

Time management in Operation theatre: A Utilization study of Operation Theatres of CK Birla Hospital | RBH, Jaipur

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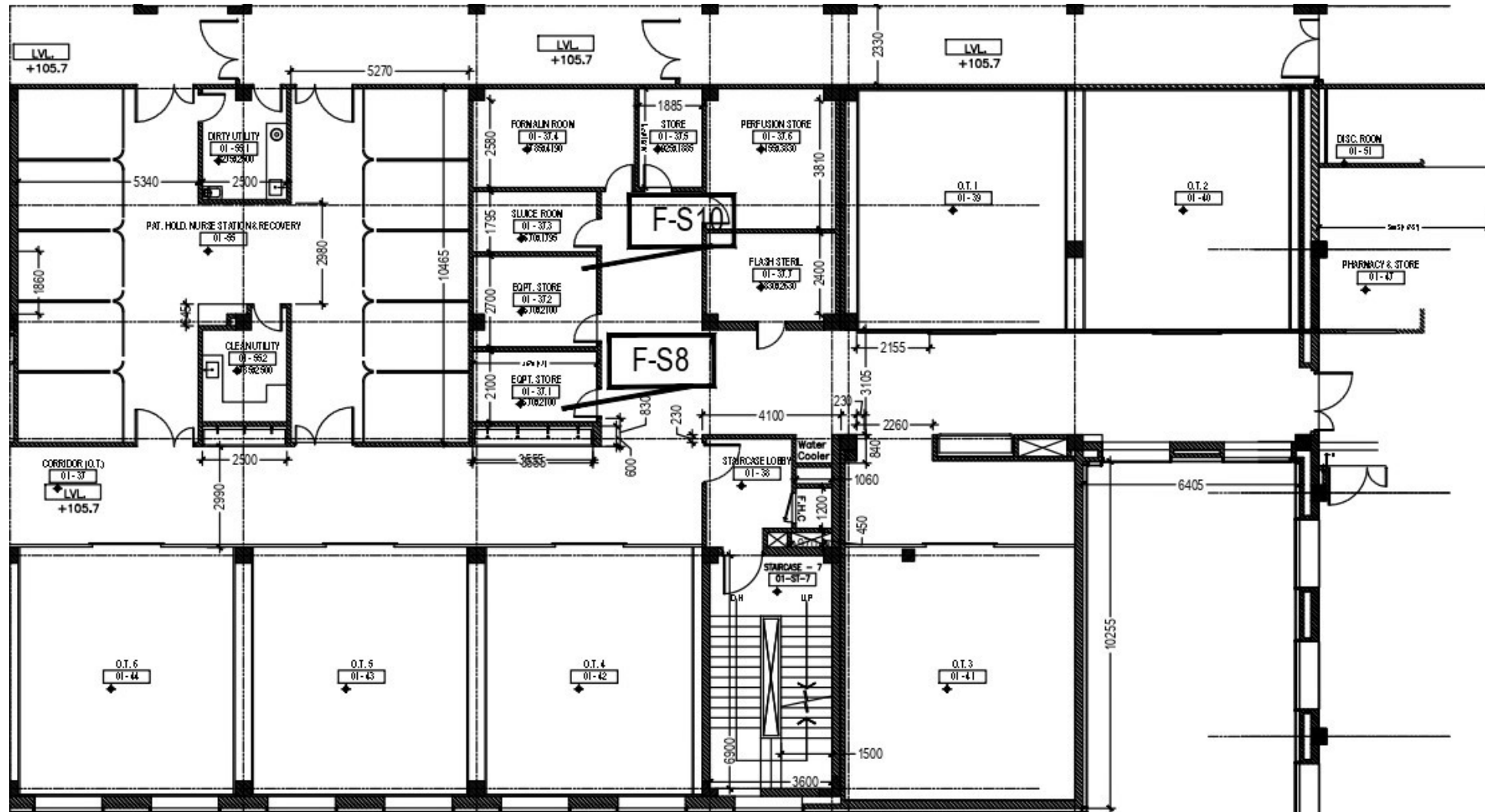
MBA HOSPITAL AND HEALTH MANAGEMENT (2016-2018)

ROLL NO. 1224

INTRODUCTION

- Operating rooms are often referred to as the "heart of the hospital".
- It is a specialized hospital unit where invasive procedures on the patients are carried out under strict aseptic and in a controlled environment by trained professionals.
- A hospital's budget includes a large expense for the operating room. It is crucial to conduct a utilization study of the operating rooms to increase operational effectiveness.
- "Time utilization" is one such indicator to measure an OT's performance.
- Donham and colleagues defined this as the ratio between the total number of available hours actually used and the actual number of hours available for usage.

OT Layout (CK Birla Hospital, Jaipur)



RESEARCH QUESTION

- What is the utilization of OTs at CK Birla Hospital | RBH, Jaipur and what are the measures to improve the utilization percentage?

OBJECTIVES

- To compare the utilization of OT.
- To analyze the utilization and compare with total hours available for utilization.
- To find out the reasons for the gap in ideal utilization time of the operation theatre.

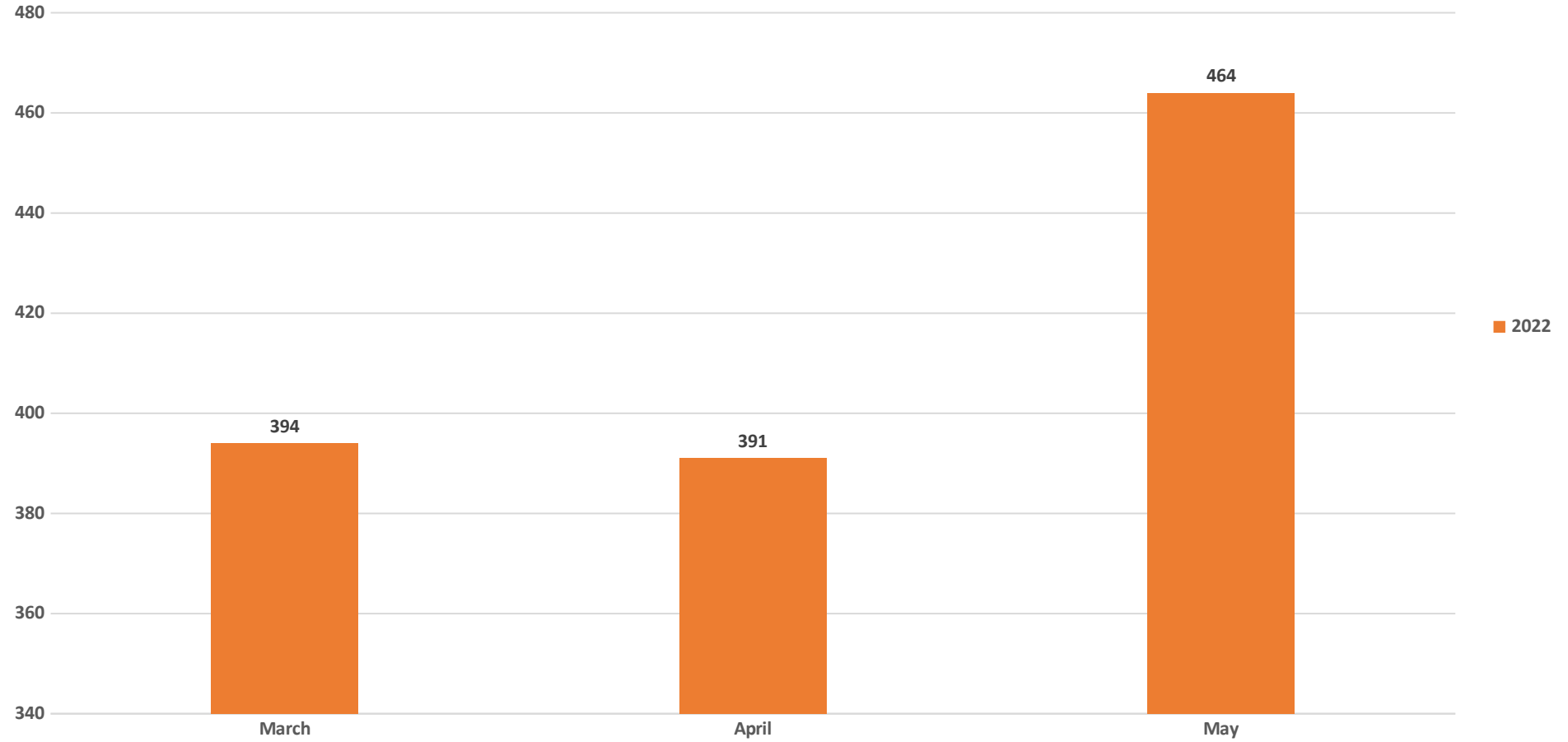
MATERIALS AND METHODS

- **Study Design:** Descriptive, Observational and cross sectional based on retrospective data collected and prospective study of utilization of OTs at CK Birla Hospital | RBH, Jaipur.
- **Study Setting:** CK Birla Hospital, Jaipur
- **Duration of Study:** 3 months (March 2022 to May 2022)
- **Study population & Sampling:** All the patients whose operation was performed between March'2022 to May'2022. No sampling was done in the study as all the procedures performed during the period were included in the study.
- **Data Collection:**
 - Primary data collection (March'2022 to May'2022)
 - Secondary data collection (March'2021 – May'2021)

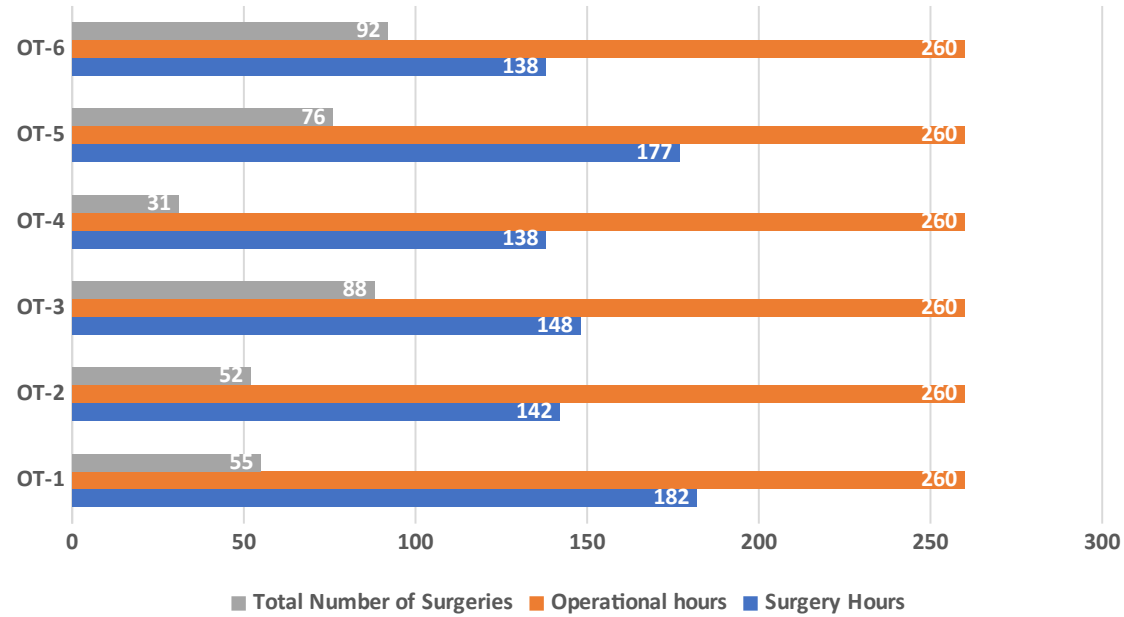
- **Data analysis:** Microsoft Excel
- **The theatre utilization rate will be determined as follows:**
 - $\frac{\text{Total hours for which the OTs were utilized}}{\text{Total hours for which the OTs were operational}} \times 100$
 - Total Operational hours is considered as the duration from 8am to on all days of the week, except for Sunday and Government Holidays.
 - Hours OT utilized is determined by the sum of total hours utilized in surgery and total hours utilized in cleaning of OTs.
 - Cleaning Time is calculated using the formula = $15/60 \times \text{no. of surgery}$.

RESULTS

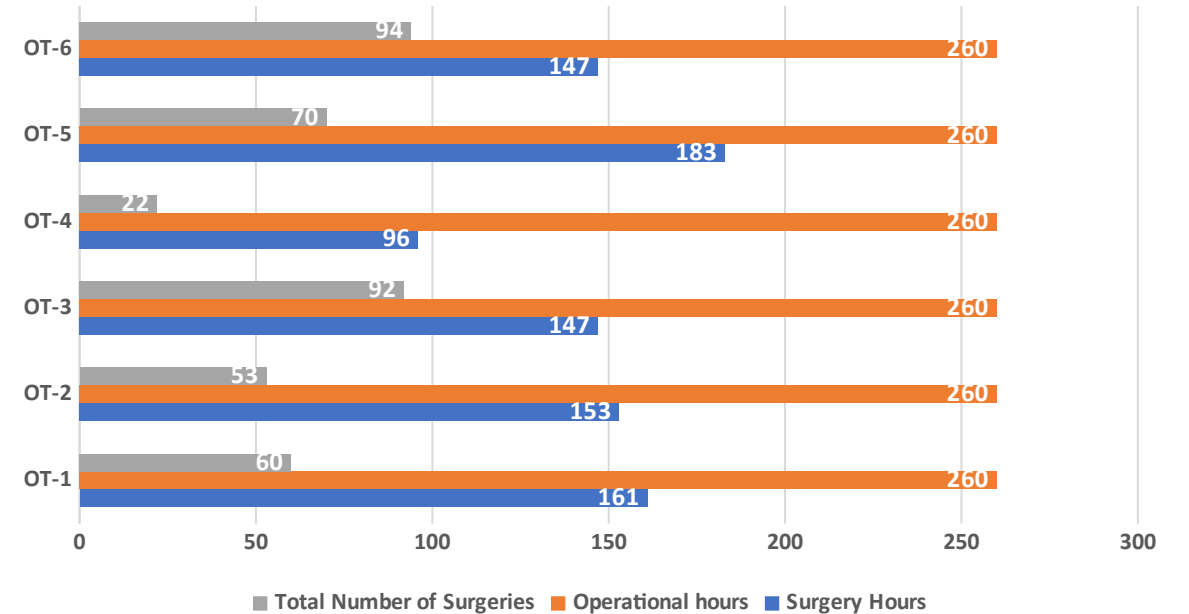
TOTAL NO. OF SURGERIES MARCH'22 - MAY'22



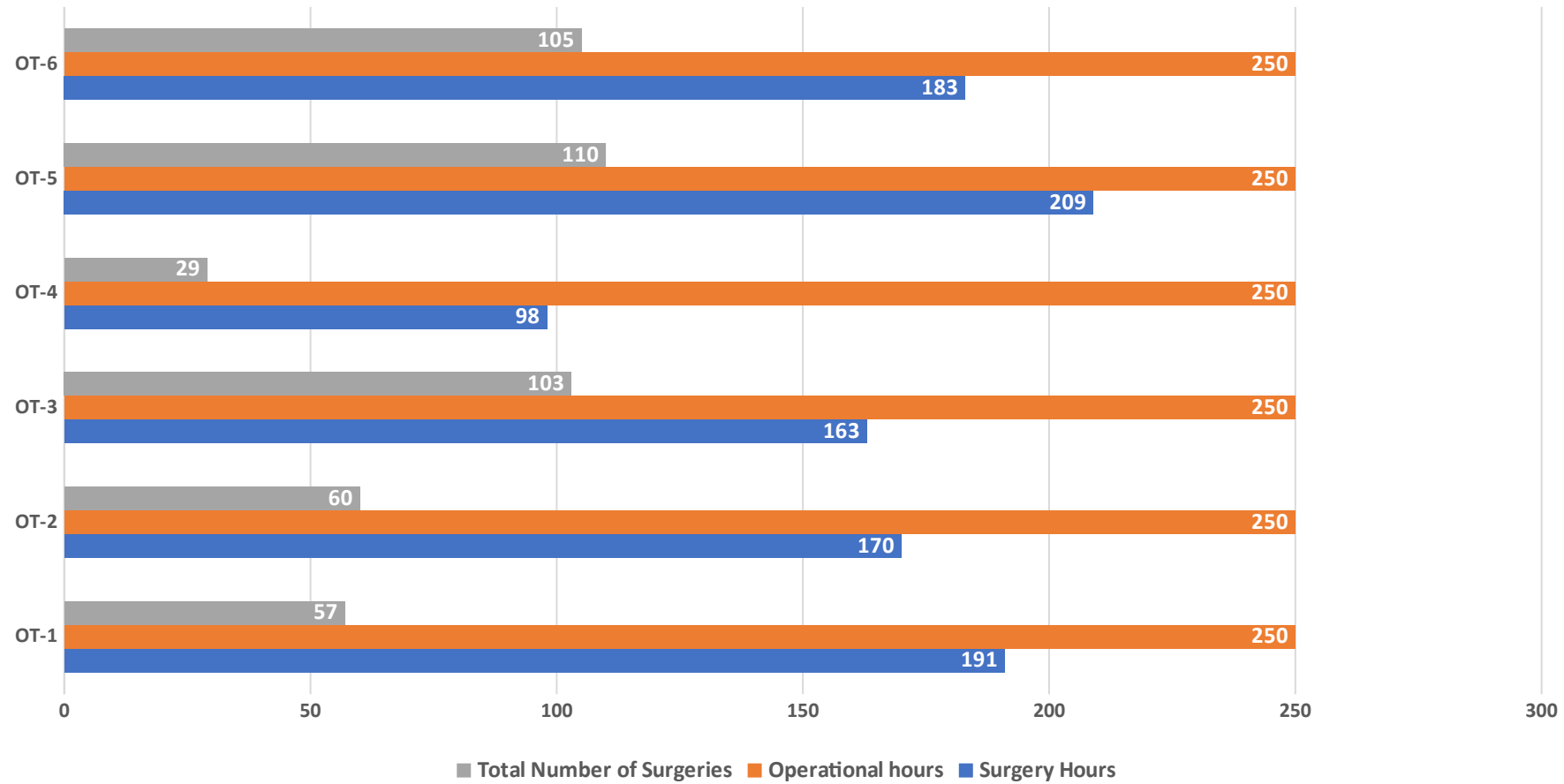
OT WISE COMPARISON (MARCH 2022)



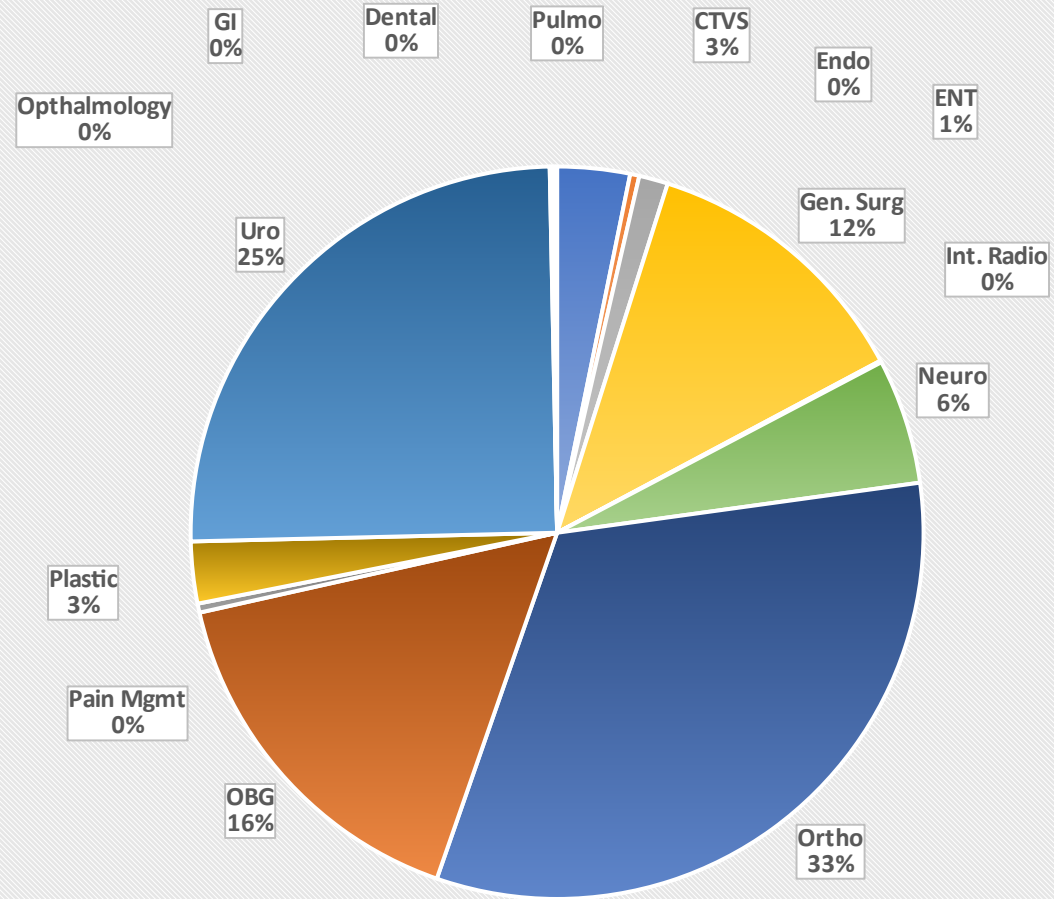
OT WISE COMPARISON (APRIL 2022)



OT WISE COMPARISON (MAY 2022)

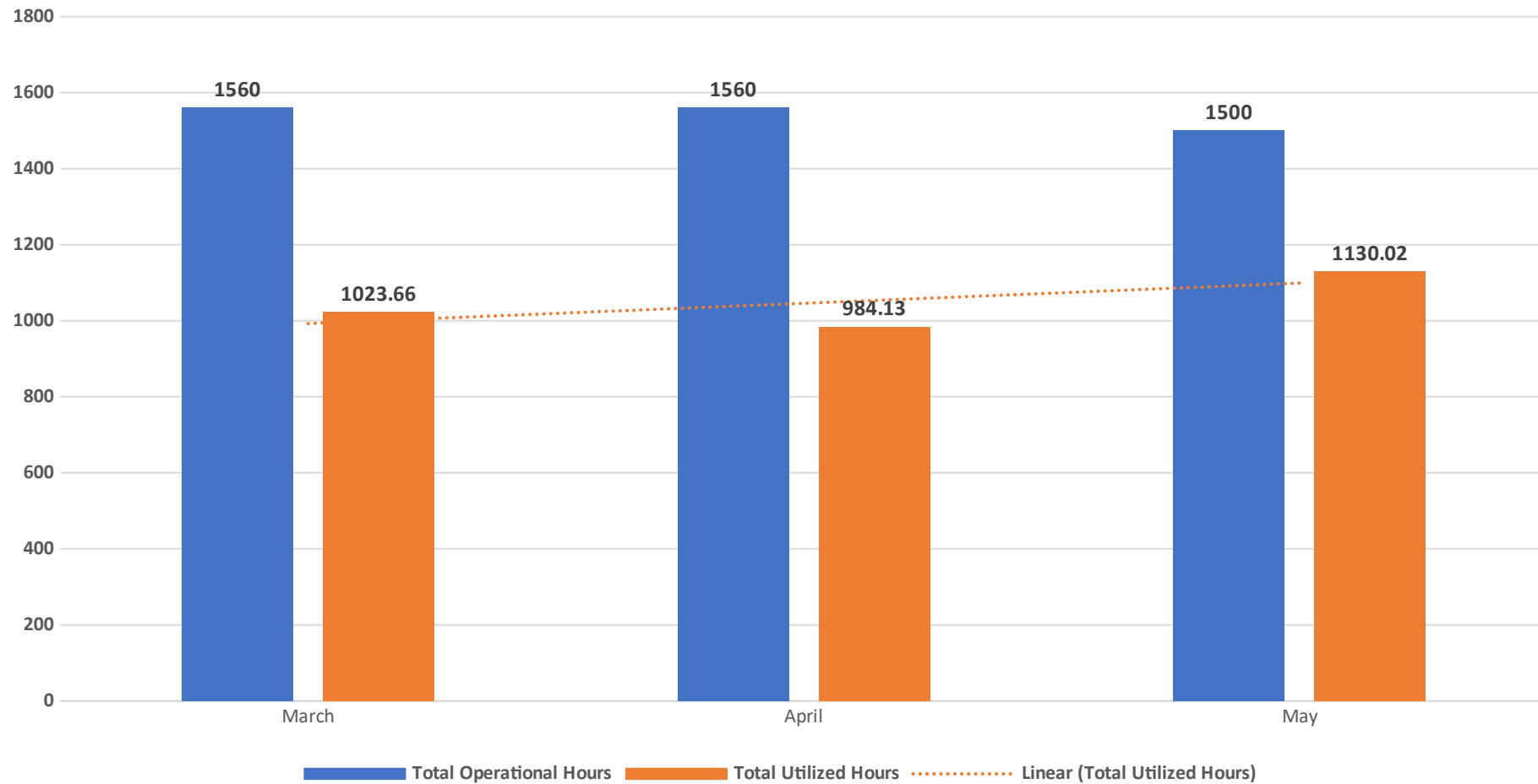


DEPARTMENT WISE CASE DISTRIBUTION

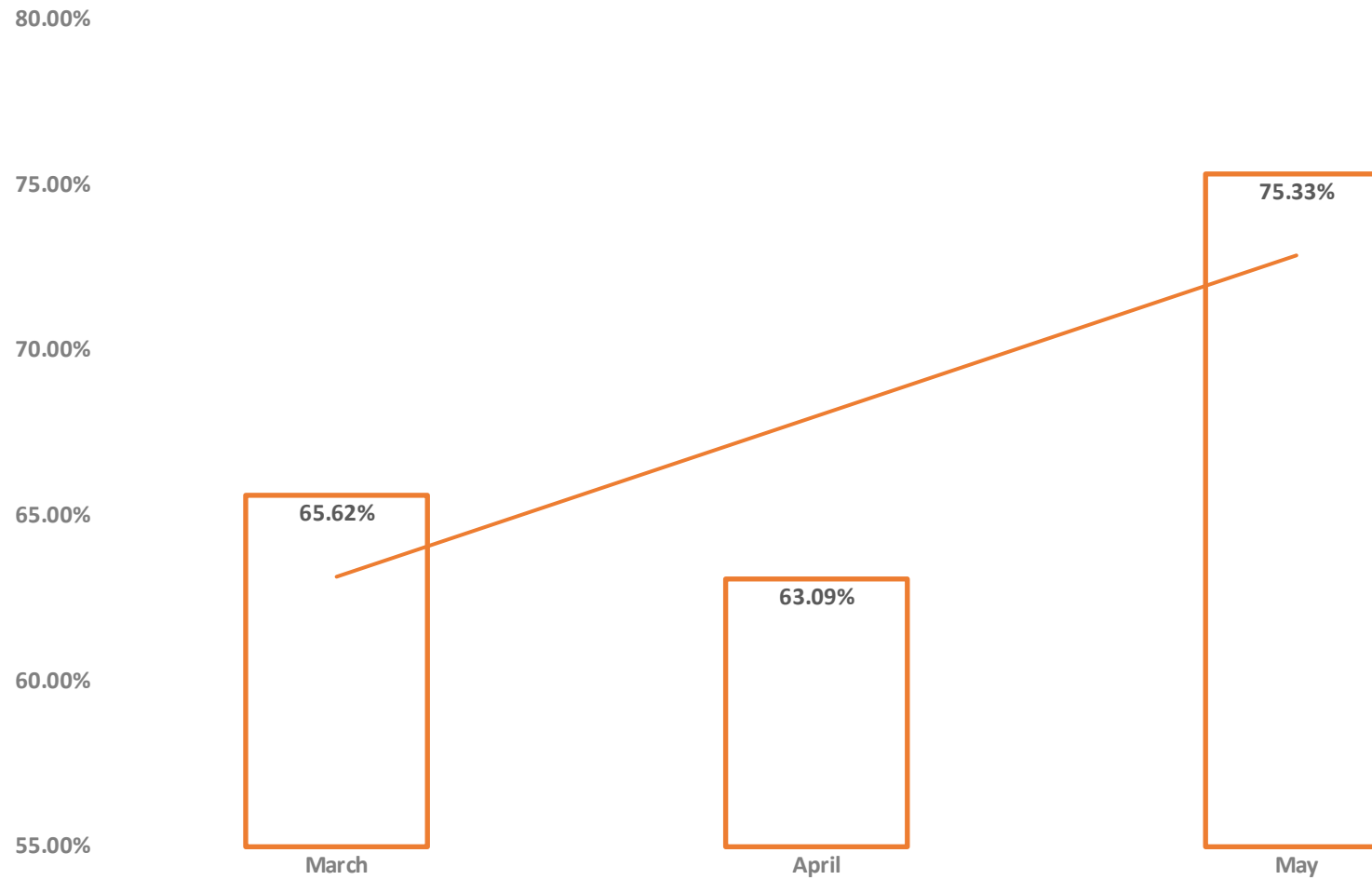


CTVS Endo ENT Gen. Surg Int. Radio
 Neuro Ortho OBG Pain Mgmt Plastic
 Uro Dental Opthalmology Pulmo GI

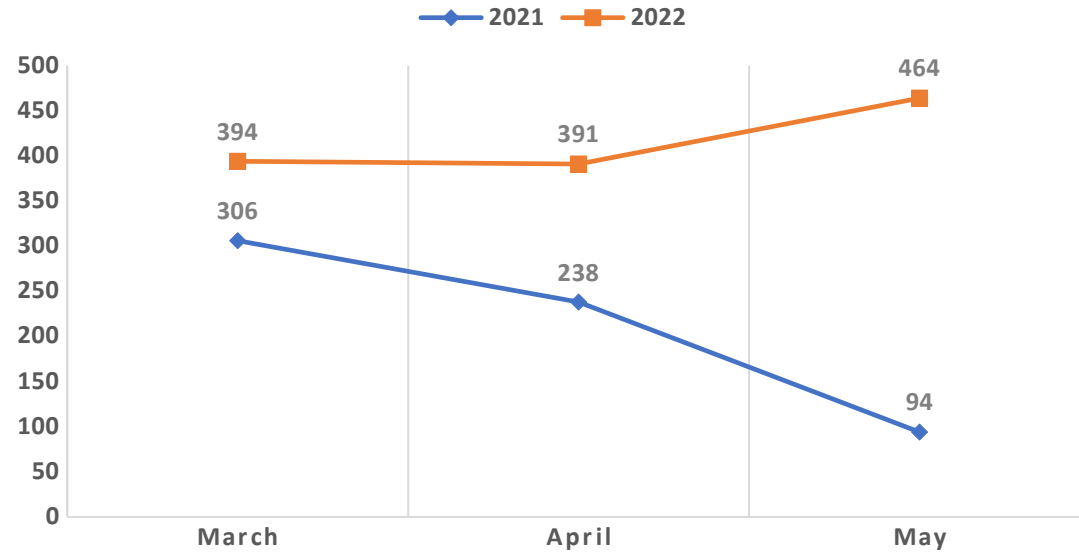
UTILIZATION COMPARISON CHART



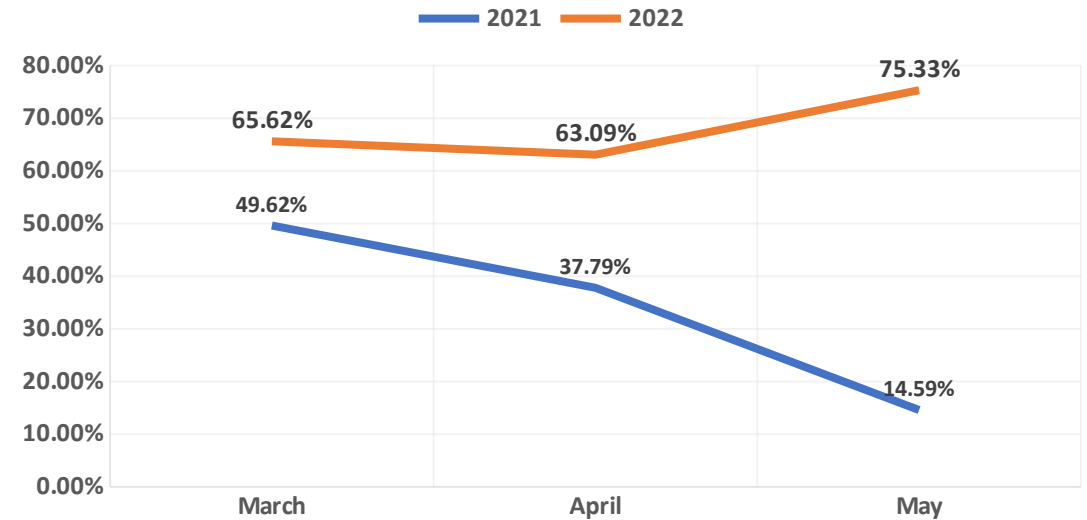
PERCENTAGE OT UTILIZATION 2022

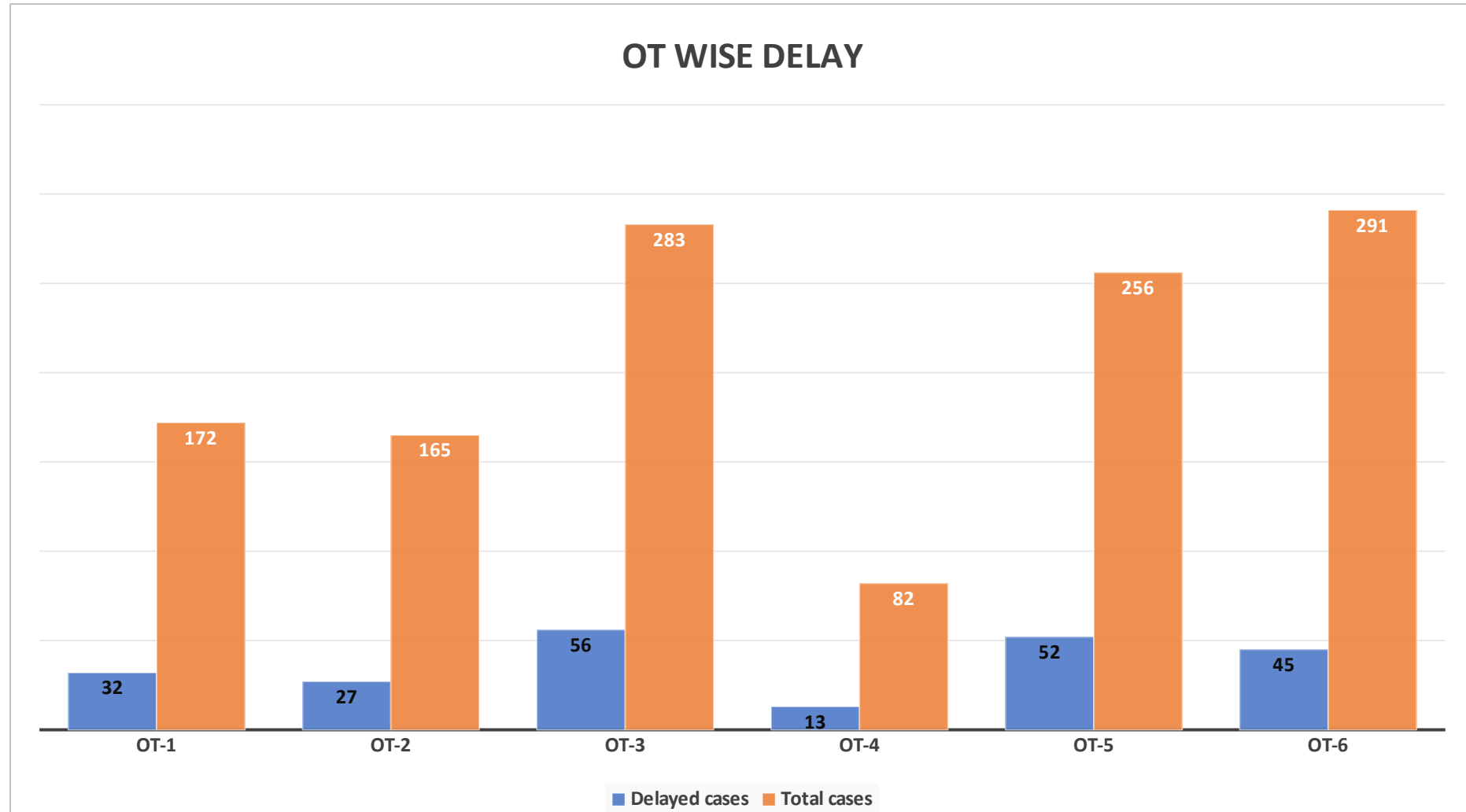


Total no. of surgeries 2021 V/s 2022 (March - may)

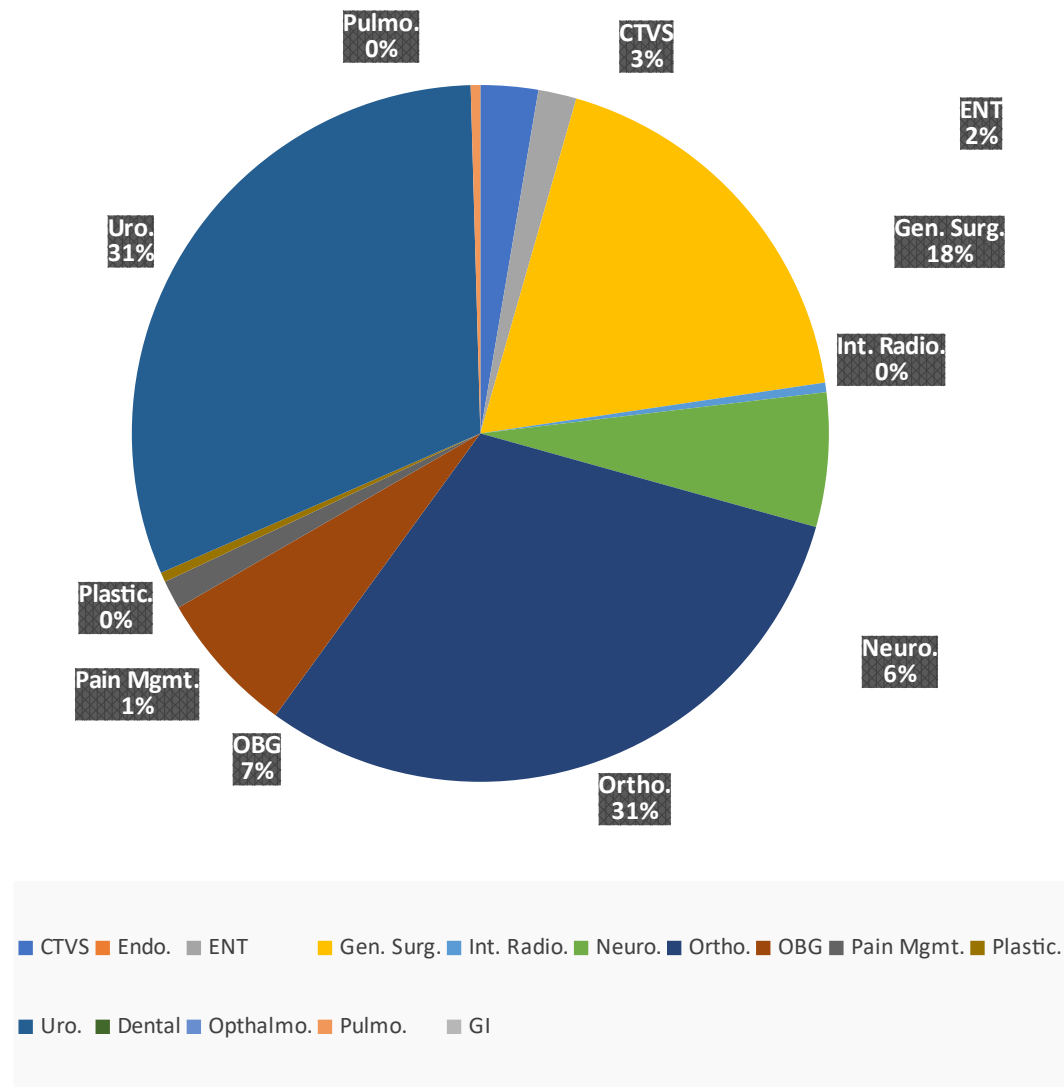


comparison OF OT utilization percentage 2021 v/s 2022 (march - may)

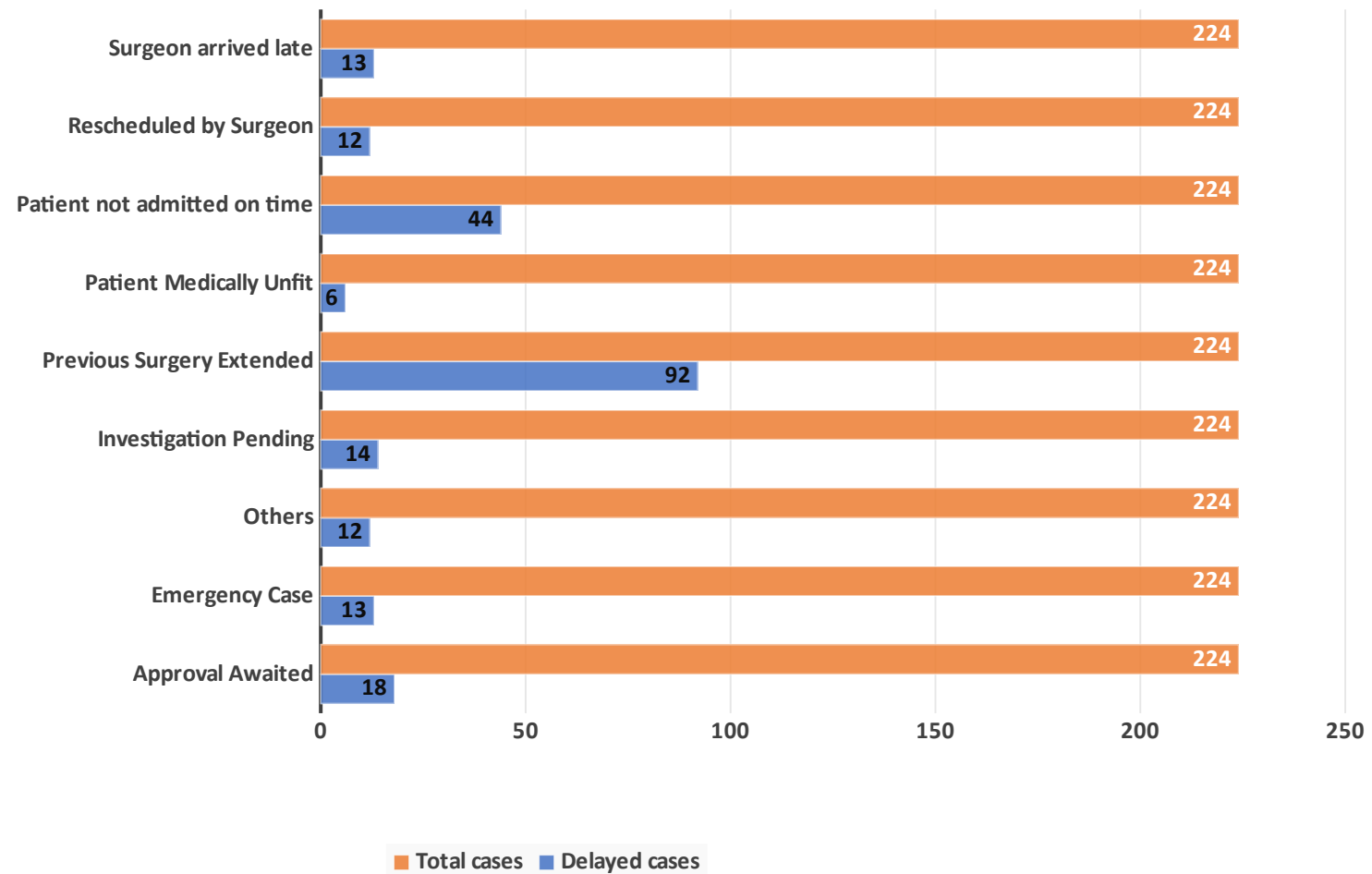




SPECIALTY WISE DELAYED CASES



REASON WISE DELAYS



DISCUSSION

- Surgery delays and cancellations because of inefficient scheduling and utilization of theatre time are frequent occurrences throughout the globe.
- With 638 surgeries performed during March'21 – May'21 and 1249 surgeries performed during March'22 – May'22. Almost twice the number of surgeries were performed during March'22 – May'22 in Year-to-year comparison.
- Both the years witnessed maximum surgeries being conducted of Orthopaedics and Urology specialty from March to May.
- OT utilization percentage has increased from 34% during March 2021 to May 2021 to 68% during March 2022 to May 2022.

- On comparing the OT utilization of the two period. Total Operational hours from March 2022 to May 2022 for all the OTs was 4620 hours out of which 3137 hours were used. Overall utilization percent in March 2022, April 2022 and May 2022 was 65%, 63% and 75% respectively.

CONCLUSION

- Since the hospital has been operational since 2016, the utilization of the operation theatre has improved over the years, and the average utilization of the Operation Theatre during the study period was found to be 68%.
- This study highlights comparison of total number of surgeries performed and comparison of OT Utilization percentage between March – May 2021 and March – May 2022.
- The major observations that influenced the utilization of the OTs were the delays observed in March to May 2022 with maximum case delay caused due to extension of previous surgeries. Other reasons for delays were, Delay due to patient's admission not on time, surgeon delays, Investigation delays, Emergency delays, etc. Overall, it was observed that 224 cases were delayed out of total 1249 surgeries performed from March 2022 to May 2022.

- Determining the major causes and bottlenecks creating hurdles in smooth functioning of the Operation Theatres and correcting them without any lag is imperative to increase the utilization of the Operation Theatres. Observations related to improper management of OT list and lack of adequate resources were seen.

RECOMMENDATIONS

- **The hospital has state of the art infrastructure and can be utilized more efficiently as there are scopes of improvement in:**
 - Proper Scheduling of OTs. – the date, day, time, and operation theatre number should be properly prepared for the surgeries based on the resources that are available. There is a need to discuss with the consultants and finalize the duration of surgery before scheduling the cases.
 - Staff coordination – doctors should be prompted to arrive to the Operation Theatre on time, blockings of OPD slot bookings.

- Admission and processing.
- Starting the case on time – surgeons should keep in mind all the major and minor variables before starting a surgery so that nothing goes wrong and the surgery is started and finished off on time. The practice of writing tests on the day of surgery should stop.

REFERENCES

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Thank You