# Project Report

# Dissertation Project on-

***"A study to improve the utilization of Operation Theatre in a specialty hospital"***

**Submitted By:**
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# Introduction

Operation theatre is the complex workshop in hospital which incurs huge cost. Operation theatre management requires the proper co-ordination between material and human resources.

Enhancing the efficiency is a challenging process due to the conflicting priorities among the stakeholders.

## AIM

"To evaluate the Operation Theatre utilization in Indowestern Brain and Spine Hospital, Jaipur."

## OBJECTIVE

1. To find out OT utilization rate at Indowestern Brain and Spine Hospital.

2. To identify the bottle necks in the system, for proper and efficient utilization of Operation Theatre

3. To suggest remedial measures for improving the Operation Theatre Utilization.

# METHODOLOGY:

**Study Site:**

- Indowestern Brain and Spine Hospital, Jaipur

**Study Period:**

- Feb 8th to April 30th 2016

**Study Population**:

- In patients including daycase Surgery.

**Study tool:**

- ✓**Interview** : OT staff ( Surgeon , Assistant Surgeon , Anesthetist, OT Incharge and Other OT Staff)
- ✓**Feedback :** Patients.

**Sample size:**

- All surgery cases in period between February to April 2016 were taken.

•**Study type:**

- Descriptive Study.

**Study Technique :**

- Observational study

## A ) Objective -To find out OT utilization rate at Indowestern Brain and Spine Hospital, Jaipur.

## Primary data:

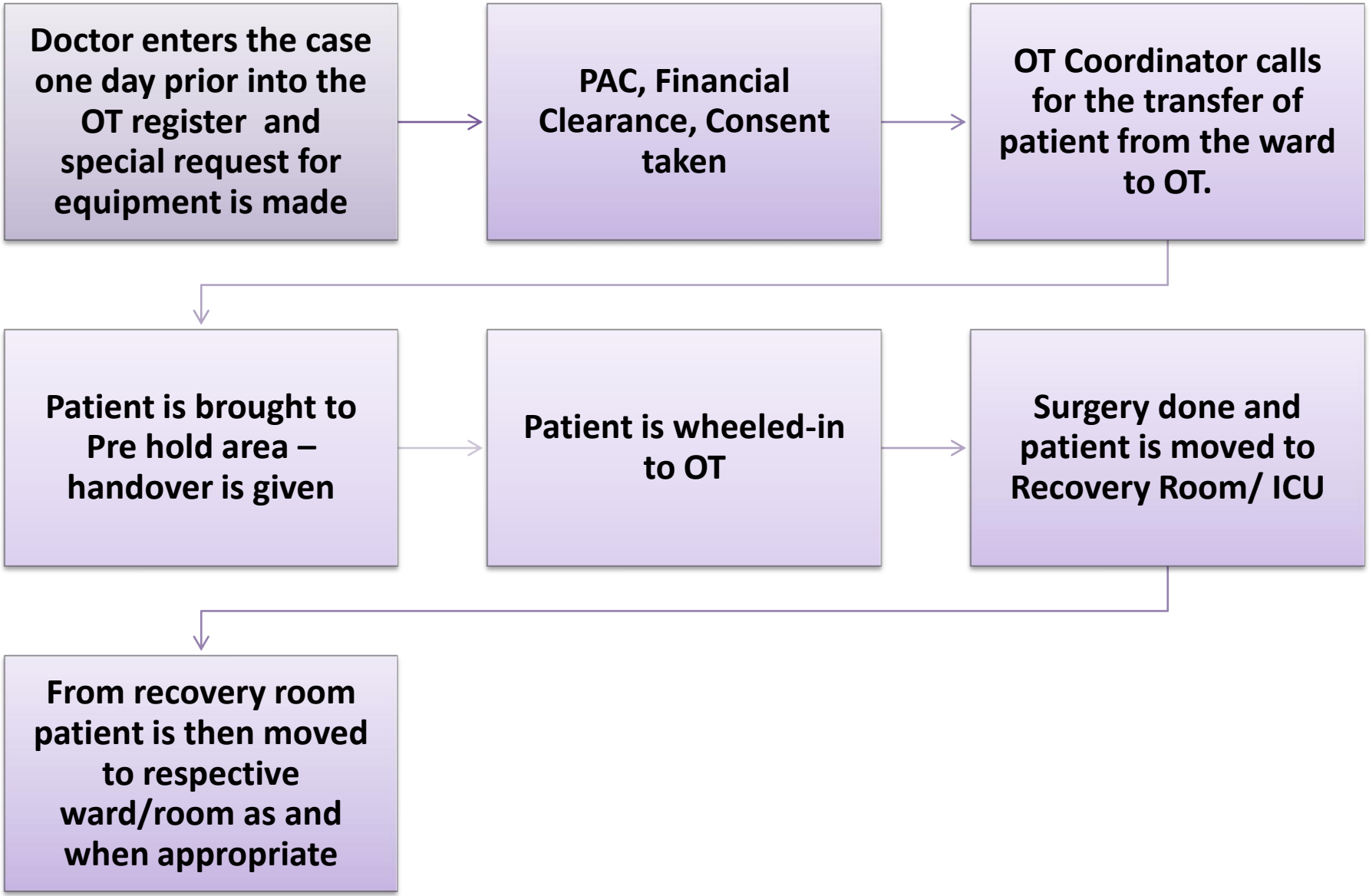
- Records and reports that were made on daily basis from the OT.
- Total data was collected from the OT for all the surgery performed during the period February to April.

| S.No | Patient name | TYPE OF CASE | TIME IN (1) | TIME OUT (2) | SURGERY TIME 3 (2-1) | CLEANING TIME (4) | TOTAL TIME (3+4) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Secondary data:

- Process mapping in which the total manpower available in operation theatre.

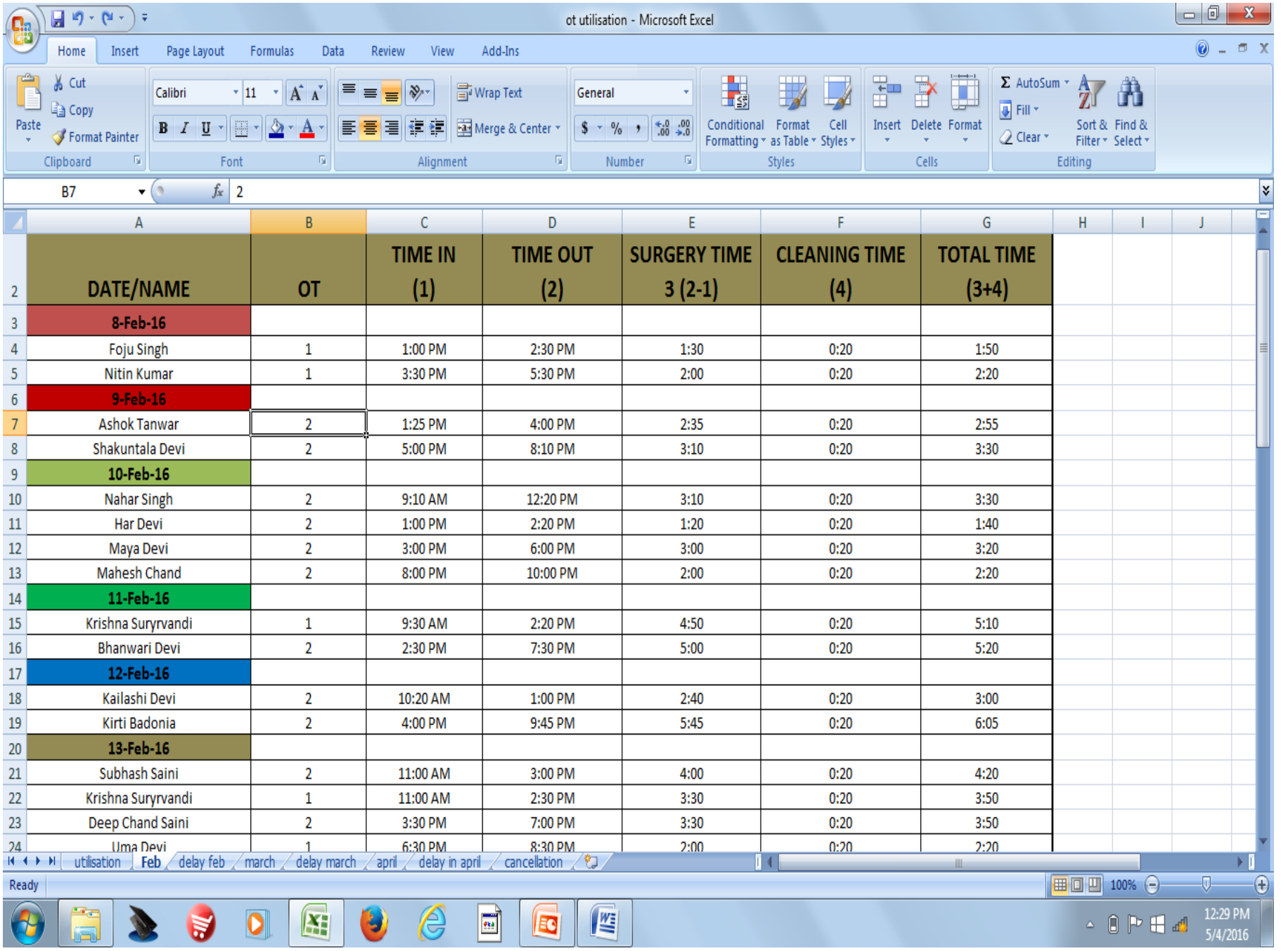
# PROCESS FLOW OF OT



# Analysis

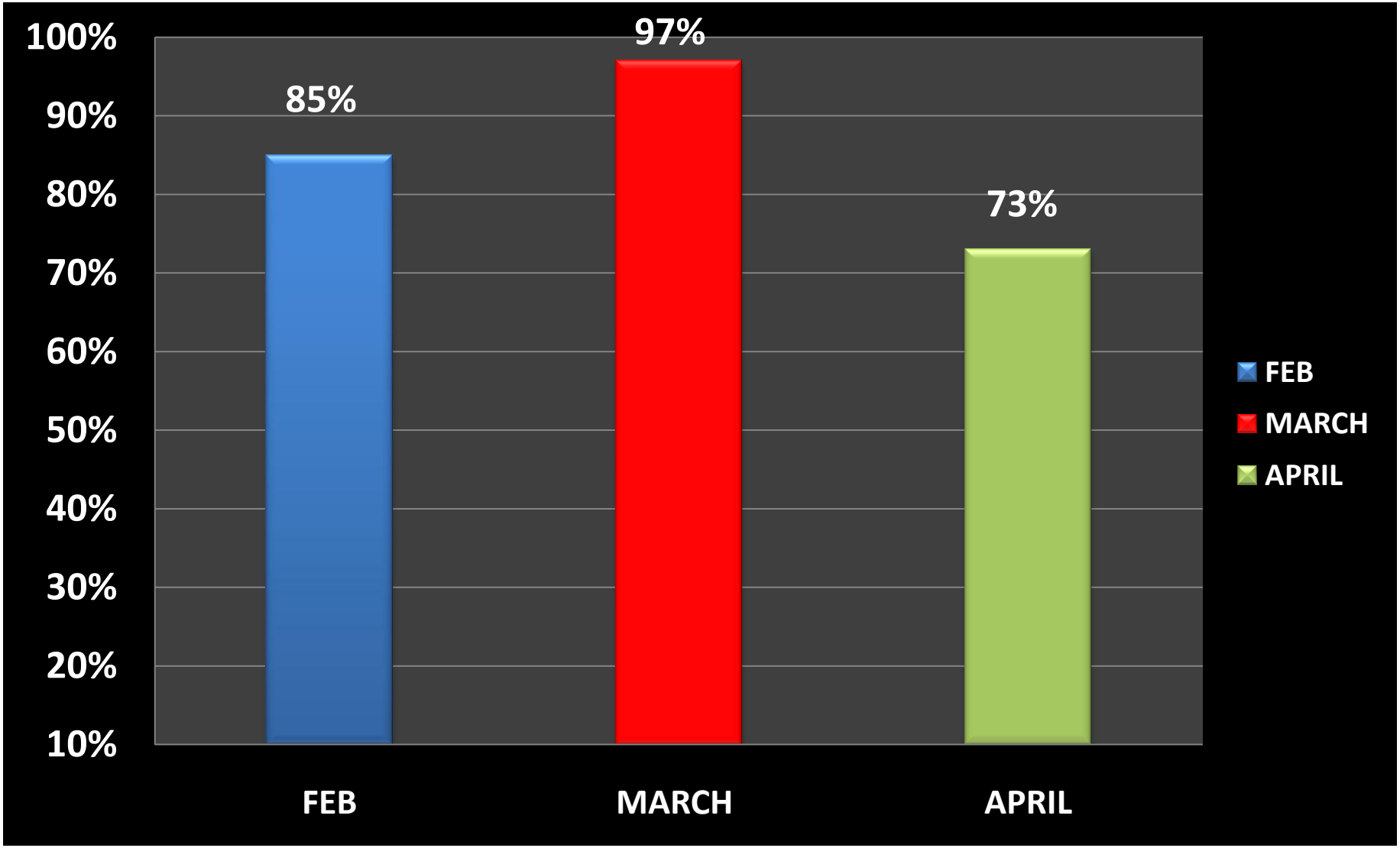
- **Objective 1-** Estimation of OT utilization:

$$\text{Utilization} = \frac{\text{Total time taken for surgery + Total time taken for cleaning(in hrs)}}{\text{Total hrs available for theatres}}$$




| DATE/NAME | OT | TIME IN (1) | TIME OUT (2) | SURGERY TIME 3 (2-1) | CLEANING TIME (4) | TOTAL TIME (3+4) |
|---|---|---|---|---|---|---|
| 8-Feb-16 | | | | | | |
| Foju Singh | 1 | 1:00 PM | 2:30 PM | 1:30 | 0:20 | 1:50 |
| Nitin Kumar | 1 | 3:30 PM | 5:30 PM | 2:00 | 0:20 | 2:20 |
| 9-Feb-16 | | | | | | |
| Ashok Tanwar | 2 | 1:25 PM | 4:00 PM | 2:35 | 0:20 | 2:55 |
| Shakuntala Devi | 2 | 5:00 PM | 8:10 PM | 3:10 | 0:20 | 3:30 |
| 10-Feb-16 | | | | | | |
| Nahar Singh | 2 | 9:10 AM | 12:20 PM | 3:10 | 0:20 | 3:30 |
| Har Devi | 2 | 1:00 PM | 2:20 PM | 1:20 | 0:20 | 1:40 |
| Maya Devi | 2 | 3:00 PM | 6:00 PM | 3:00 | 0:20 | 3:20 |
| Mahesh Chand | 2 | 8:00 PM | 10:00 PM | 2:00 | 0:20 | 2:20 |
| 11-Feb-16 | | | | | | |
| Krishna Suryrvandi | 1 | 9:30 AM | 2:20 PM | 4:50 | 0:20 | 5:10 |
| Bhanwari Devi | 2 | 2:30 PM | 7:30 PM | 5:00 | 0:20 | 5:20 |
| 12-Feb-16 | | | | | | |
| Kailashi Devi | 2 | 10:20 AM | 1:00 PM | 2:40 | 0:20 | 3:00 |
| Kirti Badonia | 2 | 4:00 PM | 9:45 PM | 5:45 | 0:20 | 6:05 |
| 13-Feb-16 | | | | | | |
| Subhash Saini | 2 | 11:00 AM | 3:00 PM | 4:00 | 0:20 | 4:20 |
| Krishna Suryrvandi | 1 | 11:00 AM | 2:30 PM | 3:30 | 0:20 | 3:50 |
| Deep Chand Saini | 2 | 3:30 PM | 7:00 PM | 3:30 | 0:20 | 3:50 |
| Uma Devi | 1 | 6:30 PM | 8:30 PM | 2:00 | 0:20 | 2:20 |

# Utilization of OT for the Month of February, March and April



## ➢**Reasons identified for underutilization of operation theatre**

•Lack of surgeons as well as Late arrival of surgeons due to multiple commitments.

•Single specialty hospital hence lower patient load

# Analysis

- **Objective 2-** Gaps identified for the under utilization of operation theatre.

1. **In OT booking**: Incomplete information
2. **In clearance**
   - Pre anesthetic check up
   - Financial clearance
3. **In Investigation**: Delay in reports
4. In taking the consent
5. In shifting of patient from ward to OT.

5. The OT is functional from 10am to 6pm due to the emergency cases, any elective case in between the OT hours has to be postponed or rescheduled. As there is lack of surgeons, due to which elective cases are delayed.

6. **Infrastructural limitation**

- As there are only 36 operational beds in the hospital thus due to which OT cases are delayed as the bed is not vacant.

# Reasons for under utilization of OT

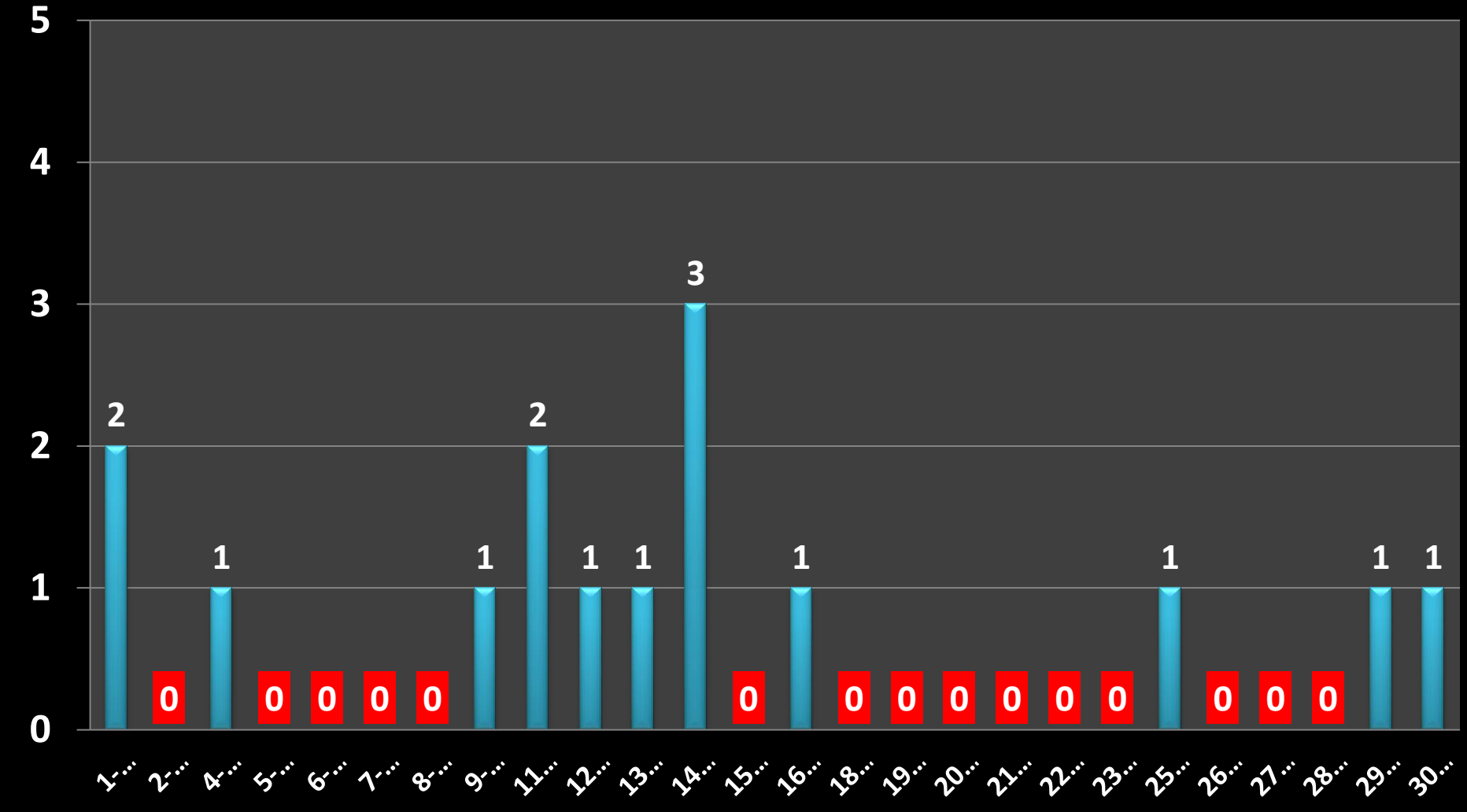
## ➢ Cancellation of cases

- Delay in PAC clearance for fitness for surgery example cardiac clearance, optimal diabetic control, electrolyte imbalance.

## ➢ Postponement of cases

- TPA / insurance approval pending
- Investigation reports pending
- Special Implant was not available.
- Due to emergency patients.
- Non availability of blood group.
- Non availability of ICU bed.

# NUMBER OF CASES POSTPONED FOR THE MONTH OF APRIL




Out of total 74 cases around 20% cases were cancelled in the month of April

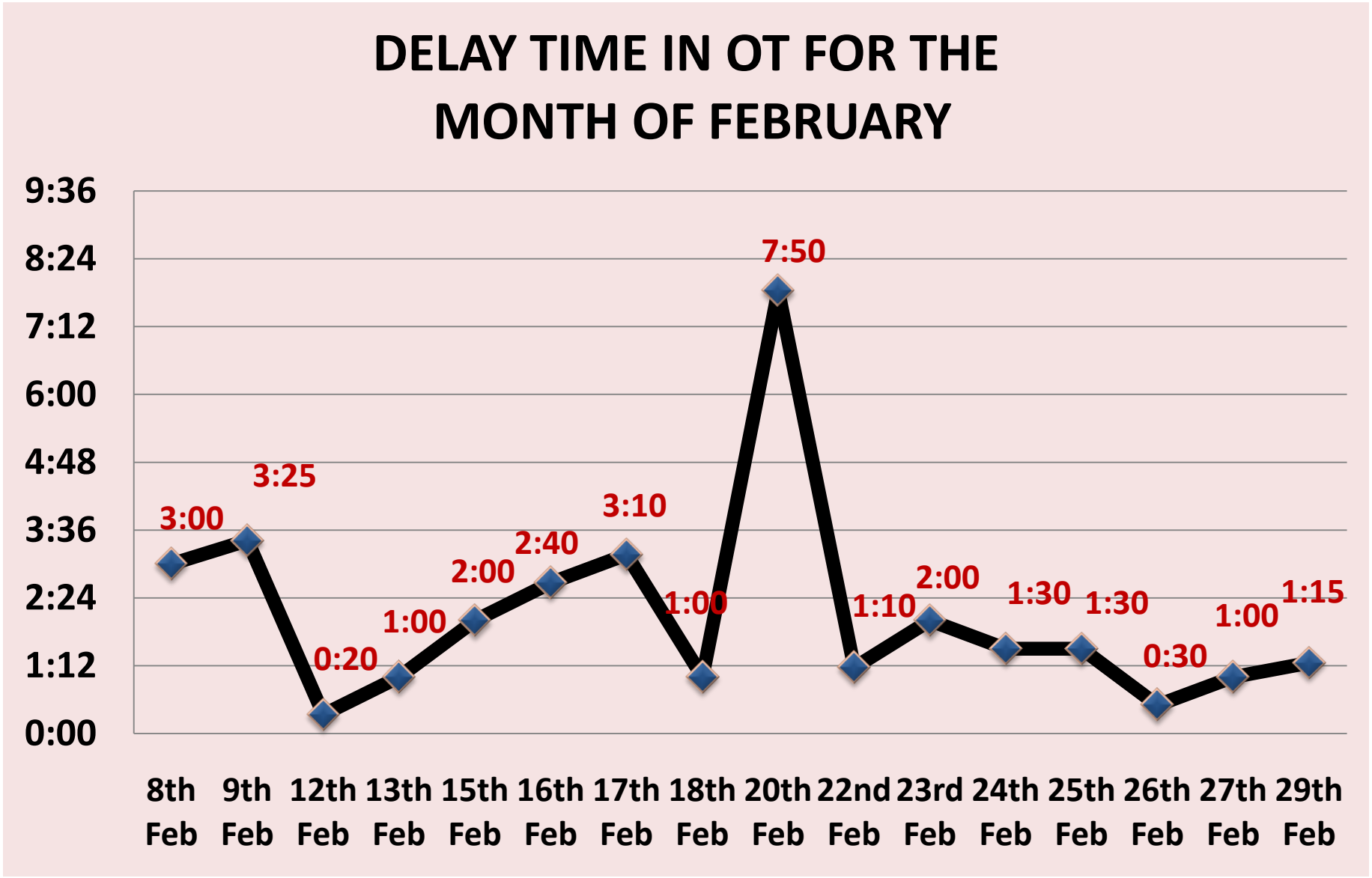
## ➢ Delay of Scheduled cases.

- Patient late admission/delay in arrival of patient.
- TPA clearance
- Same day scheduling
- Surgeon coming late for OT.
- Non availability of blood group.
- Non availability of ICU bed.

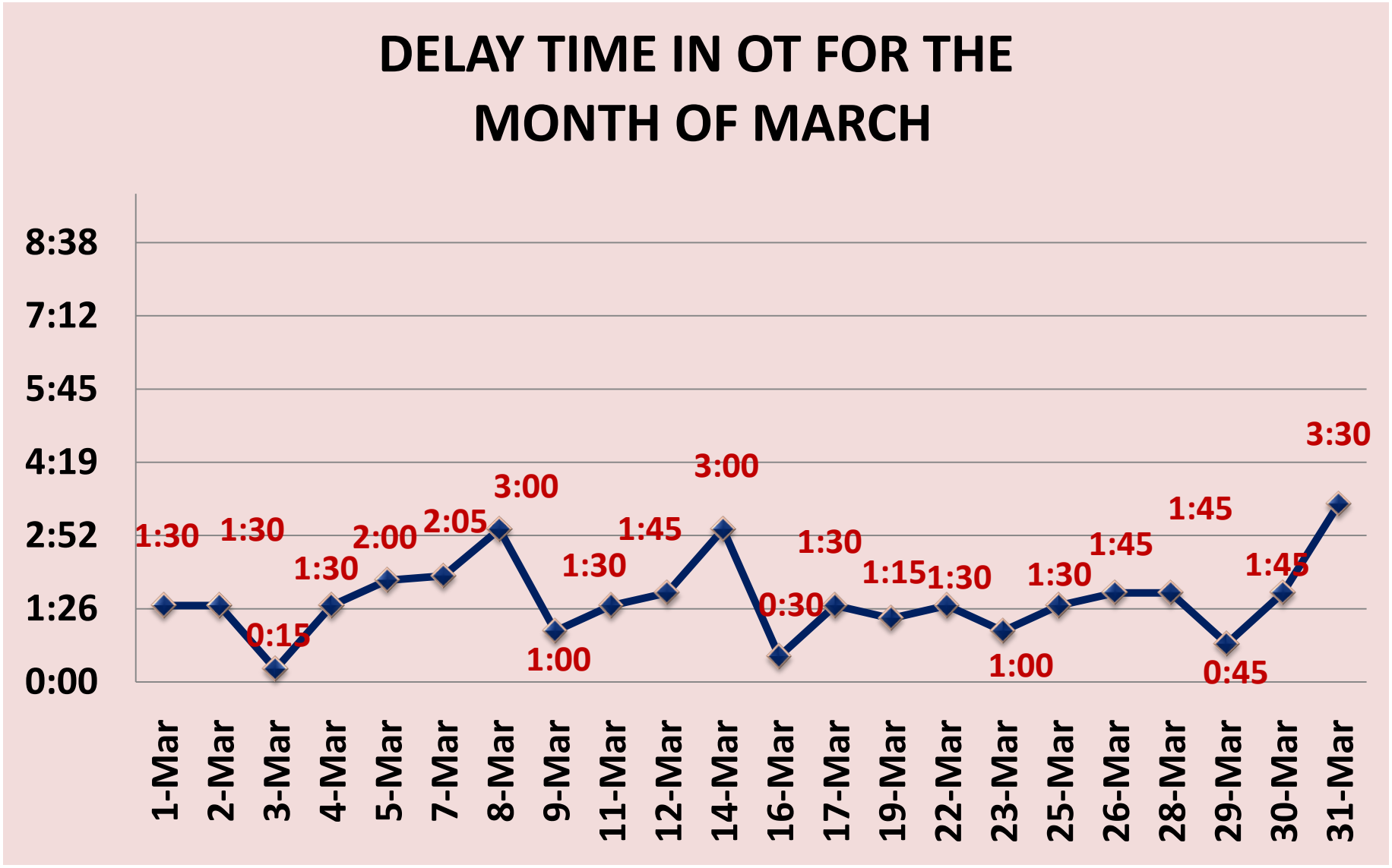
## ➢ Late start of OT for the day

- Due to overlapping of OPD timing that is 11:00 am to 1:00 pm.

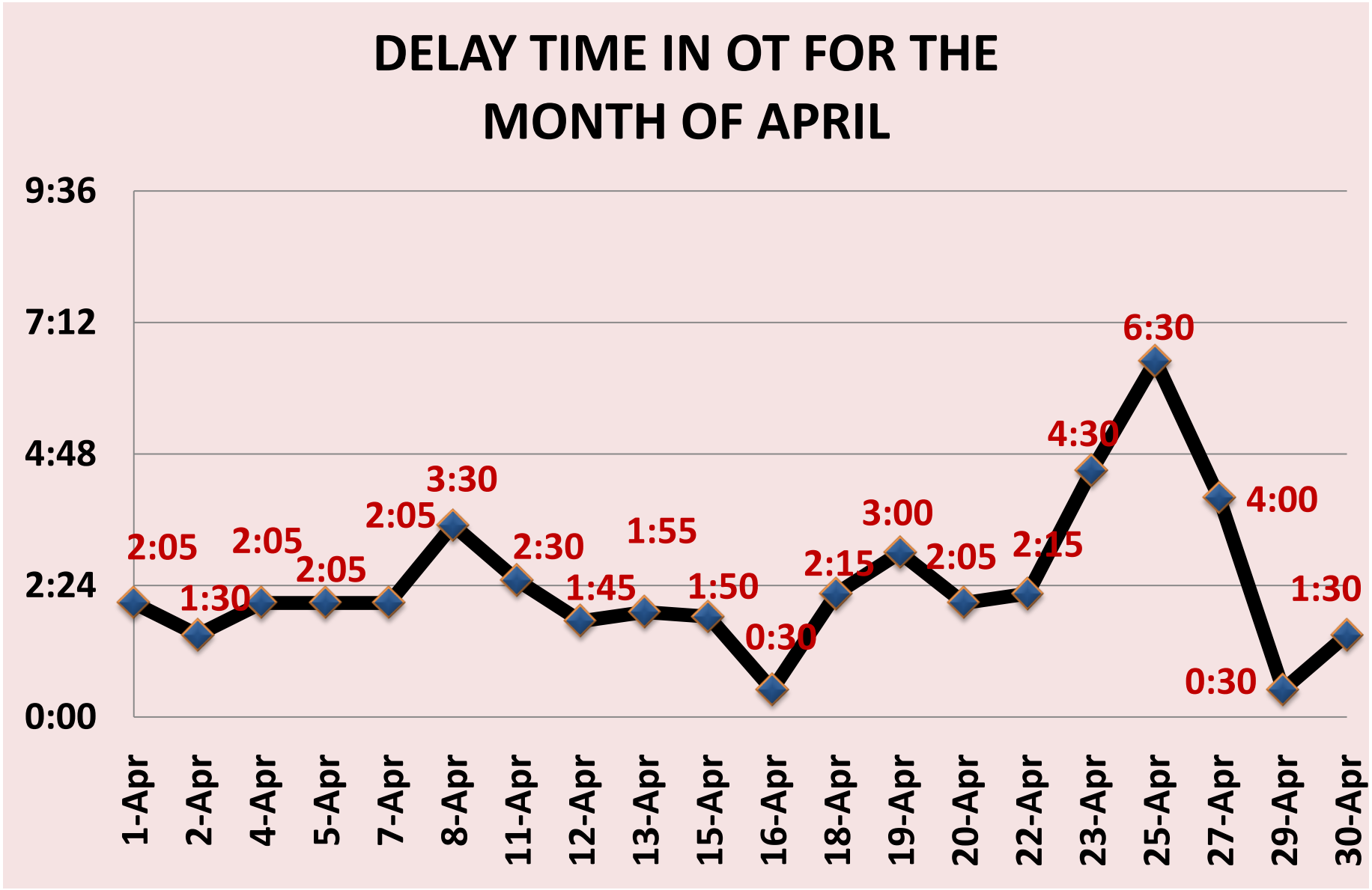
# LATE START OF OT FOR THE MONTH OF FEBRUARY



# LATE START OF OT FOR THE MONTH OF MARCH



# LATE START OF OT FOR THE MONTH OF APRIL



# Conclusion

- OT utilization rate was found to be 84.86% in month of February , 97.22% in month of March and 73.55% in the month of April.
- On an average there was two hour delay in start of OT.
- Proper scheduling of the cases was not there.
- OT was booked before getting all the clearance.
- Blood bank should be there within the hospital premises to avoid the delay.

# Recommendations

Remedial measures for improving the OT utilization

- OT should be booked one day prior to surgery till 6:00PM only.
- OT booking should be done after getting the TPA approval only.
- PAC should be done one day prior to the surgery and Ideally PAC process should be smother and less time consuming.
- Increase the number of surgeons to avoid the delay.

# Limitations of the study

- From the patients end:
  - Late arrival of patient despite patient education and counseling.
  - Non submission of documents on time leading to late approval.

# THANK YOU