from the village can be given more preference so that they don’t wait and crowd. There should be a token system where the patient is given a token and

there is a digitalized roll call number system. And when the patient's turn comes, a buzzer is given to the doctor as well as the patient.

13) Patients were sore that the pharmacy was not available during general OPD hours. The OPD hours are from 2 pm – 8 pm but the pharmacy hours are from 9 am – 5 pm. Hence after 5 pm the patient either has to come back on the next day or buy it form their own pocket. Hence, making the pharmacy 27X7 available is important so that the patients can avail the medicine at the time of need and the health of the patient would not deteriorate.
14) Staff should be available all the time and the attitude should be as such that they should be ready to help. Also it is observed that the doctor patient ratio should be 1:70. But it was observed that the doctor to patient ratio was 1:100. Hence, it is important to have more number of doctors to cater the need of the patients. This was also a major complaint from the patient that having less number of doctors takes more time for them to wait. Hence, they have to wait for long hours.
15) During the General OPD hours, sweeping of the floors was not done. The restrooms were not clean during OPD hours. Hence, there was unhygienic and unclean. In order to have better cleanliness there should be a housekeeper available at all time to clean the dirt during OPD hours.

Future Prospects

OPD services come under ambulatory hospitals, which are going to be more in demand. It is borne out of the fact that certain diseases are treated right in out-patient department, without getting patients admitted for long durations as inpatients, thus, reducing expenses for the patients, community and exchequer. Outpatient department services are corollary to inpatient services in the form of general outpatient department, day care, home-care and rehabilitative centers. [16]

No IPD services are required for such hospitals. It's faster, and easier way of delivering services. The day program includes day chemotherapy program, rehab care program,

hospice care, and pain intervention. These are also provided in ambulatory clinics and hospital malls.

Patient satisfaction is an important element in the evaluation stage. It is an ongoing process. It refers to the consumers' state of being adequately rewarded. Adequacy of satisfaction is a result of matching the actual past experience with the expected reward. Patients form certain expectations prior to the visit. Once patients come to the hospital and experience the facilities, they may then become either satisfied or dissatisfied. Satisfaction or dissatisfaction refers to emotional response to the evaluation of service, consumption and experience. Patient's feedback should be taken every time the patient visits the hospital so that the facilities can be improved and quality can be maintained. By this, grievances can be addressed and deficits can be corrected.
If customer's expectations are not met due to inadequate performance, it would reflect upon the image of the hospital. Comparisons with other hospitals will be made. Patients will go to hospitals where they are satisfied. If they are dissatisfied then the will be customer disconfirmation. Hence it is important to keep the customer's satisfied.

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