

Dissertation Title

“Descriptive study on Catheterisation Laboratory Of Asian Heart Institute, Mumbai”

A Dissertation Proposal for

Post Graduate Diploma in Health and Hospital Management

By

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PG/11/072



**International Institute of Health Management Research
New Delhi**

May 2013

“Descriptive study on Catheterisation Laboratory of Asian Heart Institute, Mumbai”

A Dissertation submitted in partial fulfilment of the requirements for the award of

Post-Graduate Diploma in Health and Hospital Management

By

Dr Prerna Sharma (P.T.)



International Institute of Health Management Research

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May 2013

Certificate of Internship Completion

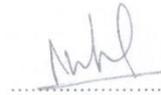
Date: April 25, 2013

TO WHOM IT MAY CONCERN

This is to certify that **Dr. Prerna Sharma (PT)** has successfully completed her 3 months internship in **Asian Heart Institute & Research Centre, Mumbai** from **January 02, 2013 to April 25, 2013**. During her intern she has worked as Management Trainee in the Operations department under the guidance of dedicated team of professionals at Asian Heart Institute, Mumbai. During her tenure she has satisfactorily completed all the tasks assigned to her and has shown complete sincerity and professionalism throughout.

We wish her good luck for her future assignments.

For Asian Heart Institute



Mr Mukul Sharma

Sr. Manager – Human Resources



*Every heart
deserves the best*

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Certificate of Approval

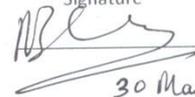
The following dissertation titled "Descriptive study on Catheterization Laboratory of Asian Heart Institute, Mumbai", is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post-Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve this dissertation only for this purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

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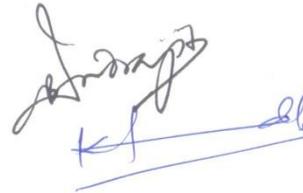
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30 May 2013

Prof. I. Bhattacharya
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Certification from Dissertation Advisory Committee

This is to certify that **Dr. Prerna Sharma (PT)**, a graduate student of Post – Graduate Diploma in Hospital and Health Management, has worked under our guidance and supervision. She is submitting this dissertation titled “**Comprehensive study on Cath Lab at AHI, Mumbai**” in partial fulfillment of the requirements for the award of the Post – Graduate Diploma in Hospital and Health Management.

This dissertation had the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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FEEDBACK FORM

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Dissertation Organisation: Asian Heart Institute

Area of Dissertation: Operations

Attendance: — 100%

Objectives achieved: Yes, defined as per JD.

Deliverables: ① Managing Vice-Chairman office
② Maintaining various depth tracker
③ Preparing minutes of meetings & follow up of activities

Strengths: ① Diligent. ③ Keen learner.
② Proactive ④

Suggestions for Improvement: ① Multitasking
② Follow-up of allocated tasks.
③

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: 23/3/13.
Place: Mumbai



ABBREVIATIONS

OPD- Out Patient Department

CAG- Coronary Angiography

CAP- Coronary Angioplasty

Cath Lab- Catheterisation Laboratory

JCI- Joint Commission International

NIAHO- National integrated Accreditation for Healthcare Organisations

ISO- International organisation for Standardization

AHI- Asian Heart Institute

F&B- Food and Beverages

OT- Operation Theatre

HR- Human Resources

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ORGANISATION PROFILE

Asian Heart institute has been set up with the aim to provide world-class cardiac care in India. It is situated at the Bandra- Kurla Complex, a mere 15- minute drive from the domestic and international airport. The hospital promises to provide quality cardiac care to patients with high quality standards.

A dream of leading cardiac specialists of Mumbai, Dr Ramakanta Panda, Dr Sudhir Vaishnav and Dr Tilak Suvarna. AHI was set up with a holistic approach to heart care based on ethics, quality care and professional backed by competitive prices. It prides itself on quality in terms of design, medical, paramedical and general staff and infrastructure facilities.

The hospital has a patient – centric design with stress on safety and comfort of patients. All patients’ areas have been designed to minimise the risk of infection. Internationally accredited with ISO 9001:2000, JCI and NIAHO, AHI reaffirms its commitment towards world class cardiac care by being the India’s Highly Accredited hospital.

The hospital was started to set a benchmark in quality care, ethical practices, reasonable costs and training for those in the profession. Patients are not charged premium rates for the care they receive. In fact, the charges are reasonable.

To operate as a world- class heart care hospital, incorporating the latest technological advances and ethical practices to provide quality heart care at reasonable cost.

A) AHI Mission

To operate as a world class heart hospital, incorporating the latest technological advances and ethical practices to provide quality health care at reasonable cost.

B) AHI Vision

Globally preferred Centre of Excellence.

C) Core values

- Customer satisfaction
- Highest quality
- Culture of high performance
- Integrity and ethical practices
- Innovation and changes

AHI is a highly certified and accredited hospital.

It is ISO certified and accredited by JCI and NIAHO.

AHI is now known as a source of world-class cardiac care in India, and the number of international patients travelling to AHI from many countries by the day.

It is the first hospital in Western India to start operating on “Beating Heart” using a device called Octopus. Also, this hospital is the first to introduce Robotic surgery in Western India.

Asian Heart Institute comes under Asian Hospitals and Non-cardiac clinics are recently introduced under Asian Hospital, which includes:

- Orthopaedic clinic
- Neurology clinic
- Gynaecology Clinic
- Urology Clinic
- Diabetes Clinic
- Gastroenterology Clinic
- Pediatric Clinic

INTRODUCTION

Non communicable diseases (NCDs) have become a major public health problem in India accounting for 62% of the total burden of foregone DALYs and 53% of total deaths. Cardiovascular diseases (CVDs) figure at the top among the leading ten causes of adult (25-69 years) deaths in India. It accounts for 24% of total deaths across all age groups in 2008. Although cardiovascular disease usually affects older adults, the antecedents of cardiovascular disease, notably atherosclerosis, begin in early life, making primary prevention efforts necessary from childhood. There is therefore increased emphasis on preventing CVDs by early detection and then modifying risk factors. A lot of emphasis is now being given by the people on their health. People have started visiting the Cardiologists after they reach 40 years of age to rule out any chances of Cardiovascular disease or if present, to know the severity of the disease so that measures can be taken to minimise the danger. Cardiac Catheterisation Lab is the department of the hospital where these diagnostic procedures are done. In a cardiac hospital, it is a must because most of the patients coming for the Cardiac consultation have to go through either diagnostic or therapeutic interventions which are done in this Lab. Sometimes, when there is a very high flow of the patients, Catheterisation Laboratory can also be used for the procedures generally carried out in the Operation Theatre (Septal closure, Surgery for TOF, etc)

According to the studies, there are a particular number of cases which can be done in a Catheterisation Laboratory in a day (working hours-12hrs/day). The two procedures which are most commonly done in the Lab are Angiography and Angioplasty. Angiography is a diagnostic procedure which generally taken 30 minutes per patient whereas Angioplasty is therapeutic procedure which helps to remove the blockage of the arteries of the heart and generally takes 45 minutes to perform. Pre- procedure preparations on an average take 15 minutes. So, in a Catheterisation Laboratory, working 12 hours a day and having an efficiency of 100%, 16 procedures can be carried out. The numbers of hours that can be utilised in a Catheterisation Laboratory in a month are 312 hours (12 hours*26 days). If these cases are performed in the Lab, then utilization of the facility with the available resources will be justified. Also, providing quality and timely care of the patients will lead to satisfied patients and this will in turn motivate the staff and will increase their satisfaction toward their job and productivity.

In this study, an effort has been made to understand the reasons behind the dropping out of the patients who are coming for the cardiac consultation but not for the advised Catheterisation procedures. Also, I have tried to give the recommendations to increase the footfall of the patients in Cardiac OPD which, in turn, will increase the number of patients for the procedures in the Catheterisation Laboratory.

RATIONALE OF THE STUDY

Being a Cardiac hospital, a lot of emphasis is given for the proper functioning and utilization of Catheterisation Laboratory, as this department helps in generating revenue for the hospital either directly(through procedures) or by conversions of Catheterisation Laboratory procedures into surgeries. This study will help to understand the reasons for low patient turnover ratio.

Also, the study contains some recommendations for different departments of the hospital, following which the footfall of patients can be increased in the Cardiac OPD, which is as present low.

Through this project I, as a management trainee, expect to gain hands on experience of the non-clinical aspects of effective management of a department, as critical as a Catheterisation Laboratory.

REVIEW OF LITERATURE

- ❖ As per the reports given by Michael Heinrichs et al (2004), implementation of effective, integrated practices applied in Catheterisation Lab can lead to many benefits. Patients benefit from a safer and more efficient work environment. Medical staff benefits from improved workflow and more satisfied patients. Employees win as a result of the elimination of wasteful work, resulting in a less-stressful work experience and improved productivity. Finally, the value benefits all hospital stakeholders, from staff who enjoy a better working environment to physicians who can plan for their procedures to start on time, to the community at large, whose hospital gains the capacity to deliver care to more people.
- ❖ A report by SIX SIGMA, Increasing Catheterisation Laboratory Capacity through Six Sigma, mentioned that Healthcare organizations currently implementing Six Sigma are finding no shortage of opportunities for applying this approach – and many are reaping substantial benefits in terms of cost, quality and productivity. One area increasingly targeted in recent years has been the cardiac catheterization lab, which is generally a high-volume, challenging and complex environment within any healthcare facility. The followings were the findings of this report -Average case 22 minutes late , In-room wait times 25 minutes, Room TAT averages 30 minutes and Infrastructure, staffing and management support available to make changes. The solutions which were given to improve these problems were divided into long term and short term Solutions:

- Short Term – Identified opportunity to redeploy staff and utilize holding area to reduce room TAT by 15 minutes. Brought in-room wait and room TAT to specification levels.
- Long-Term – Identified opportunity to modify scheduling practices that reduce total case time, and improve patient throughput.

Increased pressure on cardiac catheterisation labs to reduce operating expenses and maximize capacity utilization necessitates the use of innovative methods to optimize departmental performance. As demonstrated in this case example, the statistical rigor of Six Sigma is an effective method for achieving rapid organizational change with measurable positive results.

- ❖ According to Rose Czarnecki in “An Evaluation of Catheterisation Lab Turnaround time”, in the cardiac Catheterisation Laboratory, realizing the Return on investment is increasingly difficult, especially with the limitations in reimbursement predicted for the future. Over the next several years, cardiovascular programs will be faced with payment reductions from CMS and other insurers, particularly in historically profitable cardiac DRGs. Cardiac Catheterisation Laboratory administrators and managers must scrutinize how they can offset their decline in reimbursement to be able to realize a profit. Historically, this has been accomplished by either looking at staff and proper management of the available resources. Over the years, catheterisation laboratory has learnt how to work “smarter” by cross training employees to perform multiple tasks, thereby reducing the number of staff needed to accomplish most patient care activities.

- ❖ In a paper on Operations Management on Catheterisation Laboratory, Adam Pegan has stated that the Catheterisation Department is an important part of any hospital for several reasons. Coronary catheterization is one of the most common interventional procedure, which leads to high volumes and high revenue and also the patients can be treated as outpatient department patients, which results in reduced costs for the hospitals. Consistent and correct scheduling of the staff to meet the needs of the daily patient schedule as well as the add-on patients. Assuming this is done correctly, the staff should be productive, have no overtime hours and no contracted workers. Different facilities staff differently to meet these needs whether rotating in shifts or having on call workers.

AIM AND OBJECTIVES

AIM: To review the Catheterisation Laboratory of the Hospital by using secondary data.

OBJECTIVES

1. To study the process flow of Catheterisation Laboratory department.
2. To review the present pattern of Patient flow in the department.
3. To understand the reasons for low number of scheduled cases in the Catheterisation Laboratory.
4. To recommend ways to increase the utilization of the facility.

LIMITATIONS OF THE STUDY

As I was working in the organisation as an Executive Assistant to Vice-Chairman and my study area was Catheterisation Laboratory of the hospital, following were my limitations because of which detailed study could not been done.

1. The tasks and workload in the Vice-Chairman's office did not leave me with sufficient time to delve into the Project's study. However, I had still put in efforts to conduct this study.
2. Observation of the process flow in the Catheterisation Laboratory was done for few days only due to time constraints.
3. Analysis of secondary data has been done in this study, so no changes in the format of collection could be done.
4. The Patients coming for the OPD as well as procedures were large in number and coming in different slots throughout the day, so interview could not be conducted with them to understand their reasons for dropping out. The data which is collected to support these findings is compilation of the data collected by the marketing department of the hospital.

METHODOLOGY

Study design- Descriptive study based on secondary data.

Study Setting- Cardiology Department, Asian Heart Institute and Research centre, Mumbai

Sample size- all OPD patients (Cardiac OPD)

Study period- 3 months (retrospective study) - Jan- March, 2013

Inclusion criteria- All OPD patients who have been advised any Catheterisation Laboratory procedure.

Sampling method- purposive sampling

Data collection Method-

1. Primary Data Collection:

Direct Observation

To study the process mapping of the department.

2. Secondary Data Collection:

Assessment of pattern of operation of the Catheterisation Laboratory will be required. This will include analysis of the records of the following:

1. Lab utilization rates (a retrospective study)
2. Case volumes
3. Different trackers maintained by (a) Catheterisation Laboratory department.
(b) Back office.
4. Internet sites
5. Reference books

OBSERVATIONS

Cardiac Catheterisation is a procedure usually performed by an interventional cardiologist, a heart specialist who specializes in inserting a catheterization either into the chambers of the heart or into an artery feeding the heart. This test is frequently performed prior to heart surgery to determine if surgery is necessary and if so what surgery is to be performed. The interventional cardiologist may also carry out additional interventions such as balloon angioplasty and stenting.

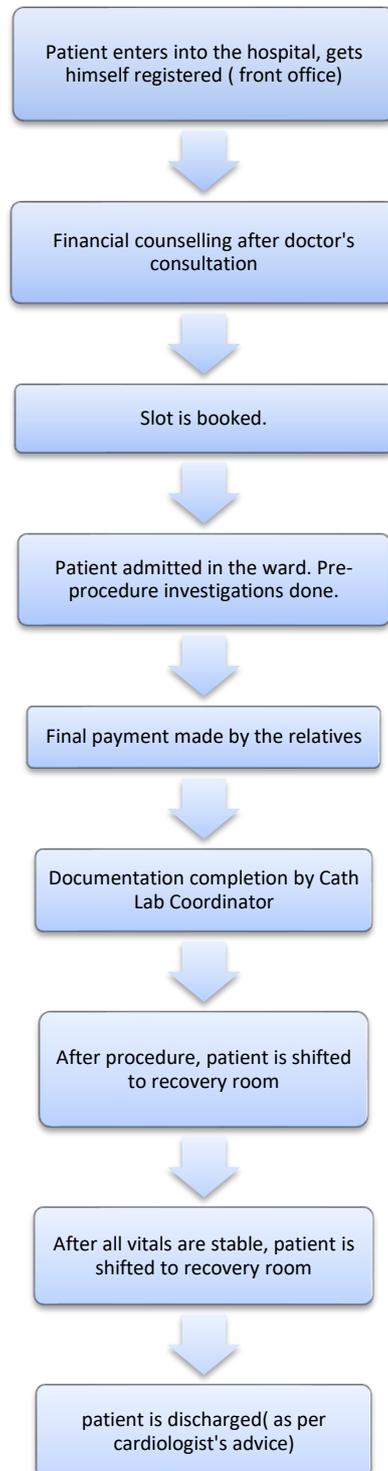
Cardiac catheterization is performed to further diagnose coronary artery disease, valvular heart disease, congestive heart failure, and/or certain congenital (present at birth) heart conditions, such as atrial septal defect or ventricular septal defect.

Catheterisation- Lab procedures

The patient after consultation with his/her cardiologist (either in-house or from outside the hospital) comes to the hospital's reception to get himself registered for the procedure to be done in Catheterisation Laboratory. Physician Assistant-Cardiology assesses the patient and informs Front Office to book the patient into stipulated day's list for doctor. The patient goes to financial counselor and makes payment. The financial counselor confirms the booking in system. A list is prepared for same, which is seen by catheterization lab staff. After admission takes place, patient will be sent to ward or directly to CCU (in case it is cardiac angiography or angioplasty). Patient attendants would be instructed to deposit the total billing amount within a stipulated time. Meanwhile, the ward nurse will order pre- Catheterisation processes like CBC, HIV&HBS, urea- creatinine, blood sugar, chest x-ray PT/INR and ECG (All compulsory pre Catheterisation investigations) for patient to prepare for Catheterisation lab procedure. Also, she will inform Catheterisation Laboratory coordinator about procedure which is being advised by doctor for patient. The Catheterisation Laboratory nurse will maintain a pre- Catheterisation checklist form and fills it. Catheterisation Laboratory coordinator will ensure that patient's process is done in timely manner by informing the respective people (like F&B -diet to be arranged like normal saline fluids, pharmacy stores). The coordinator will get signatures of the patient/attendant on the consent form after explaining the procedure and its accompanying risks. Ward nurse will transfer patient to Catheterisation Laboratory as per slot assigned for respective doctor in Catheterisation Laboratory. This will be done through scheduling. If angiography gets converted into angioplasty or some other intervention on the table, then the concerned cardiologist has to take the guarantee of the full payment to be done by the patient and has to sign Guarantee form available in the Catheterisation Laboratory. Patient will be shifted to recovery unit after procedure. If results of test are normal and patients' vitals are stable then he/she is shifted to respective wards and subsequently discharged at discretion of consultant cardiologist. As the discharge gets planned, billing sheet is to be sent at billing department and the formalities related to discharge should be done in timely manner (documentation should take max. of 30

minutes.) so that the discharge can take place at the scheduled time(in the case of one-day admission the billing should be cleared by 8 p.m.).

Flow Chart:



DATA ANALYSIS

The monthly metrics which has been tracked from the Catheterisation Laboratory is measured through various processes which are as follows:-

The monthly metrics measured in the **Catheterisation Laboratory** are

- 1) Distribution of patients - Gender wise, Age wise.
- 2) Number of cases coming to the Cardiac OPD.
- 3) Total no. of Patients advised CAG or CAP.
- 4) Total no. of patients scheduled for the procedure.
- 5) To calculate total number of working hours utilized.

1. Distribution of patients - Gender wise

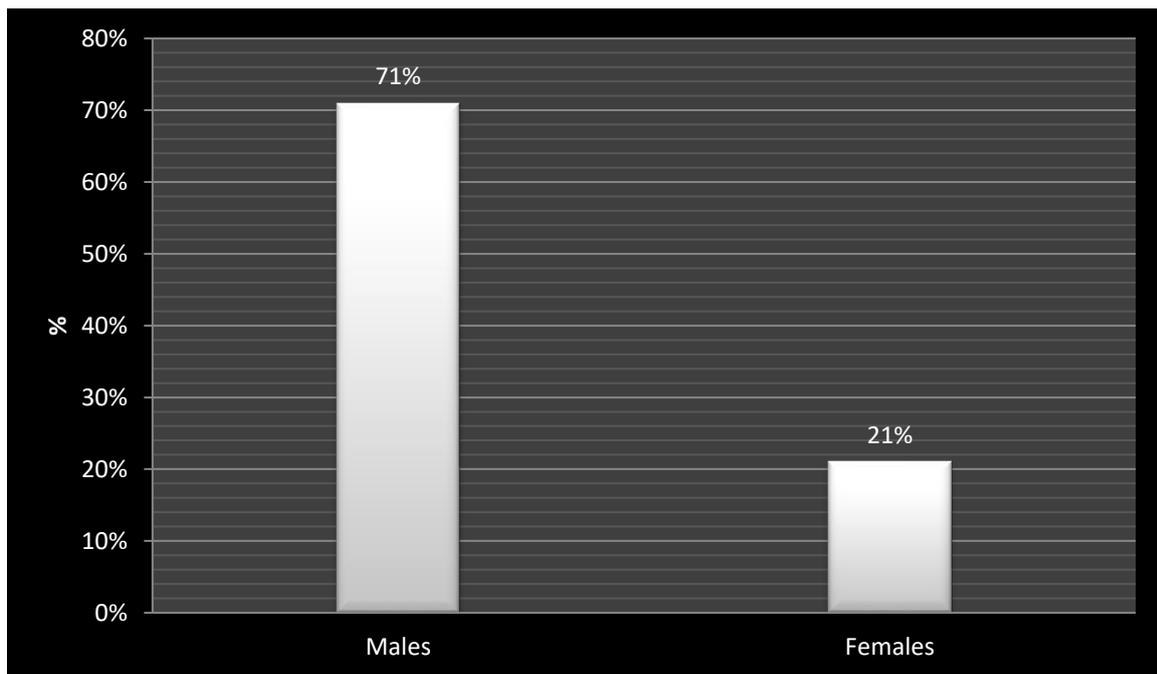


Fig.1.Total numbers of patients who are coming for the procedure in Catheterisation Laboratory are 409, out of which 79% are males and 21% are females.

2. Total number of cardiac OPD patients

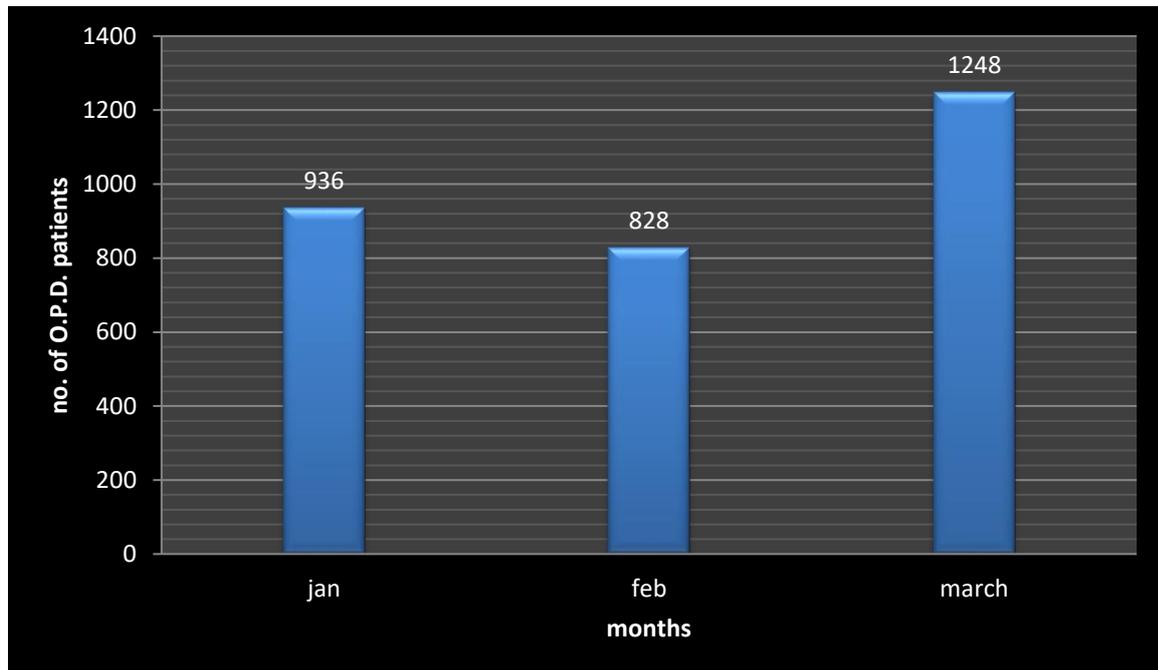


Fig.2. There are 5 cardiologists who sit in OPD 6 days a week. The total no. of patients seen by these cardiologists in 3 months are 3012, out of which 936, 828 and 1248 are seen in the month of Jan, Feb and March respectively. As seen in the graph, there is not much variation in no. of patients seen in Jan and Feb. However, a marked increase in OPD patients is seen in the month of March. This is due to rigorous marketing strategies being adopted by the hospital to start different clinics (Hypertension clinic, Heart Failure clinic, Chest pain clinic).

3. Total patients advised CAG or CAP.

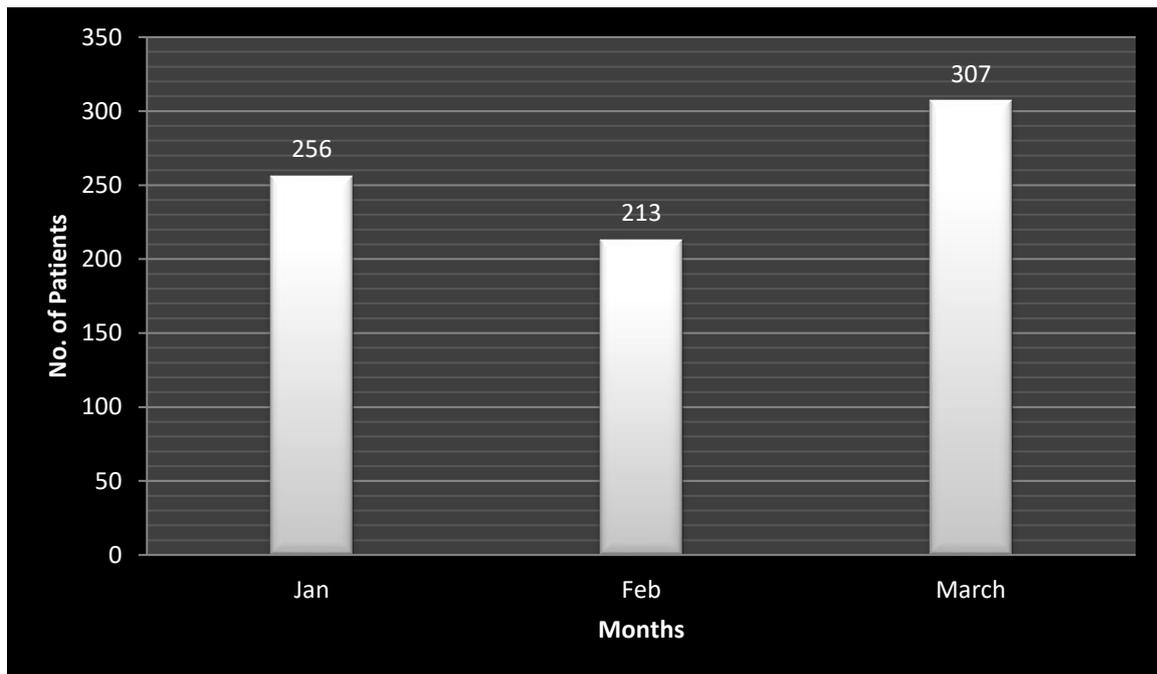


Fig.3.Out of 936 patients in Jan, 256 patients were advised either CAG or CAP by the concerned Cardiologist. In Feb, 213 out of 828 who came for the consultation was advised Catheterisation Laboratory procedure. And In March, out of 1248, 307 patients were advised CAG/CAP or any other Catheterisation Laboratory procedure. This increase in number of patients advised some or the other Catheterisation Laboratory procedure in the month of March is due to the increase in patients' footfall.

4. Total patients scheduled for the procedure

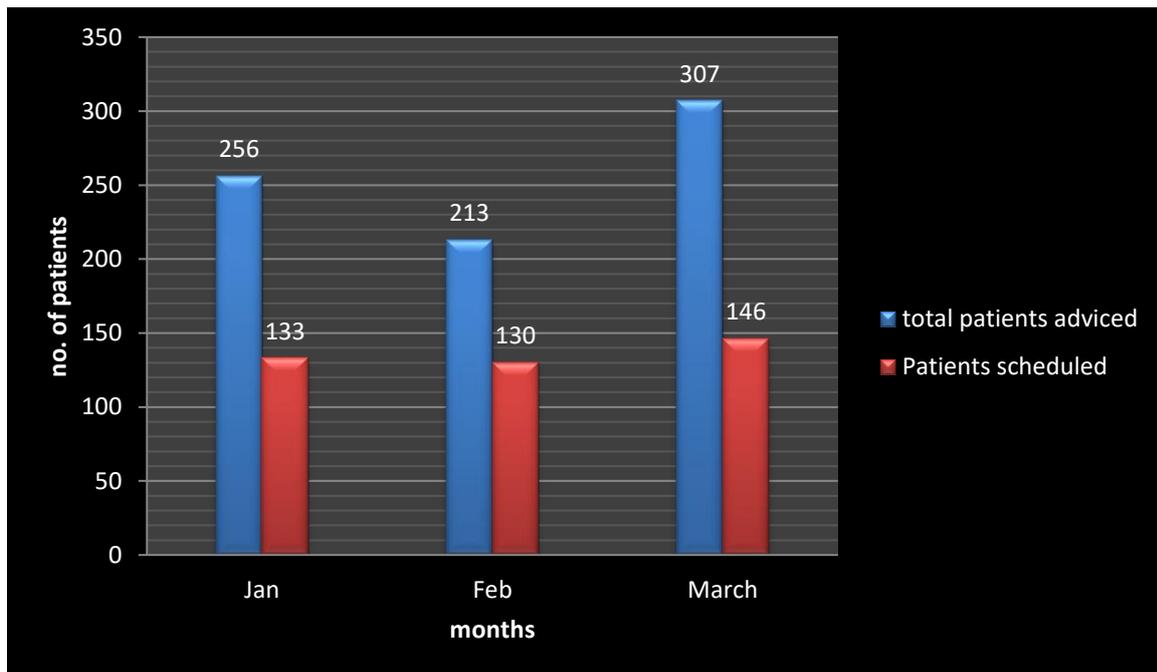


Fig.4. The above graph shows the total number of patients advised Catheterisation Laboratory procedure (Angioplasty, Angiography, Pacemaker, Septal closure, ECP, etc) versus total number of patients who actually turned up and were scheduled for the procedure. In Jan, only 133 patients out of advised 256 i.e. 51.95% came to the hospital to get their procedure done in the lab. Likewise, In Feb, 130 out of 213(61.03%) advised came for the procedure. In March, the number went to 146 out of 307 advised for the procedure, which comprises of 47.55% of total patients advised.. There were several factors which were involved in not turning up of the patients for the procedure. The reasons were (a) Affordability -Some patients were not able to afford the cost of the procedure, so did not come for the procedure. (b) Unavailability of desired slot- There were few patients who wanted a particular slot of procedure, but did not get that either due to unavailability of the concerned doctor or the slot of the Lab as there was a shortage of Catheterisation Laboratory staff in the hospital, so maximum number of Procedures scheduled per day were very less as compared to the ideal scheduled procedures (only 4-5 procedures were scheduled in a day due to lack of staff in the concerned department).

5. Percentage of CAG and CAP

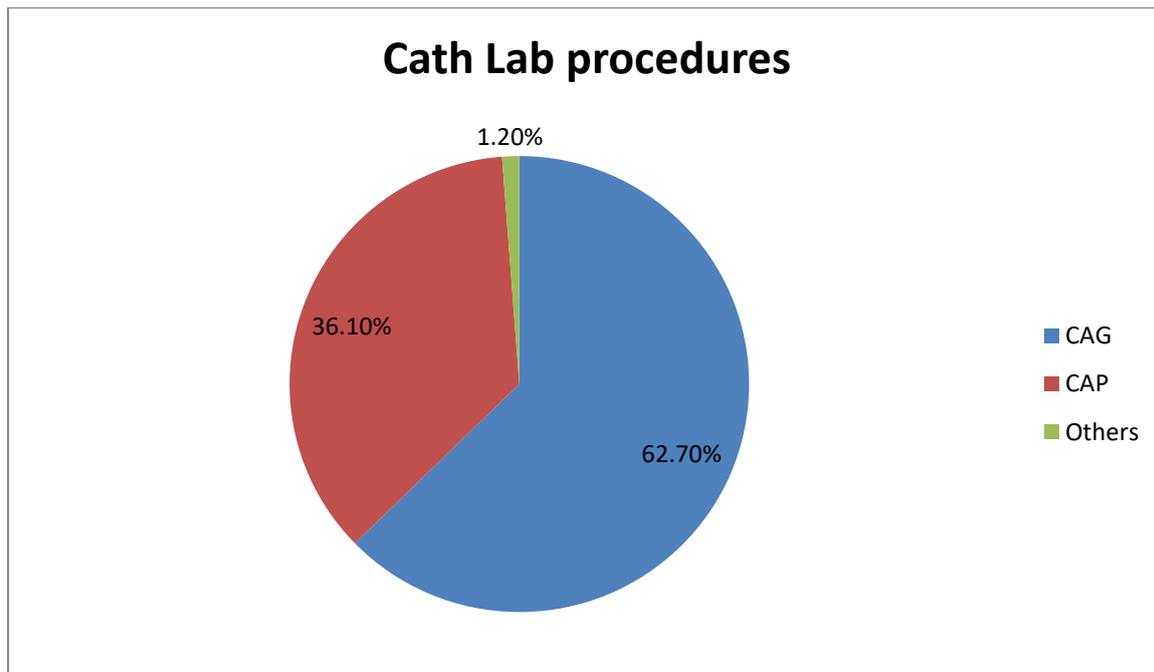


Fig.5.Out of the 409 patients who came for the procedure, 62.7% of the patients came to get their Cardiac Angiography done. 36% out of 409 patients who were recommended Angioplasty came for the procedure.

6. To calculate the number of working hours utilized

Time taken per procedure- CAG- 30 mins

CAP- 45 mins

Time taken to prepare Catheterisation Laboratory for procedure- 15 mins

Therefore, Total time taken = $30+45+15= 90$ mins (1.5 hrs)

Total working hours in a day- 8 am to 8 pm (12 hours)

Total working hours in a month- $12*26 = 312$ hours

Therefore, no. of procedures that can be done in a Catheterisation Laboratory if working hours are utilized effectively- 16/day

Total hours utilized out of 312 working hours

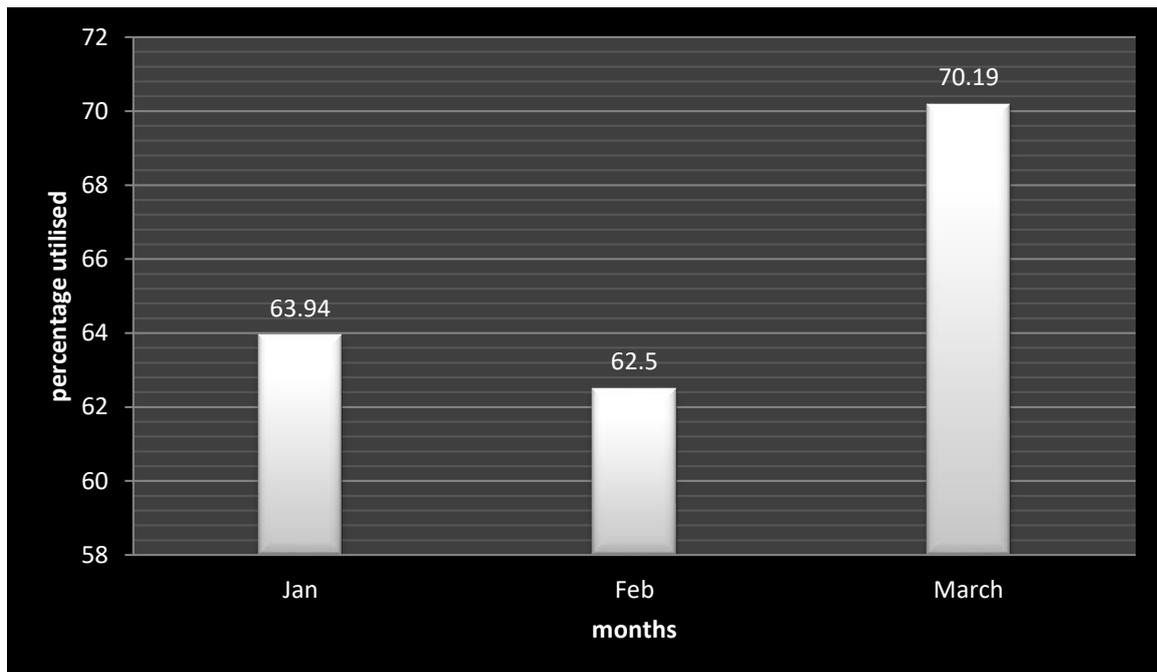


Fig.6.Out of the 312 working hours in a month in which Catheterisation Laboratory procedures can be scheduled only 199.5 hours (63.94%) were utilized in the month of Jan, 195 hours(62.5%) were utilized in the month of Feb and 219 hours(70.19%) were utilized in March. This under utilization of the working hours of Catheterisation Laboratory is due to the reasons that there was insufficient staff available in the Catheterisation Laboratory. There was only one anesthetist who was present in the hospital who had to take care of the O.T. (surgeries) as well as the procedures carried out in the Catheterisation Laboratory. So, the procedures were scheduled according to his availability in the lab. Also, the Cardiologist have their OPD timings from morning till evening , so sometimes the patients had to wait in the Catheterisation Laboratory for the cardiologist who was busy with his OPD patient at that time to start the procedure.

These were the apparent reasons were contributing in the under utilization of the facility which has the capability to cater a large number of patients.

DISCUSSIONS

The patients who were coming to the OPD and then converted to the procedure, if counseled properly can generate revenue for the hospital as these procedures are quite expensive and essential for the patients as well.

Due to financial constraints, patients go to some other hospitals where they can get CAG or CAP packages at affordable prices (Annexure), without compromising with the quality standards. Also, there is unavailability of the desired slots asked by the patients because there is only one Anesthetist who is available in the hospital, who is required in Operation Theatre as well as in Catheterisation Laboratory. So, less number of slots is available in the Catheterisation Laboratory for the patients in a particular day.

There is also problem due to the clash in OPD and Catheterisation Laboratory scheduling of the Cardiologist. These 5 Cardiologists of the hospital have full day OPD timings and less number of slots are created in the Catheterisation Laboratory on a particular day so that the Cardiologist can see maximum number of patients in his OPD

If the Catheterisation Laboratory is to be utilized effectively to generate revenue for the hospital and also to provide timely care to the patients, some measures have to be adopted to manage all the departments related to the Lab properly so that there is a co-ordination between all the concerned departments and the patient is satisfied with the quality of care given to him/her (in terms of time management, proper care as well as proper scheduling of the patient for the procedure).

There should be ample staff in the Lab to carry out the procedures. The Human Resource department should be more aggressive to find the staff that is a very crucial for the Catheterisation Laboratory, the Anesthetist, without whom the major procedures are not possible in the Catheterisation Laboratory. Proper OPD and Catheterisation Laboratory scheduling for all the cardiologists is required so that there is no delay or cancelation of procedures due to his late coming or non availability.

Also, the marketing strategies which are formulated are not properly implemented which are made to increase the footfall of the patients and to increase the referral cases(tie-up with family physicians and other specialists) which could also increase the number of procedures in the department.

RECOMENDATIONS

1. Recruitment

HR department should assess the number of personnel who are working in the department and should hire the staff who is an immediate requirement for proper functioning of the Lab. Anesthetist and Anesthesia technician are not available in the Lab throughout and thus sufficient number of cases cannot be scheduled. There should be separate Anesthetist for the Catheterisation Laboratory, who should be responsible for Catheterisation Laboratory only.

Also, there is a need to hire more Cardiologists in the Department, so that the patients' footfall can be increased and as they will bring help in expanding patients' base for the hospital.

HR department should create awareness of availability of cardiac care facility & preventive cardiac care among hospital staff.

2. Patient's scheduling

Patient's scheduling should be done after consulting with the concerned cardiologist. The scheduled time for the procedure should not clash with the OPD timings of the doctor. Different slots for the Catheterisation Laboratory and OPD should be allotted to the doctor, so that he can schedule his cases accordingly.

3. Co-ordination between the ward and the Catheterisation Laboratory

The doctors and nurses should call their patients 15 minutes prior to the procedure, which would reduce the pre procedure waiting time. This will help in timely completion of the procedure which will help in taking the next case on its scheduled time. This will increase the satisfaction level of the patient as well as help in increasing the level of satisfaction of the employees, which will indirectly increase their work efficiency.

4. Effective Marketing

There are various Marketing strategies which are being formulated by the Marketing department to increase the number of patients coming for the consultation and also for those patients who can come directly to the Catheterisation Laboratory to get their procedures done either directly or through potential referral doctors who can send their patients to the Catheterisation Laboratory.

Marketing team needs to be more aggressive so that there could be an increase in the footfall of the patients coming for the Cardiac OPD. Proper follow-up of the patients, who have come for the consultation, should be done by the Marketing department as these patients can be retained and counseled to get their procedures done in the hospital.

There are already 3 clinics which are recently introduced- Hypertension Clinic, Heart Failure clinic and chest Pain Clinic, but proper marketing strategies are required to spread the awareness about the facility which are coming up in the hospital.

Also, emphasis should be given on collaborating with different small set-ups near to the hospital which does not have their own Catheterisation Laboratory and patients can be directed to the hospital so that the utilization of the Lab can be increased from these patients. Asian Sewa, which is a charitable trust of the hospital needs to be activated which provides free medical treatment to poor people. This CSR activity will help in image building of the hospital. Promotion should be done for the entire Cardiologists who are in the hospital through print media or T.V. / Radio, so that people know who all doctors are in the hospital and about their expertise and experience in the field.

Referral doctors should be recognized by the hospital and get-together or outstation tours should be organized for them. Satellite clinics in other suburbs of Mumbai & other surrounding districts, second & third tier cities of Maharashtra & Gujarat should be launched to provide quality care and treatment to them at their place and this will also increase the number of patients coming to the hospital for different procedures.

Different packages, which are affordable for the low class people can be made without compromising the quality standards. As AHI is situated in a corporate zone of Mumbai suburban area, focus on the employees of these corporate should be made by increasing the awareness about the facilities provided in the hospital by distributing pamphlets or by organizing small lectures in their offices about healthy life style, how to keep yourself fit.

But these marketing strategies can be effective only when there is sufficient staff in the department to handle the increased number of cases. So, the prime focus at this point of time should be on recruiting staff for the department. Meanwhile, planning should be done improve the inter- departmental co-ordination and to enhance the foot fall in the OPD as well as the Catheterisation Laboratory Department.

CONCLUSION

Cardiac Catheterisation Laboratory, which is generally a high-volume, challenging and complex environment within any healthcare facility, can operate efficiently only if it has a highly integrated system that brings together all the different aspects of managing the facility.

From this study, we can infer that there is a large number of patients who are not turning up to get their further investigations or treatment done in the hospital after the consultation and advice given to them by their Cardiologist. On an average only 55% of the working hours are utilized against 312 working hours. If emphasis is given on proper scheduling of the cases, there would be efficient and effective turnover of patients, which automatically translates into better utilization of the facility while ensuring quality care in many ways than one.

Recruitment of the staff crucial for the functioning of the Catheterisation Laboratory is required to increase the utilization of the facility.

Proper scheduling of the working hours of Cardiologists is also required for smooth and efficient functioning of the department.

Along with the above said activities, aggressive Marketing is need of the hour. The hospital has to showcase the facilities which are recently introduced to enhance the foot fall of the department. Also, there is a requirement to introduce certain packages for the patients who do not turn up for the procedures due to financial constraints.

It is also important to keep the quality protocols being followed by the hospital in mind, even if less costly packages are offered to the patients.

Increase of patients in the Catheterisation Laboratory will be affected from the number of patients coming to the Cardiology Department (i.e. more patients coming for the consultation, with additional chances of conversion into Catheterisation Laboratory procedures). Efforts from all concerned departments is required if we want to see an increase in the number of the patients coming to the Catheterisation Laboratory department.

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