

INTRODUCTION

In spite of the fact that demand for surgical services might keep increasing, its margins are definitely not increasing. Superficially it might create the impression that OT suites are completely used and the procedures are running easily, yet when administration digs deeper they may see generous fractures like holes in authoritative information, absence of steady benchmarks in provision of care and resources use, and inadequate utilization of staff and different resources because of poor planning and sequencing of occasions, all of which contrarily influences the yield

ABSTRACT

The purpose of this study was to analyze the process flow of Operation Theater and to look at and break down its time utilization. The thought was to realize how much time is OT really used for different activities like moving of patient into OT, conveyance of anesthesia, part preparation, performing medical procedure, rolling out of patient and lastly clean up time after the medical procedure. This would then assist in understanding whether the OT is in effect ideally used or not .

RESEARCH DESIGN

STUDY DESIGN: Observational cross-sectional study
APPROACH: Quantitative
DATA COLLECTION METHOD: Primary and Secondary
DATA SOURCES: Direct Observation and Hospital records
SAMPLE SIZE AND STUDY DURATION: 231 patients who had surgery between 20 April 2019 to 6 May 2019 except those who had surgery after 6 PM and before 8AM or on Sundays.
STUDY SETTING: Multispeciality Hospital

METHODOLOGY

Primary Data was collected by direct observation for around 50 surgeries by following every patient as soon as he/she is shifted from ward to OT complex and shifted back out from the OT complex.
 Secondary Data was collected at the end of the day for all the other surgeries which I was not able to follow during the day. A tool was created in which all the entries were done every day.
 Both data were merged into one datasheet.
 Data was analyzed and compared with other studies done on the same subject.

OBJECTIVES

This study aimed to understand the utilization of Operation Theatre at Narayana Hospital, Jaipur with following objectives:

To document the process flow of Operation Theatre suite.

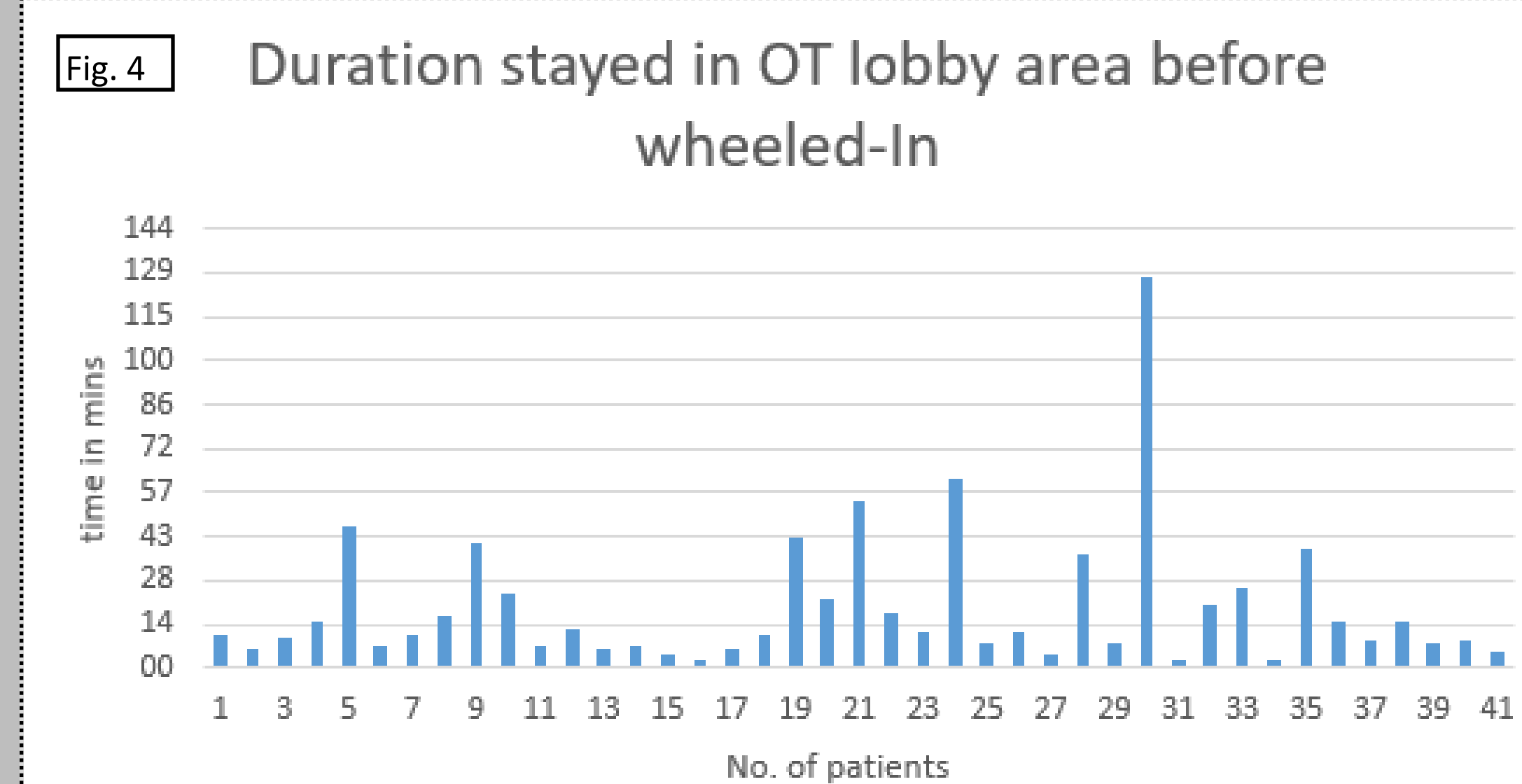
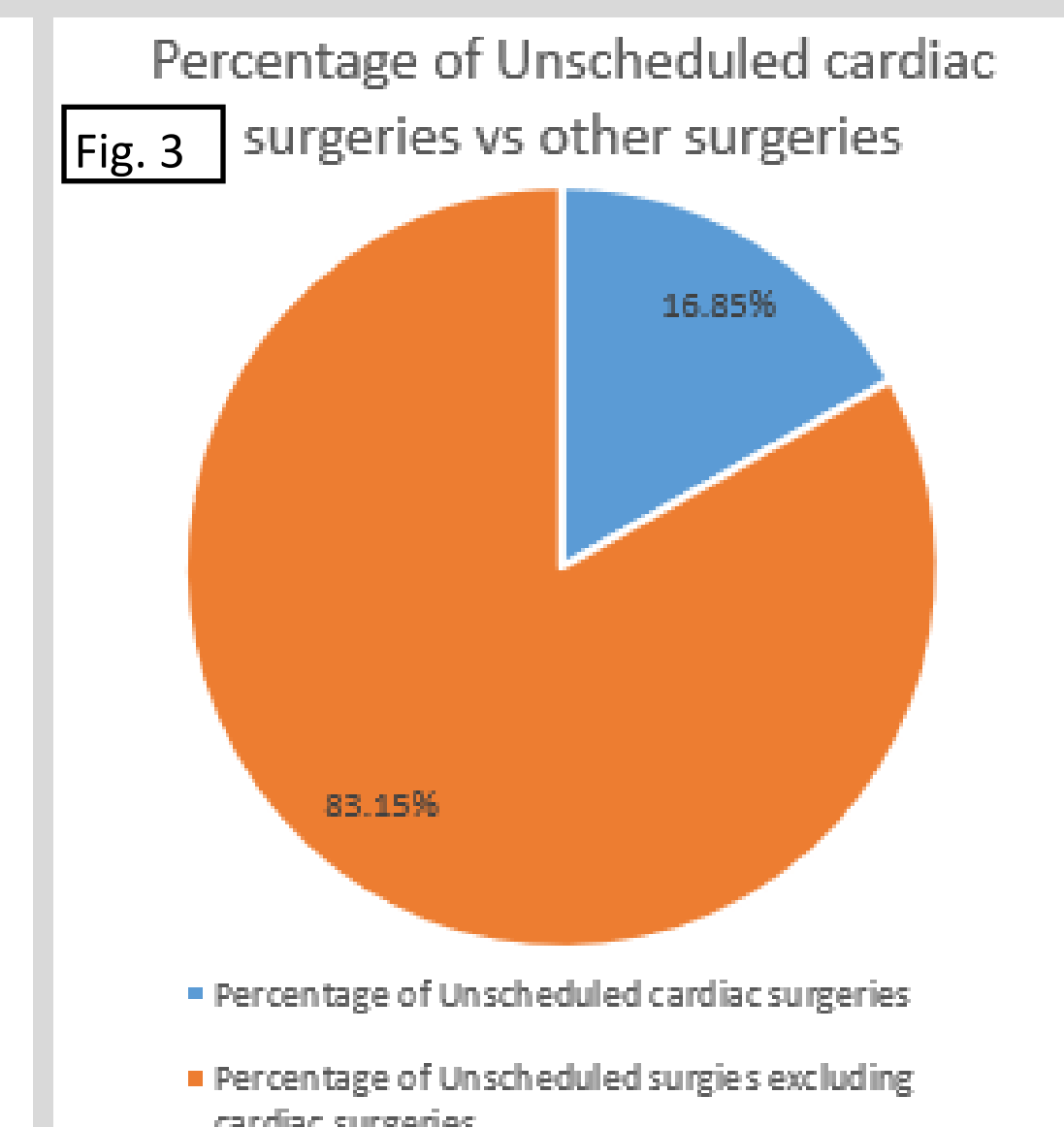
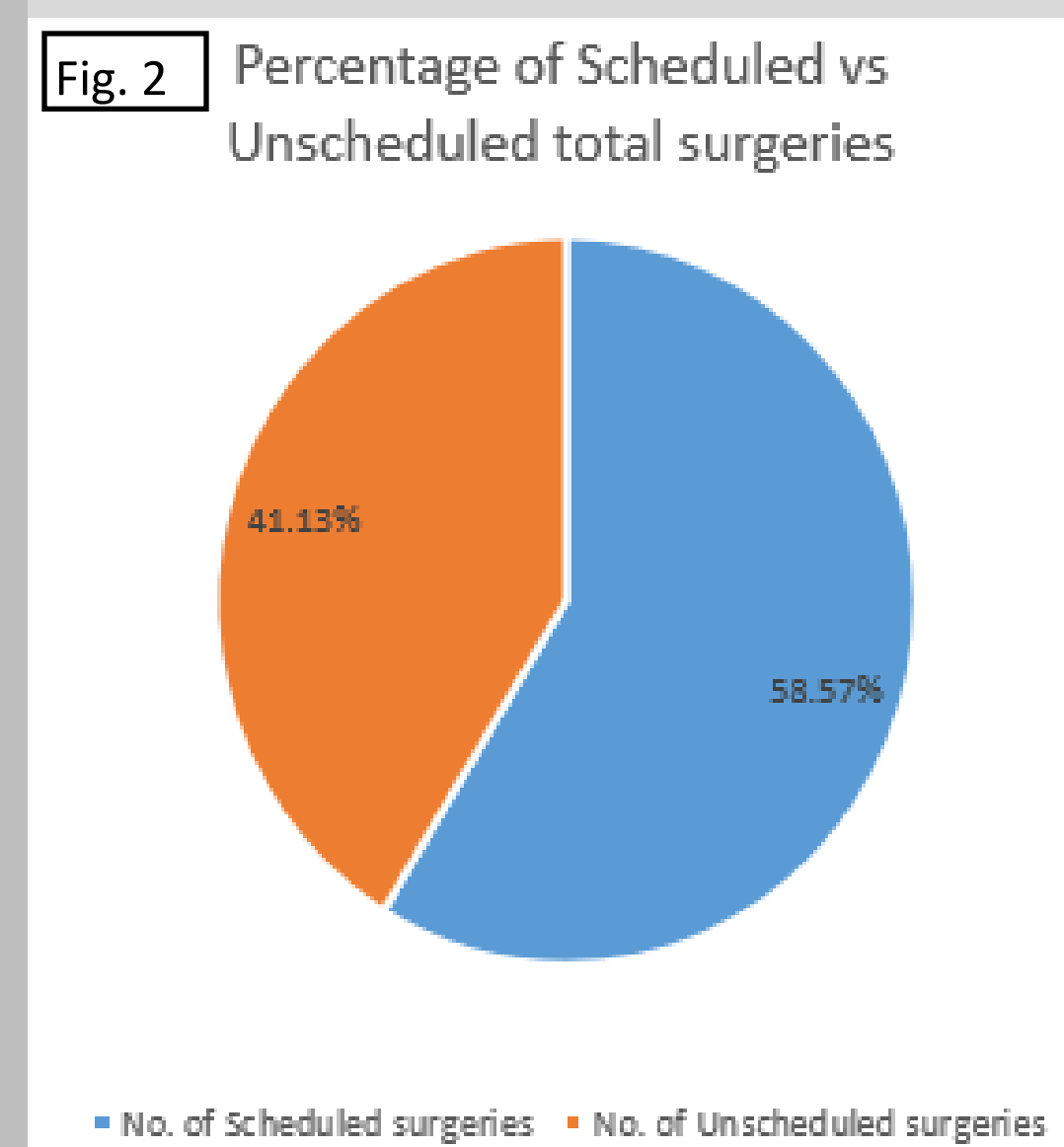
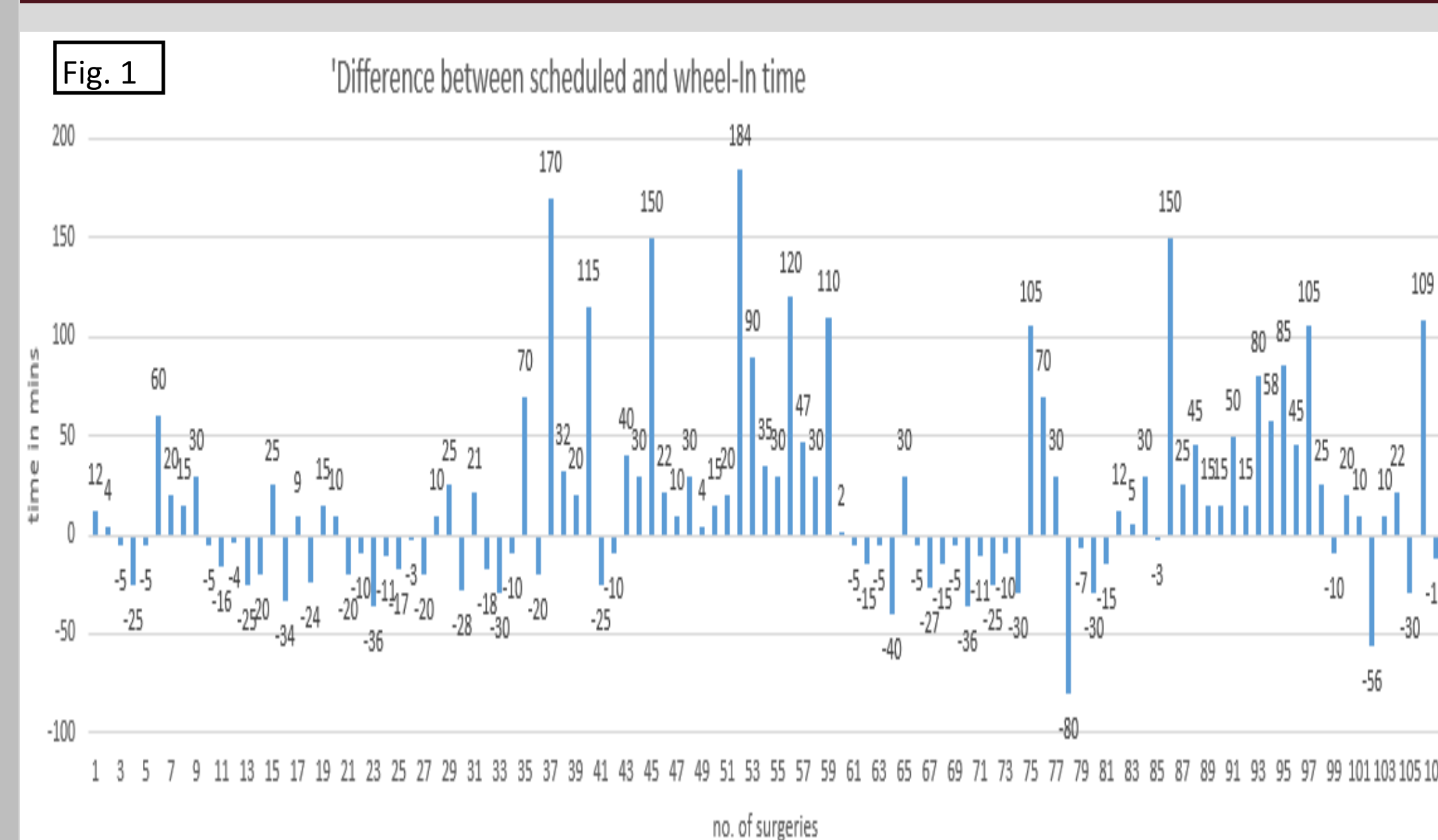
To assess the utilization pattern of Operation Theatre.

To analyze the time between two medical procedures in the Operation Theatre.

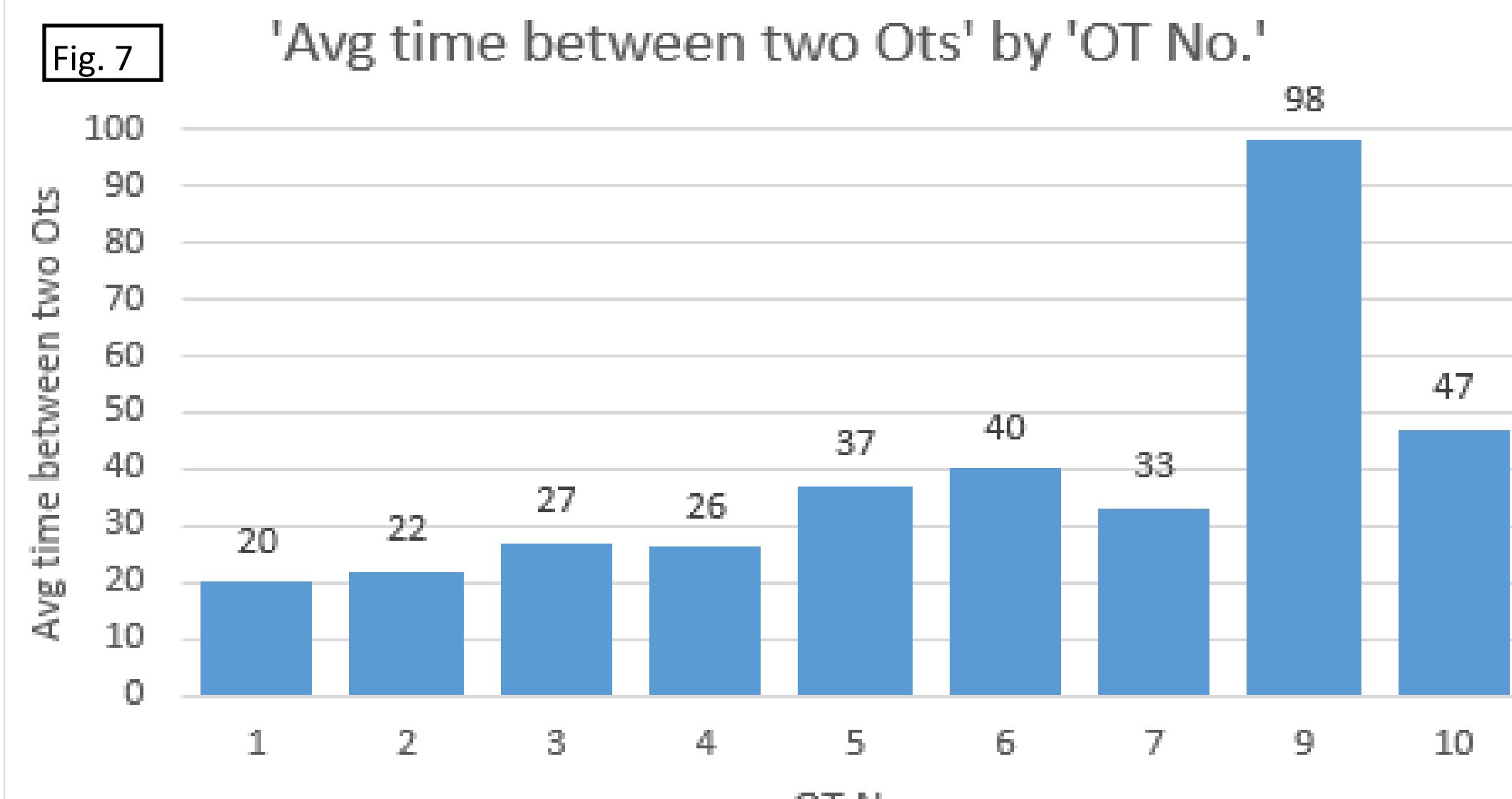
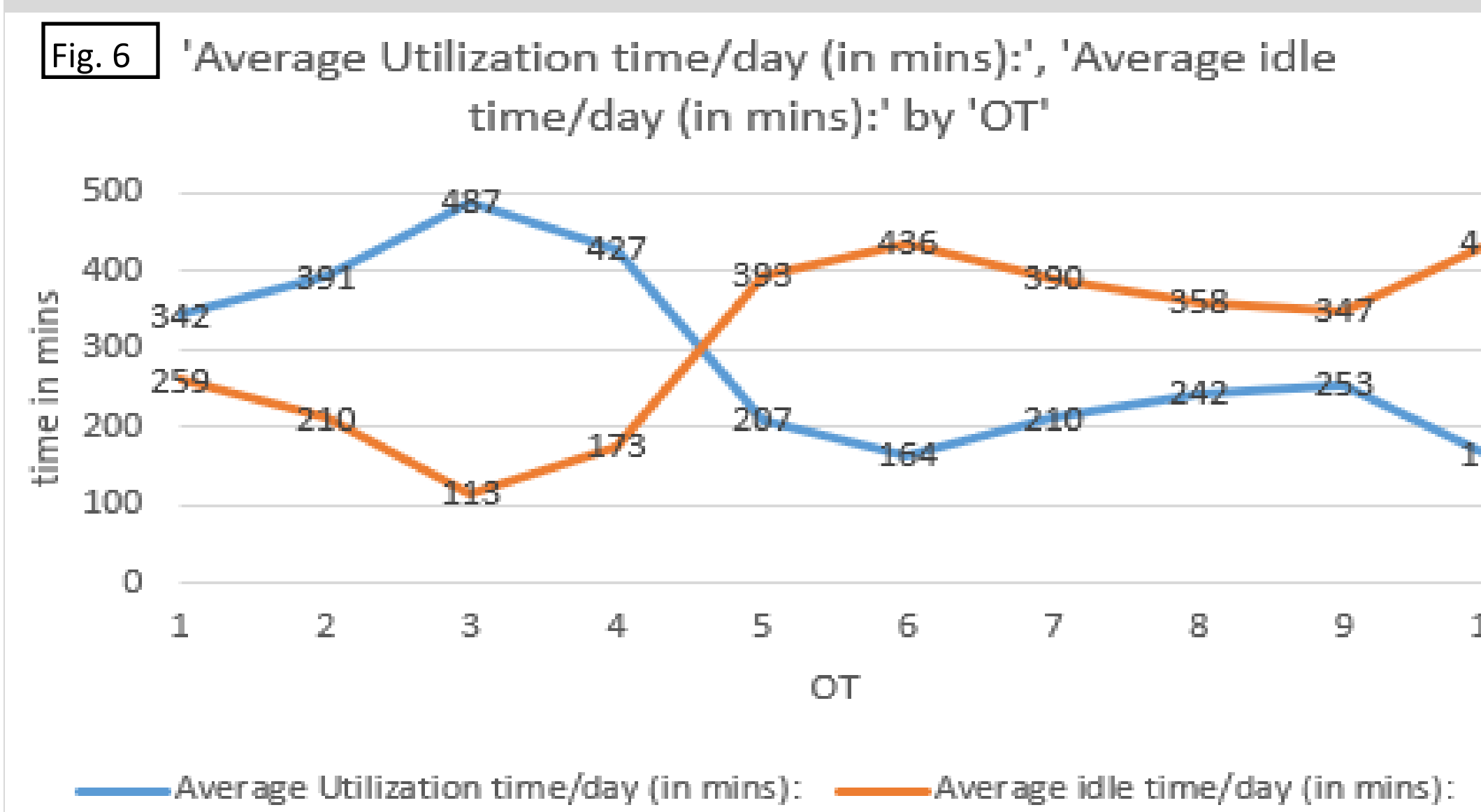
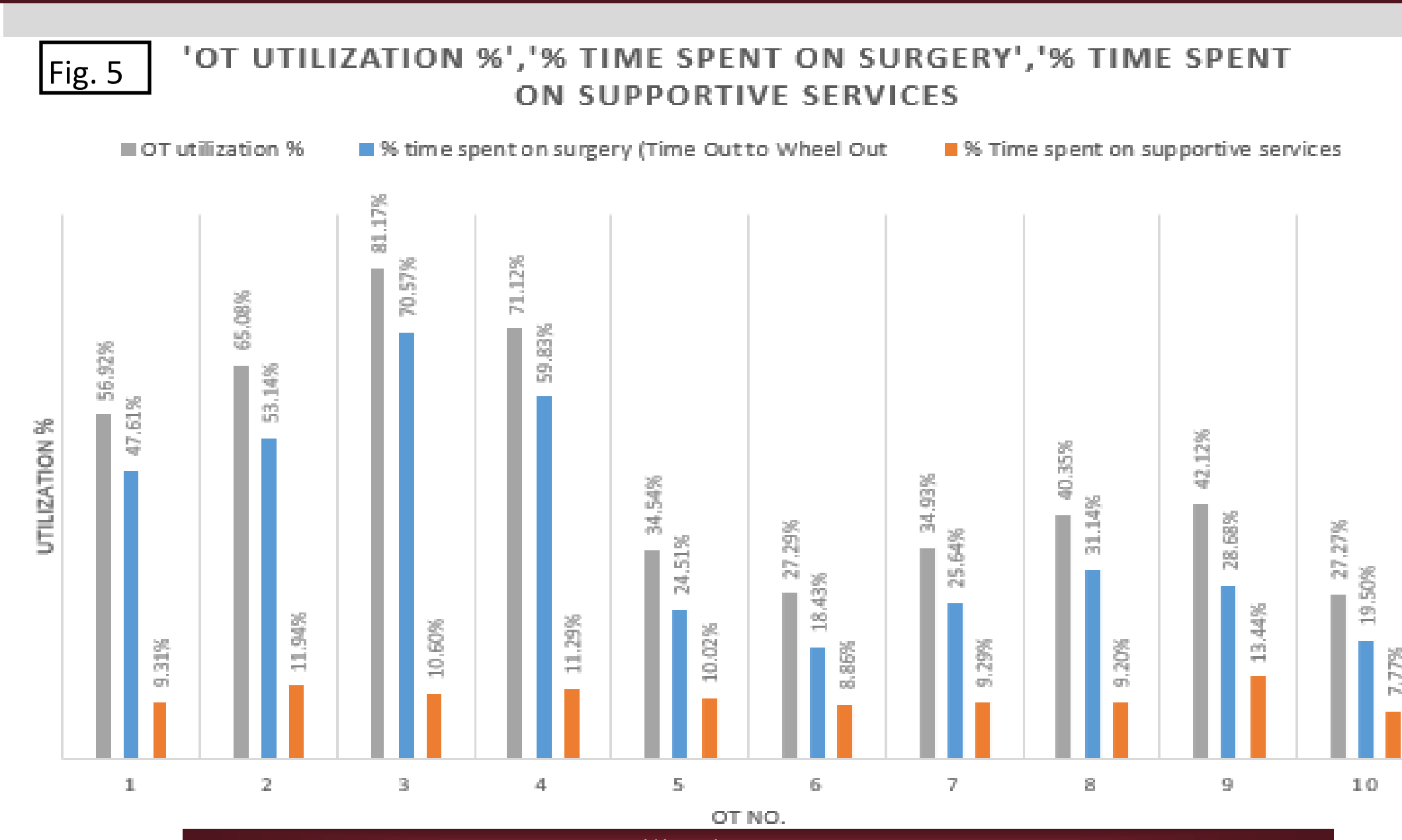
To identify the bottlenecks, if any in effective utilization of Operation Theatre time.

To suggest corrective measures for better utilization of Operation Theatre time.

DATA ANALYSIS



Overall Average duration of time patient stayed in OT lobby was found to be 19mins. It is also referred to as the time stayed in pre-operative area.



Overall Average time between two OTs was found to be 39mins. Time between OTs was calculated only for scheduled surgeries.

KEY FINDINGS

- OT Utilization rate: 48.08%
- Time spent on actual surgery: 37.91%
- Time spent on supportive services: 10.17%
- Scheduled Surgeries: 58.57%
- Unscheduled Surgeries: 41.13%
- Unscheduled Cardiac surgeries: 16.85%
- Unscheduled other surgeries except cardiac surgeries: 16.85%
- Average difference between scheduled wheel-in time and actual wheel-in time: 16mins
- Average delay between scheduled wheel-in time and actual wheel-in time: 46mins
- Average time between two OTs: 39mins
- Average duration stayed in OT lobby before getting wheeled-in/ duration stayed in preoperative area: 17mins.

DISCUSSIONS

- Various studies in India and around the world have cited the OT utilization rates for various hospitals to be ranging between 70% to 87% and the average utilization rate being around 80% but the findings in my study show a OT utilization rate of 48.08% (as seen in Fig 5) which is quite low as compared to the industry average.
- The average percentage of time spent on surgery was observed to be 37.91% and percentage of time spent on supportive services was found to be 10.17% however as per the data found on various other studies shows time spent on surgery to be around 60% to 70% and the other percentage appears to be in ideal range.
- The average difference from Scheduled time of surgery to the actual wheel-In time (as seen in Fig 1) was found to be 16 mins which is quite impressive however around 44% surgeries most of which were scheduled for the morning usually started before time, calculating the difference if considering only the delays gave a average of 46 mins which is very high considering a delay of under 15mins in considered ideal by various industry experts.
- The average time between two OTs (as seen in Fig 7) also known as the room turnover time was found out to be 39mins which is within desirable range but a bit on the higher side as studies done in other hospitals show a range from 10mins to 66min and the ideal being around 25mins.

CONCLUSION

- From the observed study we can conclude that the OTs are highly underutilized and delays are quite significant. These can be attributed to the fact that :
 - Delay is often seen in shifting patient from the ward to OT.
 - Delay in getting clearance for surgery.
 - Delay in surgeons arrival.
 - High numbers of Unscheduled surgeries.

RECOMMENDATIONS

Dedicated GDA staff in wards readily available anytime for transport of patient to OT from wards on the right time thus reducing the delay.
 Improved and effective scheduling method to ensure that the OTs can be used interchangeably and (as seen in Fig 6) Idle time of OT 5-10 are almost double then their utilization rates and if possible manage all surgeries by using one less OT thus saving its resources. This would require in-depth study about the scheduling method, finding effective tools and combined effort with doctors.