

UTILIZATION OF OPERATION THEATRE;

A newly developed tertiary care teaching hospital

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ABSTRACT... Objective: To find out the number and variety of different surgeries performed at the operation theatre of the Dow University Hospital. **Methods:** From January 2011 to December 2011, hospital operation theatre record was reviewed. Main outcome measures were age, gender, medical record (MR) number, name of operations with their indications, specialty and type of anesthesia used during the procedure, type of surgery. Monthly trend of surgeries were also evaluated. **Results:** The total numbers of operations performed during first year of operation theatre working were 539 cases. Number of emergency surgeries done was 42 (7.79%) and elective were 497 (92.2%). Surgeries performed by General Surgery, Gynecology and Plastic surgery department were 319 (59.18%), 61 (11.3%), 54 (10.0%). MR Number was not present in record register in 306 (56.7%) cases, indication for surgery was not written in 274 (50.8%) cases and name of surgery was missing in 18 (3.3%) cases. The most common case performed were different types of biopsies while other common cases performed in the year 2011 were incision and drainage, cholecystectomies and hernia repair. **Conclusions:** The record maintained was overall satisfactory however needs further improvement. Computerization of records with training of staff about its proper maintenance can improve its quality with international standards.

Key words: Utilization, operation theatre, audit, pattern

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INTRODUCTION

A properly structured operation theatre is a vital and necessary part of any hospital. The theory of operation theatre utilization is present in the surgical journalism as early as the late 1970s¹⁻³.

To satisfy patients, fulfill demands of surgeons and operation theater staff and to proof a well-functioning operation theater an excellent management is needed. Operation theatre needs a great quantity of resources to maintain a working function in any hospital⁴. It's always been a difficult and daring procedure, to improve the function and effectiveness of an operation theater in such a hospital where the health facilities and administration keep on changing frequently. To increase surgical output in any hospital its necessary an operation theater to be properly working under constant management⁵.

In medical literature, it has been discussed that the hospital management and leadership plays an important role in the development of a proper functioning operation theater, but it also depends on

many other factors as well. It depends on provision of multiple medical and surgical services like equipments, drugs, time utilization, sterilization and control of infections etc. Studies showed that the measurement of time utilization has always been of greater interest among researchers^{6,7}. And it's obvious that an important component to increase the efficacy of any operation theater is time scheduling as it helps in planning the requirements, accessibility of equipments and ultimately develops a smooth running environment. Besides that many other factors like expediency, cost and infection control are also important in planning a newly developed operation theaters^{8,9}. Many guidelines and rules are present in literatures and been followed but many hospitals in different countries¹⁰. To monitor and evaluate the performance of any operation theater, an excellent quality data is require¹¹ which is not properly and even not maintained in most of the hospitals, especially the newly developed one.

Dow University Hospital is a newly developed tertiary care teaching hospital attached with Dow International

Medical College affiliated with Dow University of Health Sciences. To make this hospital to an international standard, administration is planning to build every part of this hospital in its best eminence. This study is one of the initial audit reports of hospital and it is done with the intention that we document the present position of its utilization by different specialties and surgeries performed and its trend with time so that its utilization can be improved further.

METHODOLOGY

A cross-sectional study was done during one year period from January 2011 to December 2011 from hospital operation theatre record which was manually maintained in a log register. The recorded variables in the study were age, gender, medical record (MR) number, name of operations with their indications for operation. In addition to this field specialty and type of anesthesia used during the procedure in the theatre were recorded. Beside this comparison between number of elective and emergency surgeries was performed.

The data was recorded on Excel spread sheet and descriptive statistics were used.

RESULTS

The total numbers of operations performed during first year of operation theatre working (from January 2011 to December 2011) were 539 cases. Out of which 281(52.1%) patients were female and 258(47.86%) were male. Number of emergency surgeries done was 42(7.79%) and elective were 497(92.2%).

Surgeries performed by General Surgery, Gynecology and Plastic surgery department were 319(59.18%), 61(11.3%), 54(10.0%) respectively and their percentage distribution is shown in figure 1.

Total number of surgeries performed under General anesthesia were 284 (52.69%), under spinal anesthesia 66(12.24%), under Monitored Anesthesia

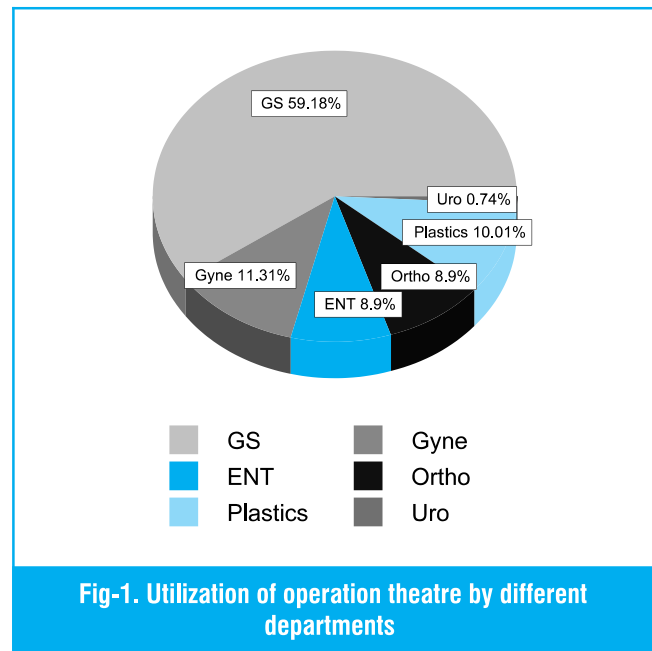


Fig-1. Utilization of operation theatre by different departments

Care (MAC)14(2.59%) and under local anesthesia were 175 (32.46%). Maximum numbers of surgeries were done the month of October. (Table-I).

MR Number was not present in record register in 306 (56.7%) cases, indication for surgery was not written in 274 (50.8%) cases and name of surgery was missing in 18 (3.3%) cases.

The most common case performed were different types of biopsies while other common cases performed in the year 2011 were Incision and drainage, Cholecystectomies and hernia repair (Table-II).

DISCUSSION

Total 539 surgeries were performed in the year 2011 which is good number of cases in terms of first year of a hospital. However results showed that only 42 emergency procedures were performed. The most common surgery performed was excisional biopsy under local anesthesia, one reason being hospital situated with OJHA hospital of Chest Diseases and most of the patients were referred for lymph node biopsy. As anticipated, most of surgeries were

Months	General Anesthesia 298 (55.3%)	Local Anesthesia 170 (31.5%)	Spinal Anesthesia 64 (11.9%)	Monitored Care Anesthesia 7 (1.3%)	Total Operation 539 (100%)
January 2011	-	3	-	-	3
February 2011	-	6	-	-	6
March 2011	17	10	3	-	30
April 2011	31	15	-	-	46
May 2011	20	19	-	1	40
June 2011	36	23	-	-	59
July 2011	36	18	8	1	63
August 2011	15	12	9	1	37
September 2011	34	08	8	2	52
October 2011	30	29	18	2	79
November 2011	41	11	9	-	61
December 2011	38	16	9	-	63

Table-I. Details of type of anesthesia

Name of procedure	No. of cases (319)	%age of cases
Biopsies	114	35.7
Incision and drainage	35	10.9
Cholecystectomies	35	10.9
Hernioplasties	28	8.77
Debridments	23	7.2
Perineal surgeries	22	6.89
Laparotomies	18	5.64
Nail avulsions	14	4.388
Endoscopies	12	3.76
Circumcisions	6	1.88
Appendectomies	7	2.19
Miscellaneous	5	1.56

Table-II. Details of general surgeries performed

performed by general surgical team.

The management of any operation theater is a very important and sensitive matter. A lot of studies have been carried out on effectiveness of Operation Theater. A major part of which discussed issues of management, timing schedule, functioning^{12,13} but only some of them discussed that how these deficiencies can be decreased¹⁴. After collection of data during this study it was perceived that a properly maintained entry data and documentation of cases is essential to evaluate the efficiency of any operation theater in a hospital. Apart from proper data entry of patients log, a good quality of operative notes is a must in any hospital¹⁵ and even they can be used for the teaching and learning purposes¹⁶.

There weresome major deficiencies in the record which needs serious attention. The chief deficiency of our study was incomplete data in log register. The timing of surgeries was not mentioned in many logs.

Data was maintained in paper register which can easily be faded with time. Properly entered computerized data entry is needed to record whatever done in the operation theater. It's necessary to educate the staff and junior doctors regarding equipment usage, management of cases, time scheduling, recent advances and importance of record. The availability of staff and anesthetist at late hours can increase the quantity and quality of procedures done in the operation theater.

Such audits should be done on yearly basis to maintain proper records and to check effective utilization of Operation theatre. Every department and sub specialty units should be encouraged to take active part in it so it will ultimately make our goal of making a well developed hospital fulfilled.

CONCLUSIONS

The overall utilization of Operation Theater of Dow University Hospital was good during the first year of its working. The record maintained was overall satisfactory however needs further improvement. Computerization of records with training of staff about its proper maintenance can improve its quality with international standards.

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If a man hasn't found anything to die for,
he isn't fit to live.

Martin Luther King Junior