



**Assessing admission time and shifting time of the Inpatient admissions at  
Narayana multi-speciality hospital Jaipur**

BY-SULTAN MAGDUM(HOM-26-1422)

GUIDED BY MS. NEETU PUROHIT

# INTRODUCTION

- ▶ An IPD is a part of a healthcare facility or hospital where patients are admitted for over 24 hours. An IPD of the hospital is generally outfitted with beds, medical equipment, and 24×7 availability of doctors and nurses. A patient is either referred from the emergency, OPD or a physician or specialist for further medical procedure
- ▶ Before taking treatment from the hospital, the patient has to go through a process called “ Admissions formalities” which is taking much time as expected by the hospital management
- ▶ The study was done to know about the TAT and the reasons of the delay because as the time for formalities increases it also increases the level of patient frustrations which may lead to decrease in the satisfaction for the services and ultimately their trust towards the hospital

# Literature review

| Year | Article title                                                                                                                                                   | Author name                                 | Sample size                                             | Sampling technique                                                   | Conclusion                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017 | “The long wait for Health in India”-A study of waiting time for patients in a tertiary care hospital in Western India                                           | Sailee Bhambere                             | 41 patients in the emergency department of the hospital | cross sectional observational study using a non-probability sampling | The author suggested basic changes to develop an efficient patient flow system. A separate admission counter for the emergency wards and increased number of healthcare staff is recommended |
| 2014 | Arrival time pattern and waiting time distribution of patients in the emergency inpatient department of a tertiary level health care institution of North India | Yogesh Tiwari, Sonu Goel and Amarjeet Singh | 591 patients were studied for the duration of 3 months  | short term cross sectional descriptive study                         | The primary waiting area for the patients includes patients under observations, waiting for their routine diagnostics or waiting for the discharge approval.                                 |

# Research question



What is the average turnaround time (TAT) of patients in the admission?



What are the factors which causes delay in the admission process?

# Objectives



To analyse the time taken for IPD admission and Shifting of the patients to their respective ward



To determine the bottlenecks in the process



To suggest various methods by which the waiting time for the patients could be reduced

# Methodology

|                         |                                                                                                                                                                  |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Study Setting           | IPD Admission Desk at Narayana Multi-speciality hospital                                                                                                         |
| Study Design            | A descriptive cross sectional was used use to analyse the barriers and bottlenecks in the process of the admission of the patient at the IPD desk.               |
| Type of data            | Primary data was collected from the patients who came to the hospital for their admission.                                                                       |
| Data collection method  | Data was collected by observing patients who came for their admissions at the in-patient department desk ad it was done by using a “time motion study            |
| Sample selection        | <b>Inclusion criteria:-</b> Admissions done through EMR and offline<br><b>Exclusion criteria :-</b> The patients who came only for investigation purpose only.   |
| Data Analysis Procedure | Observation of the admission process, time motion study and MS excel                                                                                             |
| Sampling size           | 300 IPD patient admissions were taken which constitutes the 30 % of the total admissions done by the hospital in 3 months duration (approximately 1000 patients) |
| Sampling technique      | Non-Probability convenience sampling technique                                                                                                                   |

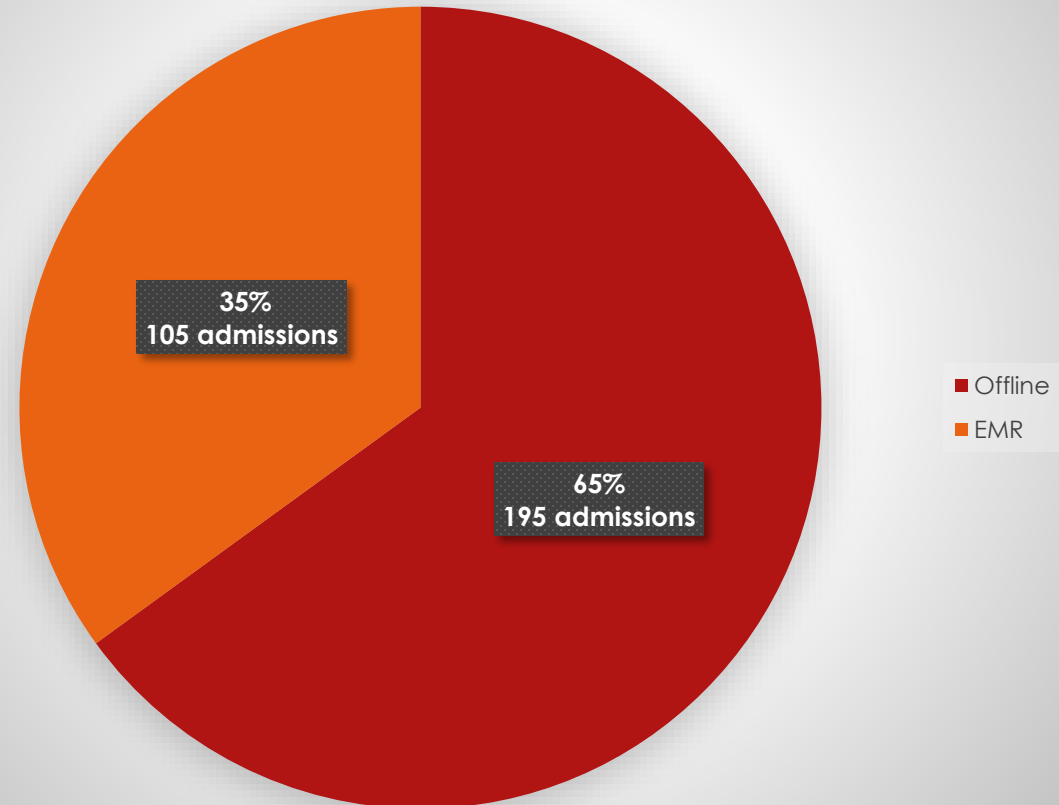
# Analysis and interpretations

## 1) Analysis of the admissions and shifting time of the IPD patients

Out of 300 patients 105 patients have been admitted into the Hospital through EMR (Electronic health records) process Where the doctor has put up the request in the HMIS for patient's admission whereas 195 admissions were done through offline process where the patients have the admission order and then they come to the IPD for their admission.

According to the analysis 35% of the admissions were done through EMR whereas 65% of the admissions were done through offline process

IPD Admissions for EMR and offline for  
n=300

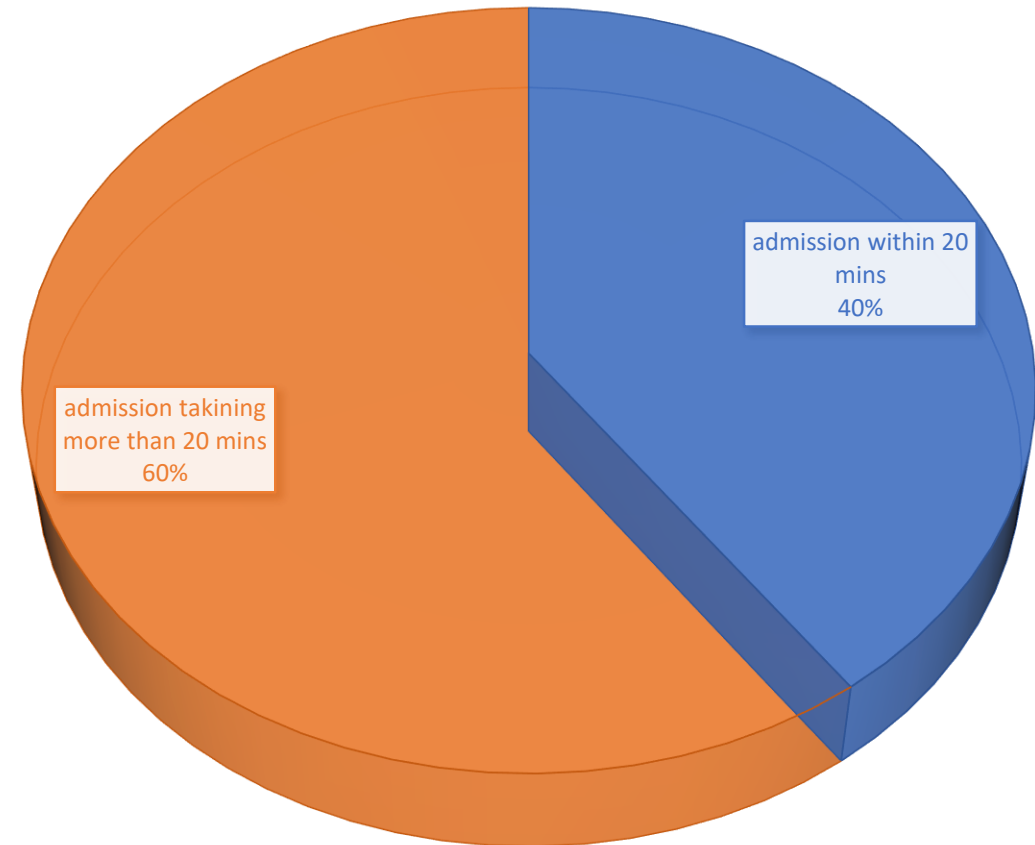


## Overview of the admission rate according to the SOP

After careful observation of the admissions process, further analysis was done on how much time is required to do the admission process of the patient till the time it requires the patient to shift to the designated ward. And it was found out that according to the hospital SOP it was around 20 minutes

The pie diagram shows that only 40% of the admission were under optimal time. The main issue was to understand the cause of increase in the TAT for the remaining 60% of the cases

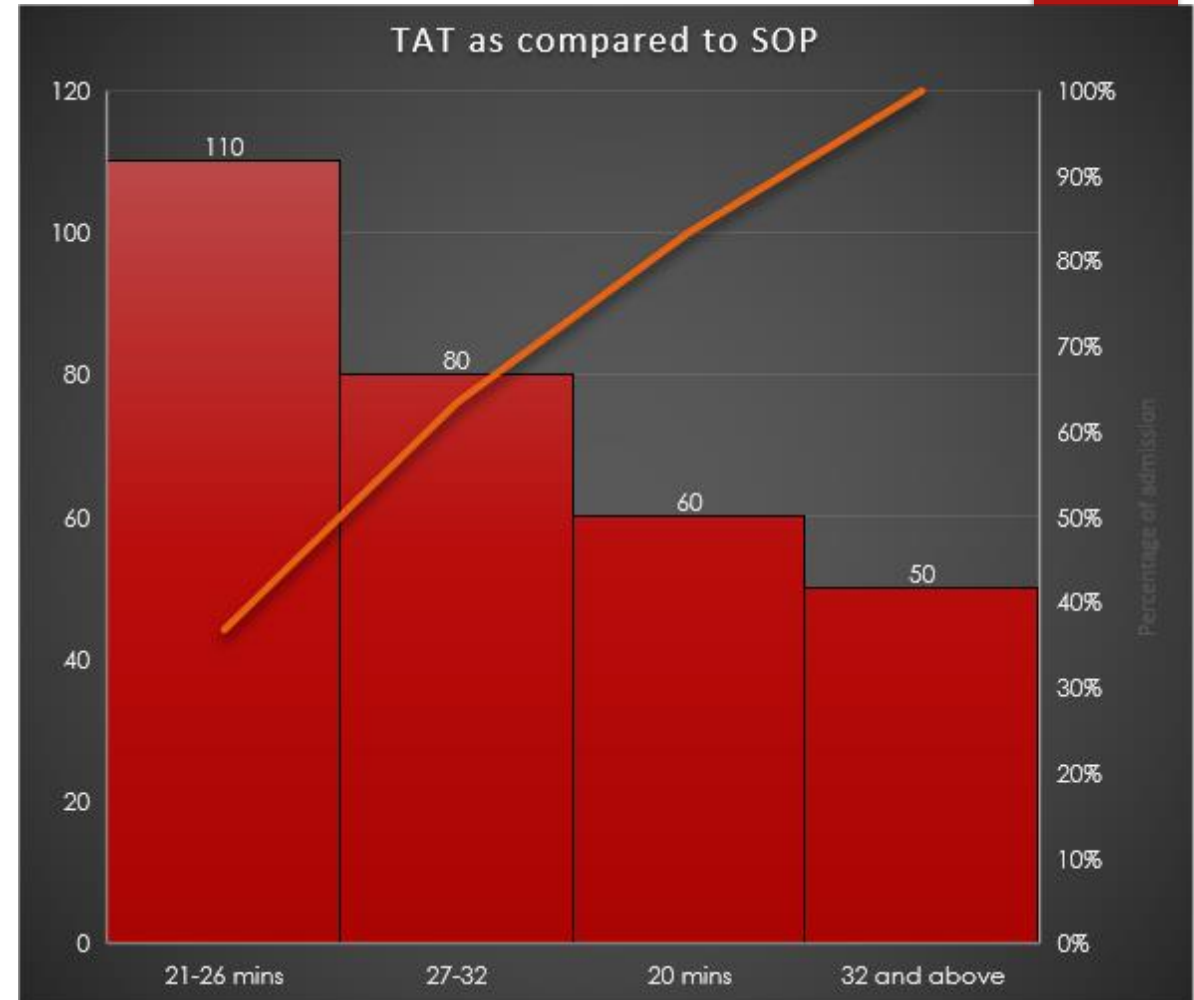
ADMISSION AS PER SOP



## Further analysis was done to identify the time duration of the admissions

The above-mentioned chart shows that around 90 percent of the admissions took around 21 to 26 minutes to fully complete the admission process along with shifting of the patients to their designated ward.

And from the graph it is observe that only 60 patient's admissions were according to SOP timing which was under 20 minutes.



## Step by step analysis of each activity by using time motion study

The admission process of the patients within the hospital has a holistic process and consists of step-by-step activity. And each activity is depended on the previous activity to complete the admission process..

This average TAT has been calculated by observing and continuous time motion study for the admissions of the 300 patients

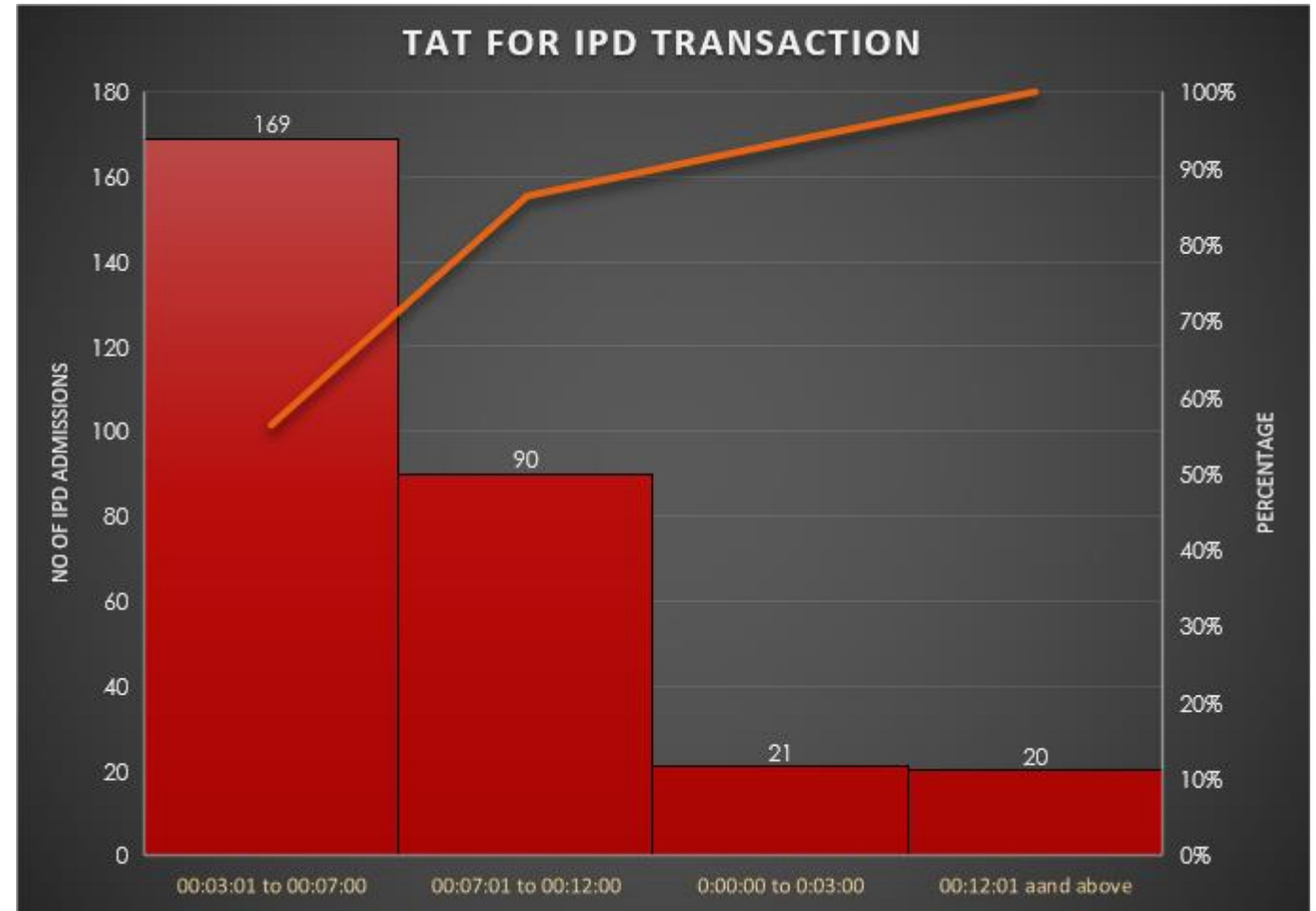
After detail analysis of the total activity TAT (14.5 mins) and the overall TAT was (30.5 mins). It was analysed that on an average 16 minutes were taken more by the admission desk to complete the admission of the patient in the hospital and along with that it increased the waiting time of the patient

| Activity                                    | Time taken (HH.MM.SS) |
|---------------------------------------------|-----------------------|
| Filling out financial Counselling form      | 00.02.00              |
| Explaining of the details                   | 00.01.30              |
| Signing of the consent form                 | 00.00.30              |
| Co-ordination with the bed management       | 00.01.00              |
| Entering the details in the HMIS            | 00.01.30              |
| Printing of the labels and Admission sheets | 00.00.30              |
| Completion of the admission documents       | 00.01.00              |
| Initial Payment by the patient              | 00.01.30              |
| Escort to the ward                          | 00.05.00              |
| Avg TAT                                     | 14.5 minutes          |
| Avg actual Total TAT                        | 30.5 mins             |

## TAT Calculation for IPD Transactions

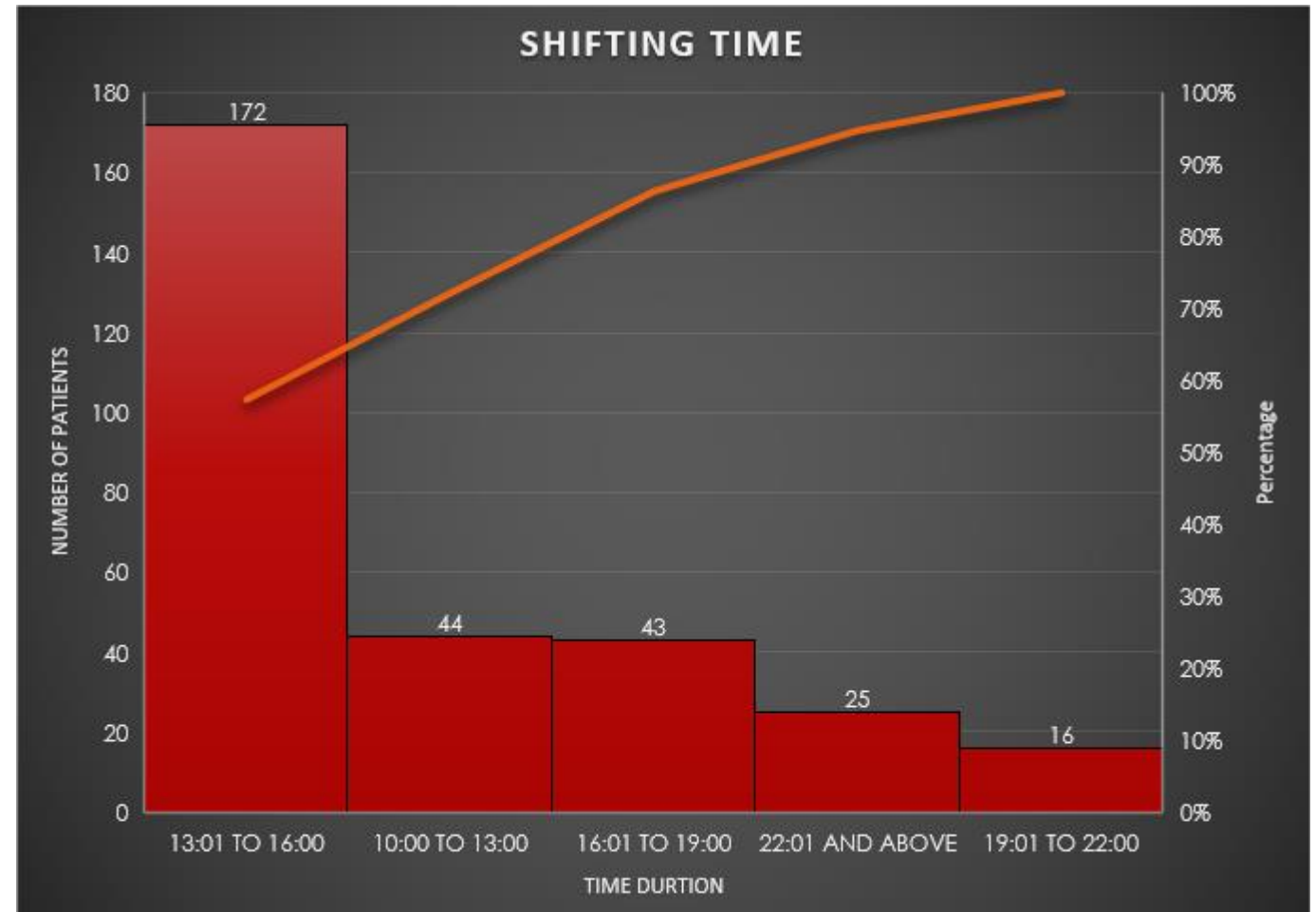
From the analysis of the Pareto Chart, it is seen that 60 percent of the IPD Transaction took approximately 3 to 7 minutes to complete the in-patient admission formalities. Followed by it took around 7 to 12 minutes to complete the transactions and documentation for 90 patients.

Lastly for few patients it took more than 12 minutes to complete the IPD admission process.



## TAT Calculation for Shifting time

According to the Pareto chart 92 % of the patient were shifted to their respective ward within the time range of 13 to 16 minutes. Followed by 44 and 43 patients were shifted between 10 to 19 minutes

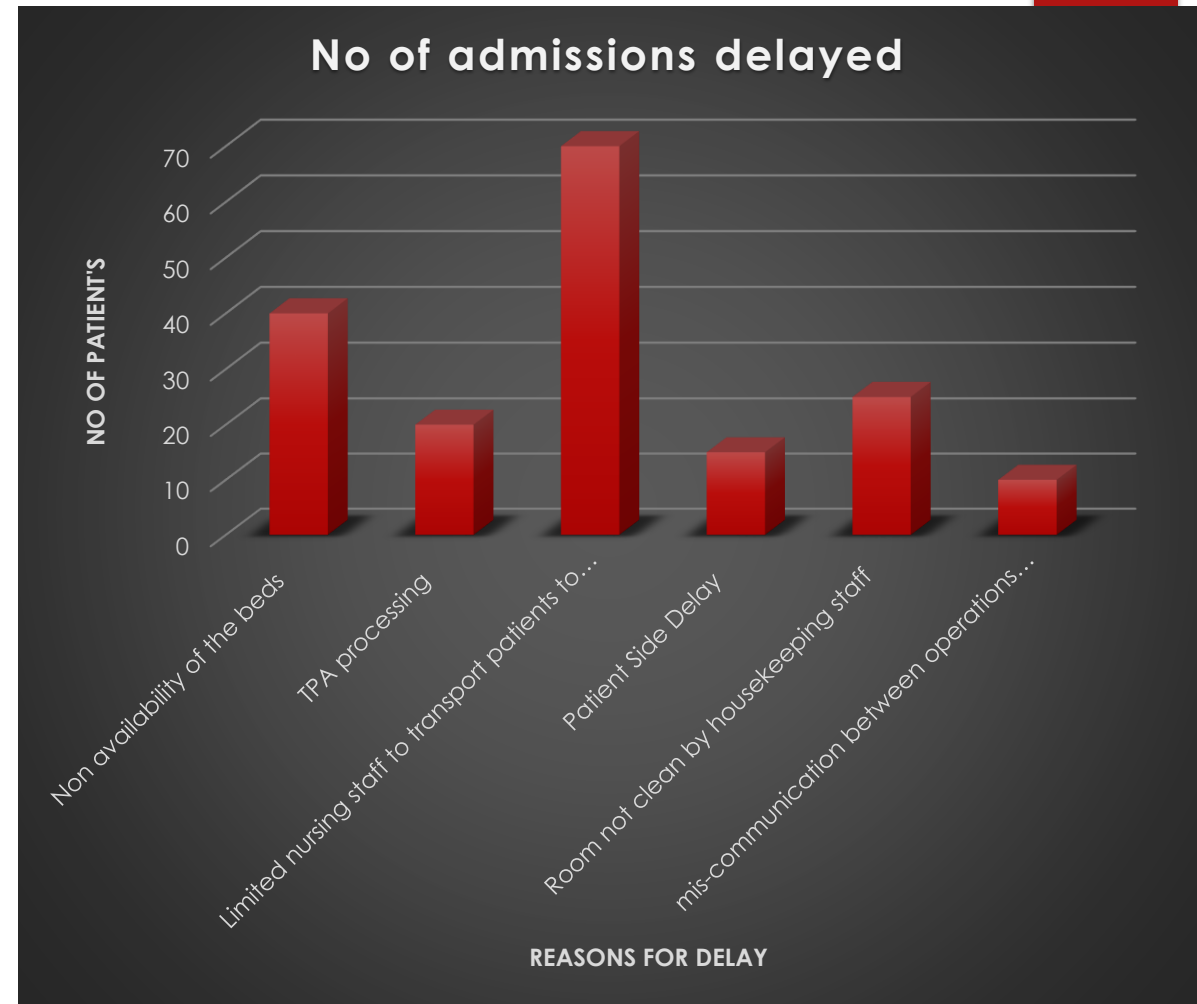


## 2) Determination of the bottlenecks that have caused delay in the admissions and shifting of the patients

As per the result out of 300 patients for admissions, 180 patients. the admissions of the patients were delayed due to various reasons.

According to the data collected 60% patient's admissions was delayed

Maximum delay has been caused due to the limited nursing staff which around for 70 patients with was around 40 % followed by non-availability of the bed which was around 25% Further reasons and frequency are well described by the graph



## Time duration for each delay reasons for IP admissions

Average time was determined for each of reason of delay that occur, and this was done to determine the reason and frequency of the delay in the admissions of the patients in the hospital.

On as average 1 patient waited for almost 10.5 minutes which creates an issue for the patients who require immediate treatment and because of that the treatment was also delayed

| Reasons of the delay                                                              | Average time for delay |
|-----------------------------------------------------------------------------------|------------------------|
| Limited nursing staff                                                             | 17 minutes             |
| Non availability of the beds                                                      | 15 minutes             |
| Room not cleaned by housekeeping staff                                            | 10 minutes             |
| TPA Processing                                                                    | 8 minutes              |
| Patient side delay                                                                | 8 minutes              |
| Miscommunication between patient side and operations executive during counselling | 5 minutes              |

# 3) Suggestions to improve the waiting time for patients

## Increase the number of nursing staff in the In-patient department.

- It would be more convenient for the hospital to have at least 3-4 nursing staff available at the IPD desk so as this will reduce the workload on the previous existing one nursing staff

## Strict protocols and monitoring on the Housekeeping Staff

- proper training and guidance should be given to the nursing staffs on the importance of the cleanliness maintenance

## Unavailability of the beds

- The patient who got discharged and are in good condition but are waiting due to their approval from their insurance company or any non-health related issue. There could be some sort of arrangements like a discharge waiting rooms so that the patient can wait there so that the relative of the patient can sort out the discharge formalities and with this the room can be made available for the new patient to be admitted

# Suggestions Contd.

## Regular training and meeting with the HOD and IPD staffs

- There should be regular training of the operations executive who have recently joined the organizations and help them in building confidence so that they can easily communicate with the patients as well as attendant.

## ➤ Assistance regarding TPA inquiry.

- There should be an enquiry counter especially for the patients and the attendants for resolving their queries regarding the insurance and cashless process so as to reduce the hassle for the patients

# Conclusion

- ▶ After doing the in-detail analysis of the admission time and the shifting time of the IPD admissions of 300 patients, it was found out that the average TAT for a patient was around 30.5 minutes which was more than the hospital SOP which was around 20 minutes
- ▶ Several reasons was analyzed during the study which was directly or indirectly caused delay in the admission as well as shifting of the patients
- ▶ If the Hospital Implements the suggestions that were mentioned in the study then there is a high probability for the hospital to reduce the waiting time for the patients and which in turn will improve the satisfaction level of the patients and their attendants

# References

- ▶ Bhambere, S. (2017). The long wait for Health in India”-A study of waiting time for patients in a tertiary care hospital in... ResearchGate. <https://doi.org/10.6084/m9.figshare.14156534.v1>
- ▶ Arrival time pattern and waiting time distribution of patients in the emergency outpatient department of a tertiary level health care institution of North India - PubMed. (2014, July 1). PubMed. <https://doi.org/10.4103/0974-2700.136855>

