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A Case Study to Identify The Reasons for Postponement of Planned Surgeries

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ABSTRACT

This study was conducted in a selected multi- specialty hospital with four operating rooms over a period of one year i.e. from July 2012 to June 2013. All the patients scheduled to undergo elective surgical procedures in these operation theatres were included. Total number of surgical cases planned, number of postponements as well as causes of cancellation were included in the data. The objective of the study is to know the functioning of operation theatre and to identify reasons for postponement of planned surgeries. It also highlights its effect on hospital and patients and to suggest measures to be taken to minimize such postponements. As a large number of cases are postponed due to reasons like patients request, patient not reported for surgery, lack of OT time and clinical condition of patient, it was therefore clear that there was lack of proper patient counselling before scheduling, lack of proper list planning, unrealistic time allotment for cases and Inadequate control of hypertension and cardiac problems as well as other Medical diseases. This led to a large number of cancellations at the end of the day.

KEYWORDS : Operation theatre, Surgeries, Schedule, Postponement, Cancellation, Patient request, Medical reasons, Root cause analysis, Cause and effect diagram.

1. Introduction

The managerial aspects of providing health services to patients in hospitals are becoming increasingly important. Hospitals want to reduce cost and improve financial assets on one hand, while they want to maximize the level of patient satisfaction, on the other hand.

One unit that is of particular interest is the operating theatre. Since this facility is the hospital's largest cost and revenue centre, it has a major impact on the performance of the hospital as a whole.

In any hospital, the operation theatre is said to be the primary source of revenue generation with around 50-60% of revenue generated just by this area. This is more for surgical specialties. Surgical facilities represent a central lifesaving activity. Its performance success and failures are highly visible. The activities carried out in this department can make or mar the reputation of hospital.

Managing the operating theatre, however, is hard due to the conflicting priorities and the preferences of its stakeholders, but also due to the scarcity of costly resources. Moreover, healthcare managers have to anticipate the increasing demand for surgical services caused by the aging population. These factors clearly stress the need for efficiency and necessitate the development of adequate planning and scheduling procedures of operation theatre.

The equipment used in OT are of high cost and highly sophisticated. The manpower needed for surgery irrespective of its nature is complex. Hence a careful planning and organizing leads to effective utilization in terms of money, men, material and time.

So the present day hospitals are facing a challenge to provide the best designed, well equipped, efficiently organized operating suite.

Major hospitals invest considerable resources in maintaining operating suites and having anaesthesiologists, surgeons and theatre staff available on an agreed schedule. However, unanticipated cancellation of scheduled operations at the last minute, even on the morning of surgery is of concern. In some cases, patients have even been prepared for theatre and staffs are assembled and expecting to operate.

Cancellation of scheduled operations is a major cause of inefficient use of operating-room time and a waste of resources. It is also potentially stressful with depressing effects and costly to the patient in terms of working days lost and disruption of daily life.

It may prolong the patients stay, this unnecessarily increases occupancy. In general hospitals, it will increase hospital expenditure and overcrowding. In paying hospital, appointment schedule of subsequent patients is disturbed.

So the study is on the functioning of operation theatre in a selected multispecialty hospital in Bangalore and reasons for cancellation of scheduled surgeries in the hospital, with the aim to find out the causes of cancellation or postponement of cases scheduled on the day of surgery and also its effect on patient and to suggest measures for optimum utilization of operating room.

2. Review of Literature

B. Krishna Reddy and GVRK Acharyulu (2005), explained that it is important that all lists begin and end at times agreed and adhered to by all theatre users. The advantages of this include:-

- Anaesthetists will have time to visit patients pre-operatively before the agreed start of the operating list.
- Timely preparation of patients for theatre.
- Increased ability to match staff to workload in theatres and recovery units.
- Staff can take meal breaks, reducing fatigue
- A reduction in the need for overtime
- A prompt start in the afternoon with less chance of overrun into the evening.
- Realistic scheduling of meetings, professional and other commitments.

  According to The Royal College of Anaesthetists (February 2000),
- It is important that lists are scheduled in such a way that surgical and aesthetic time is synchronized. For example, infectious patients should be put on the end of the list to avoid delays caused by contamination of the theatre; patients requiring only local anaesthesia administered by the surgeon and no monitoring by an anaesthetist, at the beginning or the end of the list. Pooling of such patients onto one list may enable the anaesthetists to be reallocated.
- Realistic scheduling of procedures will avoid cancellation of operations.

Potentially long operations should be identified and planned in such a way that it is possible to complete them within the time available.

- Computerized collection of data on operating times of individual surgeons and anaesthetists for different procedures makes it relatively easy to predict probable overruns and automatically flag this up to the medical secretary or scheduling clerk who can alert the surgeon to rearrange the list.

- Operating lists may over-run due to unforeseen circumstances; dealing with this should not involve the use of the emergency team.

According The Association of Anaesthetists of Great Britain and Ireland (2006) All-day lists using the same theatre team, including surgeon and anaesthetists can be particularly efficient and should be encouraged. There should be provision for meal and comfort breaks, however, and overall operating time should not be in excess of the number of planned sessions.

- Scheduled evening lists have been implemented in some trusts with mixed success.

Day surgery lists increase overall efficiency and usually have a high utilisation time. Effective utilisation is increased by the provision of purpose-built self contained and autonomous premises

- It is both unreasonable and unfair to rely on the anaesthetists to instigate curtailment of overrunning lists by cancellation of scheduled cases. A culture of good time keeping within the operating theatre, encouraged and enforced by the theatre manager, will facilitate such decisions.

According to Malhorta (2006),Operating Theatre scheduling is a major contributing factor to enhance the efficiency of operating theatres. Accurate and real time scheduling assist in predicting staffing needs, ensuring availability of required equipment and supplies and thus contribute to a smooth running operating theatre

Park (2009). An accurate schedule must list realistically the starting and ending time of each surgery. In addition, conflicts of schedules shall be resolved by the operating theatre manager

Schedules need to be rearranged according to agreed-on principles among all surgeons, on condition that guidelines are developed to define elective versus non-elective cases

Many surgeons schedule their surgeries as emergency case thus staff might need to extend duty hours, other operations might need to be postponed thus result in corrupting the whole day plan. In addition some surgeons might accuse that the case was not an emergency. Accordingly literature does not question or challenge the level of urgency however recommend classifying surgeries as elective, where patient condition will not be affected as a result of delaying the surgery for a minimum of forty-eight hours, and non-elective.

Malhorta (2006), Under the concept of creating a realistic operating schedule, reflected on the importance of having a real time based schedule which is essential to predict human and resource needs. The real time schedule requires accurately specifying the starting and ending time of surgeries with as much as possible accurate surgery duration. This real time requires timely updating as the day goes on.

Dexter et al. (2004) listed four important steps to assist in scheduling urgent cases and the related process to follow. Of these steps he included patient medical condition, evaluating patient waiting time, impact on OT efficiency and patient safety.

Within these definitions it is essential to secure the surgeons agreement and commitment to abide by these guidelines and accordingly to abide by the scheduling process. This will reflect caring for all the surgeons similarly.

McIntosh (2006) Managing all these factors besides decreasing staff scheduling variation and ensuring adequate housekeeping services contributed in many studies to decrease the prolonged operating theatre turn-over time .

The turn over time describes the time delay between the first and second surgery and measured by calculating the time the first case leaves an operating theatre on that day schedule to the time the second patient enters that same theatre and the impact of this delay on the suspension of all consecutive surgeries which will result in stretching the schedule time and extending the operating theatre working hours.

Macario (2010) scored the value of turn over time in his study so that it reflects poor performance if it is more than forty minutes and for good performance it shall be less than twenty five minutes.

In addition Macario (2010) & Shafer (2006) discussed elaborately the impact of cost reduction as a result of reducing the turn-over time.

Yet, Macario (2010) defined the prolonged turn over time to be more than sixty minutes and this shall not be counted within the regular turn over time.

Jonnalagadda et al reported the reasons for cancellation of scheduled routine and emergency cases as non-availability of beds in the recovery room (15%), improper preoperative patient preparation (13%), patient not showing up (9%), and unavailability of staff (19%). They also mentioned that public patients were cancelled more frequently than private patients.

Schofield et al in their study of cancellation of intended surgery at a major hospital in Australia reported 941 (11.9%) cancellations out of 7913 theatre sessions. The reasons included no bed available (18.9%), run out of theatre time (16.1%), patient non-arrival (10.5%), patient unfit (9.2%), and cancelled by patient or relatives (8.2%).

Vinukondaiah et al cited the major reasons for cancellation of cases in the general surgery OR to be lack of operating time (65.2%), emergency surgery during the elective list (13.9%), and lack of fitness (11.3%). In some hospitals cancellation of elective cases due to emergency cases was not a problem because of the presence of a dedicated emergency OR. But sometime, the senior surgeon is called to emergency OR for help thereby delaying or wasting routine OR time leading to the postponement of an elective case.

Windokun et al reported that only 38% of the booked surgery was performed and the reasons for such cancellation included 'surgeons did not show up' (62%), 'surgery postponed by surgeons' (18%) and 'patient ill prepared for surgery' (10%).

Hsiao et al suggested having of dedicated minimally invasive surgery suites to save time in transporting of equipment and thus optimizing utilization of OR time. In our audit too, one of the reasons for delay in the start of surgery was because of time required to arrange laparoscopic equipment as sometimes it was being used in the other OR.25

Ogden et al reported OR time over run in 27% and reasons mentioned were improper utilization of OR time and undue delay when junior surgeons/anaesthesiologist performed the cases.

Pandit et al concluded that over running OR lists were the commonest cause of the cancellation of cases on the day of surgery (50% lists were overbooked and 50% over ran their scheduled time).27

Set time frames and deadlines for important tasks; stick to them. A strong point in the slogan "Health for all by 2000 AD" is the fixing of time frame.

Providing more beds or quarantining beds for surgical patients is one component of an improved system but will be insufficient unless all sources of problems receive attention. Robb et al reported that 31% of the cancelled cases for the elective procedures were post-pond because of "No Bed' status.

Last-minute cancellation due to failure of a patient to present is especially difficult to resolve. It may be due to the patient's last minute doubts and fears. Efforts should be made to improve patient communication and facilitate their compliance with scheduled procedures.

Paschoal reported that 54.3% cases of the total cancelled cases were due to absenteeism of the patient because of unawareness of the date of surgery, clinical problems like respiratory tract infections and social/economic reasons.

Punctuality by everybody concerned with operating schedule is important. The cases must be done according to their schedules. All delays should be investigated and discipline enforced with suitable penalties and motivations.

According to Michael B. Rose and David C. Davies [35] "The operating theatre is one of the most expensive departments of any hospital. Its capacity often limits the amount of routine surgical work that can be carried out. Surgeons, therefore, have a responsibility to ensure that theatre facilities are used as fully as possible, and also that good use is made of the operating time in the theatre. Routine operation lists are prepared / planned in advance, so that each surgical team should be able to ensure that its share of theatre time is used as fully as possible, without being exceeded more often than necessary".

3. Objectives of the study

1. To study the current process of scheduling surgeries.
2. To conduct a root cause analysis to identify the reasons of postponement of scheduled surgeries.

4. Methodology

The study was conducted in a hospital with more than two hundred beds. The data regarding the functions of the OT is collected through informal interview with OT staff. To study reasons for cancellation of surgeries, data was collected from operation theatre records for a period of one year.

4.1 Research design

Research design contributes the overall frame work of all research activities. The study attempted to address the problem of postponement of planned surgeries. A root cause analysis is conducted for identifying the reasons of postponement of surgeries.

4.2 Sampling

Retrospective quantitative data is collected for analysis. The data related to reasons for postponement of planned surgeries are collected from hospital operation theatre records for a period of one year from July'12-June'13. The data regarding functioning of OT is collected from operation theatre staff and by personal observation.

4.3 Nature of data

Quantitative and qualitative data collected and analyzed in this study for addressing the research problem in a comprehensive manner.

4.4 METHOD OF DATA COLLECTION:

To study the functioning of operation theatre investigator adopted informal interview method for OT staff based on the checklist prepared on the ideal functions of OT and by personal observation. To study reasons for cancellation of surgeries, data was collected from operation theatre records for a period of one year.

4.5 Tools for data collection

To understand the functions of the OT, a questionnaire prepared on the basis of different factors and an informal interview conducted with OT staff.. To study reasons for cancellation of surgeries, data was collected from operation theatre records for a period of one year.

5. Analysis and interpretation.

Part I Functions of OT

Table No 6.1: DESIGN OF OT

S. No	DESCRIPTION	YES	NO
1.	Location of OT accessible to all other departments.		
2.	Division of OT into sterile, aseptic, clean zones, disposal zones.		
3.	Power back up.		
4.	One way traffic system in OT.		
5.	Proper ventilation, lighting, temperature in OT.		
6.	Non slippery flooring.		
7.	Non reflective, water resistant and easy to clean walls.		

The above checklist shows that the operation theatre is well designed and has good working conditions and accessible to all other departments for effective functioning. It has been divided into four zones and ensures one way traffic system in OT.

Table No 6.2: FACILITIES IN OT

S.NO	FACILITIES	YES	NO
1.	Reception area		
2.	Holding area		
3.	Post-operative area		
4.	Scrub area		
5.	Knee/elbow operated taps		
6.	Rest rooms, changing room for staff		
7.	Theatre sterile supply unit		
8.	Medical gas store area		
9.	Emergency drugs store area		
10.	Patient attendants waiting area		
11.	Laboratory		
12.	Seminar room		

The operation theatre has all the facilities which are required for proper functioning of OT and ensure delivery of quality care to the patient and proper working conditions to the staff which improve their job satisfaction and their productivity.

Table No.6.3: STAFFING PATTERN IN OT

S.NO	STAFF	NO.OF STAFF
1.	OT manager	1
2.	OT supervisor	1
3.	Senior nurses	9
4.	Junior nurses	6
5.	OT technician	7
6.	CSSD supervisor	1
7.	Technician	3
8.	transport boy	1
9.	Housekeeping	5

The staff pattern is appropriate and with good communication and coordination between them. This ensures delivery of good and timely quality service to the patient.

Table No.6.4: INFENCTION CONTROL MEASURES

S.NO	INFECTION CONTROL MEASURES	YES	NO
1.	Cleaning and disinfection of OT after every surgery.		
2.	Effective sterilization of used equipment.		
3.	Hand hygiene measures followed by all staff.		
4.	Use of personal protective equipment by all staff.		
5.	Proper handling and disposal of bio medical waste.		
6.	Maintenance and analysis of incidence reports.		
7.	Measures to prevent needle stick injuries.		
8.	Training to staff on infection control measures		

The above checklist shows that infection control measures followed in OT are very effective. These measures help in preventing hospital acquired infections which improves the quality of delivered service. Maintenance of incidence reports helps in taking preventive measures.

Table No.6.5: BIO MEDICAL WASTE MANAGEMENT

S.NO	PROCEDURE	YES	NO
1.	Segregation of bio medical waste into different categories.		
2.	Use of lid covered color coded plastic bins.		
3.	Proper labeling of waste bins.		
4.	Disinfection of infected waste before disposal		
5.	Safe disposal of BMW by incineration/deep burial.		
6.	Use of PPE by staff handling BMW.		

The above checklist shows that the procedures followed for bio medical management are adequate and all the bio medical waste collected in OT are properly segregated, labeled, transported and disposed properly.

Table No.6.6: REGISTERED MAINTAINED IN OT

S. NO	REGISTERS	YES	NO
1.	Daily schedule register		
2.	Emergency drug register		
3.	Narcotic drug register		
4.	Infection control register		
5.	BMW management register		
6.	Postponed surgeries register		
7.	Incident report register		

The above checklist shows us the registered maintained in OT. These are required for future references and record each and every incident.

Table No.6.7: QUALITY INDICATORS FOLLOWED IN OT

S.NO	QUALITY INDICATOR OF OT	YES	NO
1.	Death on table		
2.	Emergency blood called for planned surgeries		
3.	Lap. procedure converted to open		
4.	Re exploration within 7 days		
5.	Admission to hospital within 7 days		

These are the quality indicators which acts as standard for evaluating the quality of service delivered operation theatre. Based on which measures are taken for continuous quality improvement.

Part II

Root cause analysis for the reasons for the postponement of planned surgeries.

Table No.6.8: Total no. of planned surgeries in each month

Month	Total no. of planned surgeries
July'12	284
August'12	333
September'12	272
October'12	313
November'12	258
December'12	315
January'13	324
February'13	254
March'13	276
April'13	288
May'13	297

June'13	318
TOTAL	3532

AVERAGE NO.OF CASES IN EACH MONTH: 295

The above table shows the total no. of surgeries planned in all the four operating rooms in a selected multi-specialty hospital. So on an average nearly **295** surgeries are performed per month in all the four operating rooms. Hence in a period of one year total of **3532** surgeries are planned. From the table we can see that maximum surgeries are planned in the months of August'12, October'12, December'12, January'13 and June'13.

Percentage of postponement of postponed surgeries by month (JULY'12-JUNE'13)

S. NO	MONTH	TOTAL NO. OF CASES	POST-PONNED SURGERIES	% OF POST-PONEMENTS
1	JULY'12	284	15	5.20%
2	AUGUST'12	333	30	9%
3	SEPTEM-BER'12	272	6	2.20%
4	OCTOBER'12	313	15	5%
5	NOVEM-BER'12	258	13	5.00%
6	DECEMBER'12	315	4	1%
7	JANUARY'13	324	9	2.70%
8	FEBRUARY'13	254	3	1.10%
9	MARCH'13	276	14	5.00%
10	APRIL'13	288	7	2.40%
11	MAY'13	297	4	1.30%
12	JUNE'13	318	9	2.80%
	TOTAL	3532	129	3.65%

The above table shows the no. of postponed planned surgeries in each month. From the table we can see that maximum no. of case are postponed in the month of August'12. 9% of planned surgeries are postponed in the month of august'12 due to various reasons. Nearly 5% of planned surgeries are postponed in months of October'12, November'12 and March'13 due to various reasons. The reasons for postponement are discussed in following tables. In a period of one year the percentage of postponements is 3.65%.

Figure No.6.2: Month-wise postponed surgeries

Figure No.6.3: Month-wise comparison of planned Vs postponed cases

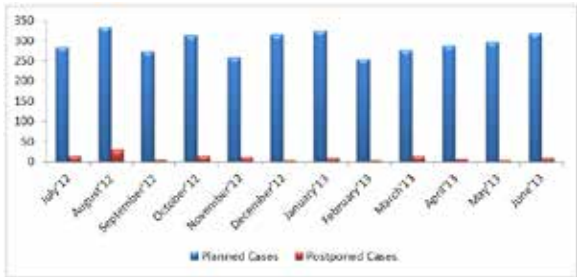
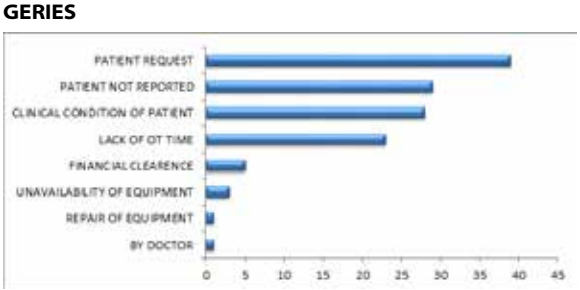


Table No.6.11: REASONS FOR POSTPONEMENT OF PLANNED SUGERIES

REASON	NO. OF CASES	PERCENTAGE
PATIENT REQUEST	39	30.20%
PATIENT NOT REPORTED	29	22.50%
CLINICAL CONDITION OF PATIENT	28	21.80%
LACK OF OT TIME	23	17.90%
FINANCIAL CLEARENCE	5	3.80%
UNAVAILABILITY OF EQUIPMENT	3	2.30%
BY DOCTOR	1	0.7%
REPAIR OF EQUIPMENT	1	0.7%
Total Postponements	129	100%

The above table shows reasons for postponement of planned surgeries in a period of one year. From the table we can see that 30.2% of cases are postponed due to patient request, 22.5% of case are due to patient not reported, 21.8% are due to clinical condition of patient, 17.9% of case are due to lack of OT time, 3.8%are due to delay in financial clearance, 2.3% of case are due to unavailability of equipment, 0.7% of case are due to postponement by doctor and 0.7% due to repair equipment.

Figure No.6.5: REASONS FOR POSTPONEMENT OF SURGERIES



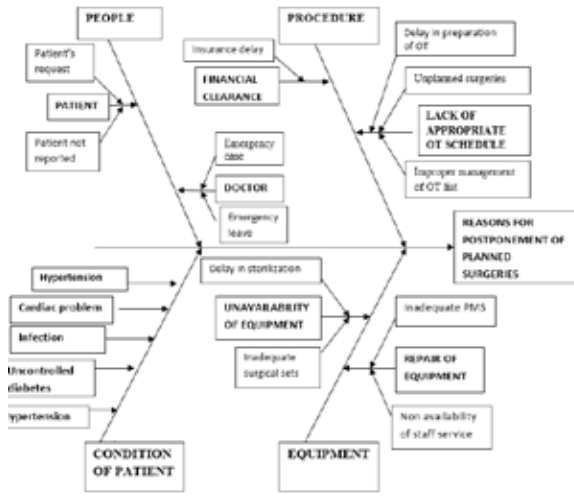
CATEGORIZATION OF REASONS FOR POSTPONEMENT

REASONS FOR POSTPONEMENT	CONDITIONS
1. PATIENTS REQUEST	Patient not comfortable with the scheduled date. Patient having financial problem Patient got some emergency to deal with on the scheduled date. Patient didn't get leave from the employer.
2. PATIENT NOT REPORTED	Patient visited other hospital for second opinion. Patient cannot afford the surgery cost of the hospital. Patient not satisfied with the ambience of hospital. Patient not satisfied with medical staff and facilities of the hospital.
3. CLINICAL CONDITION OF PATIENT	Cardiac problem Hypertension Hypotension Chest infection Uncontrolled Diabetes
4. LACK OF APPROPRIATE OT SCHEDULE	Unplanned surgeries: Unplanned admissions Forced admissions by administration due to political influence Improper Surgical list management Exact duration of surgeries is not considered while scheduling the surgery Delay in planned surgeries Delay in preparation of OT between cases Prolonged gap between surgeries Limited no. of workers slows down preparation of OT between cases
5. FINACIAL CLEARANCE DELAY	Delay in approval from insurance company. Delay in providing additional information required for pre authorization.
6. UNAVAILABILITY OF EQUIPMENT	Inadequate no. of surgical sets Use of surgical sets for other emergency cases Delay in sterilization process of surgical sets Unexpected contamination of sterilized surgical set
7. REPAIR OF EQUIPMENT	Lack of proper preventive maintenance schedule Non availability of service staff at appropriate time Non availability of spare parts Non availability of equipment for replacement
8. BY DOCTOR	Doctor attending unscheduled emergency surgery Emergency leave by doctor

Table No.6.19: EFFECTS OF POSTPONEMENTS ON HOSPITAL AND PATIENTS

EFFECTS ON HOSPITAL AND PATIENT	EFFECTS OF POSTPONEMENT
ON PATIENT	Extended stay in hospital Increased hospital cost Psychological trauma Stress on patients Leave extension Anxiety and frustration of patient
ON HOSPITAL	Adversely affects reputation of hospital Under utilisation of resources Increase average length of stay Waste of time for all the medical and paramedical staff involved. Decrease patient satisfaction Under utilisation of OT Decreased revenue generation

Figure No.6.12: CAUSE AND EFFECT DIAGRAM SHOWING REASONS FOR POSTPONEMENT OF SURGERIES



The above diagram is also called fish bone diagram. It shows the reasons for postponement of surgeries. The reasons are categorized under four categories related with people, equipment, procedure, condition of the patient. Under category people the reasons included are patient's request, patient not reported for surgery and postponement by doctor. Under category procedure the reasons included are lack of appropriate schedule and delay in financial clearance. Under category clinical condition of patient the reasons included are Hypertension, Hypotension, uncontrolled diabetes, chest infection. Under category equipment the reasons included are unavailability of equipment and repair of equipment.

6. Findings

From the study it is observed that the design of the OT is appropriate with location accessible to all other departments. It is divided into four different zones and maintains one way traffic system to maintain aseptic conditions in OT. It is planned with proper lighting, ventilation, temperature. Floors and walls are non-slippery, non-reflective, water resistant and easy to clean.

Facilities in OT are adequate for proper functioning of OT and ensure delivery of quality care to the patient and proper working conditions to the staff which improve their job satisfaction and their productivity.

OT complex is lacking attached laboratory for simple and diagnostic tests.

The staff pattern is appropriate and with good communication and coordination between them.

The infection control measures followed in OT are very effective

The checklist shows that the procedures followed for bio medical management are adequate and all the bio medical waste collected in OT are properly segregated, labeled, transported and disposed properly

Total no. of surgeries conducted in the study period was 3532, on an average of 295 surgeries per month. Further in every month numbers of surgeries conducted were between 254 – 333. We can see that maximum surgeries are planned in the months of August'12, October'12, December'12, January'13 and June'13.

- Highest proportion of cases is postponed due to patient's request (30.2%). This is due to many factors such as patient not comfortable with the scheduled date, patient having financial problem, patient got some emergency to deal with on the scheduled date, and patient didn't get leave from the employer.
- Other reason is patient not reported for surgery (22.5%). This is due to factors like, patient visited other hospital for second opin-

ion, patient cannot afford the surgery cost of the hospital, patient not satisfied with the ambience of hospital, patient not satisfied with medical staff and facilities of the hospital.

- 21.8% of surgeries are postponed due to clinical condition of patient which includes Hypertension, Hypotension, chest infection, cardiac diseases, and Chest infection.
- 17.9% of cases are postponed due to lack of OT time. This may be due to unplanned surgeries, improper surgical list management, delay in preparation of OT in between cases.
- 3.8% of cases are due to financial clearance delay which may be due to delay in approval from insurance company.
- 2.3% of cases are postponed due to unavailability of equipment which is due to factors like lack of adequate surgical sets, delay in sterilization process or use of surgical set for an emergency case.
- 0.7% of cases are postponed due to repair of equipment which is due to lack of proper PMS, unavailability of service staff in time.
- 0.7% of cases are due to postponement by doctor.

Hence the study gives a clear picture of reasons for postponement of planned surgeries and also gives an idea regarding the percentage of each reason which are contributing for the postponements of surgeries

The study gives a clear picture about the reasons for postponement of planned surgeries. In order to minimize the postponements of planned surgeries the following measures have to be taken by the OT staff and the management.

7. Suggestions for improvement

- o Patients and his relatives must be given proper counseling regarding the scheduled date and the cost of surgery before finalizing date of surgery. Effective management of surgical list.
- o Adequate OT staff is required to prevent delay in preparation of OT
- o Effective management of surgical list.
- o Surgical list must be prepared and reviewed by the senior staffs those are familiar with surgical procedures and the length of procedure.
- o Maintenance of adequate surgical sets.
- o Periodic preventive maintenance is required to minimize unexpected repair of equipment.
- o Inadequate control of hypertension and cardiac problems as well as other medical causes can be overcome by a thorough review of history, relevant investigations, timely consultations from the concerned specialties and making sure that the patients stick to the prescribed regimen.
- o To prevent delay in financial clearance through proper communication with insurance company.

8. CONCLUSION

The selected multispecialty hospital has a well-designed Major operation theatre complex with four operating rooms. From the study it is clear that most of the postponements of surgeries were due to patient request, patient not reported, clinical condition of patient, lack of OT time, delay in financial clearance, unavailability of equipment, postponement by doctor and repair equipment.

All these problems can be overcome by simple measures. Small investments by the hospital for maintaining adequate surgical sets will give to long term benefit. A good operation theatre manager can improve scheduling of surgical cases; can reduce time spent for preparing and cleaning of OT by proper staffing; and better handling of available resources. By maintaining proper PMS to avoid unexpected repair of equipment. Small investments by the hospital for maintaining adequate surgical sets will give to long term benefit.

In conclusion it was obvious that most of the causes of postponement of elective surgery were avoidable and can be prevented by simple steps. It is imperative however that all sources of problems receive attention leading to better utilization of hospital resources and less patient and staff discomfort.

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