



PRESENTATION ON

**Determination of laboratory STAT Investigation turnaround time in Monilek
Hospital & Research Centre, Jaipur**

Guided by:

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Introduction

- **STAT:** It is a common medical abbreviation for urgent or rush derived from the Latin word statum, meaning ‘immediately.’
- Laboratory STAT TAT is defined as the time from collection of the specimen to the time the results are verified in the computer and the reports are given to the patient.
- TAT is often considered the most significant measure of a laboratory’s service and is used by many clinicians to judge its quality. Along with accuracy and reliability, timely reporting of laboratory test results is now considered an important aspect of the services provided by the clinical laboratory

Standard Turnaround Time

Defined TAT for STAT
investigation is: 30min.

Research Questions

- a) What is the actual turnaround time of the reports for the STAT Investigation?
- b) What are the possible reasons for delays, if any

Aim:

To evaluate the delay and reasons for delay in turnaround time (TAT) of STAT Investigations.

Objectives:

- To study the laboratory turnaround time.
- To evaluate delay of turnaround time.
- To find out reasons for delay in turnaround time.
- To suggest measures to reduce turnaround time, if possible.

METHODOLOGY

Study type: Cross sectional and observational study.

Study Area: Laboratory, Monilek Hospital & Research Centre.

Duration of study: 1 February 2018 to 4 May 2018

Sample size: 100% (383) sample size of STAT investigations except the exclusions.

Inclusion criteria

- All the samples from OPD, IPD and Emergency of stat investigations.

Exclusion criteria

- Samples having abnormal results.
- Samples which are part of master health checkups.
- Oncology samples which are checked by pathologists.
- Samples collected after 5:00 pm.

Data Collection Methods

Data Collection

Primary data:

- Direct Observation
- Conversation with the Laboratory department staff

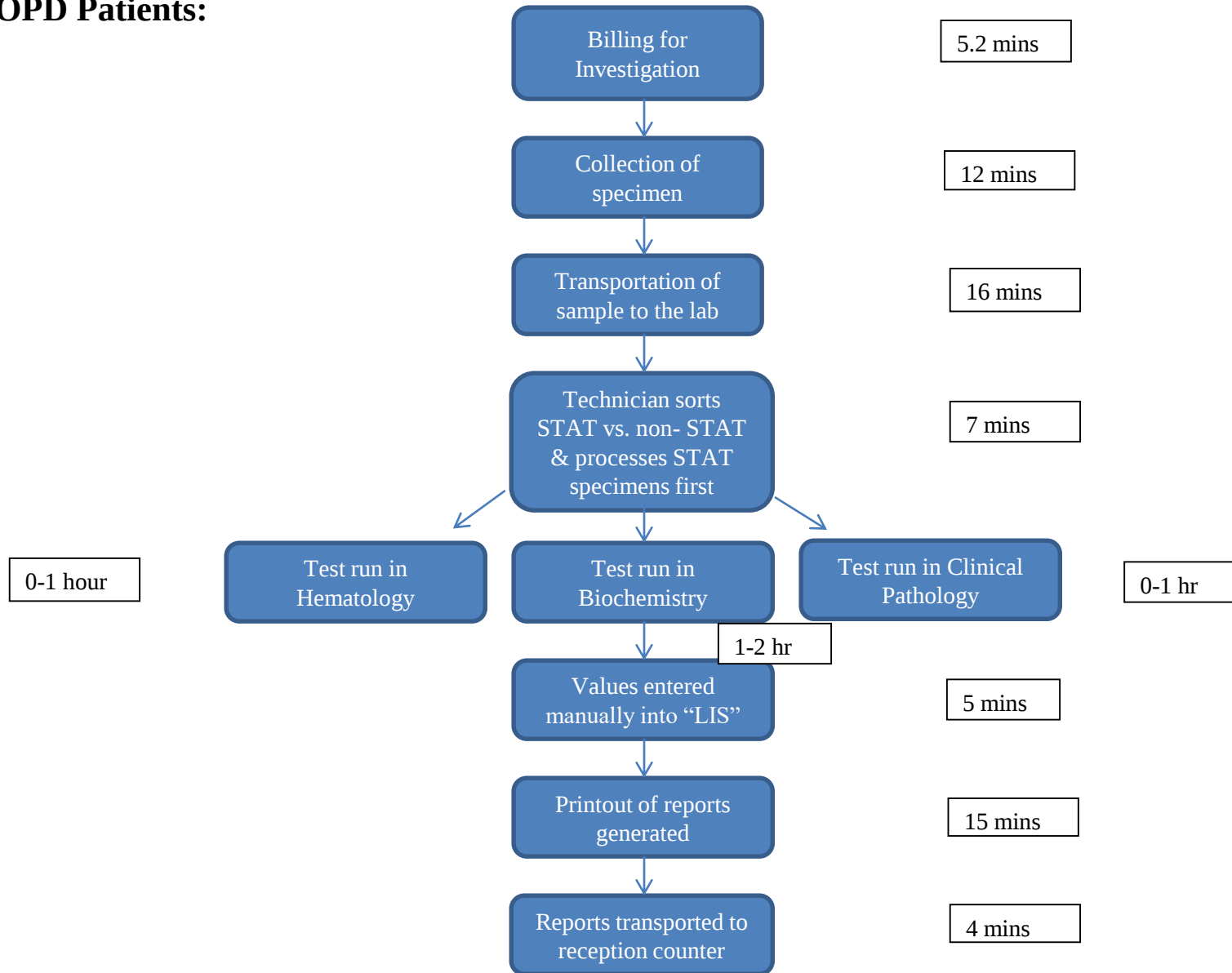
Secondary data:

- Laboratory information system
- Printed Reports of the Patients

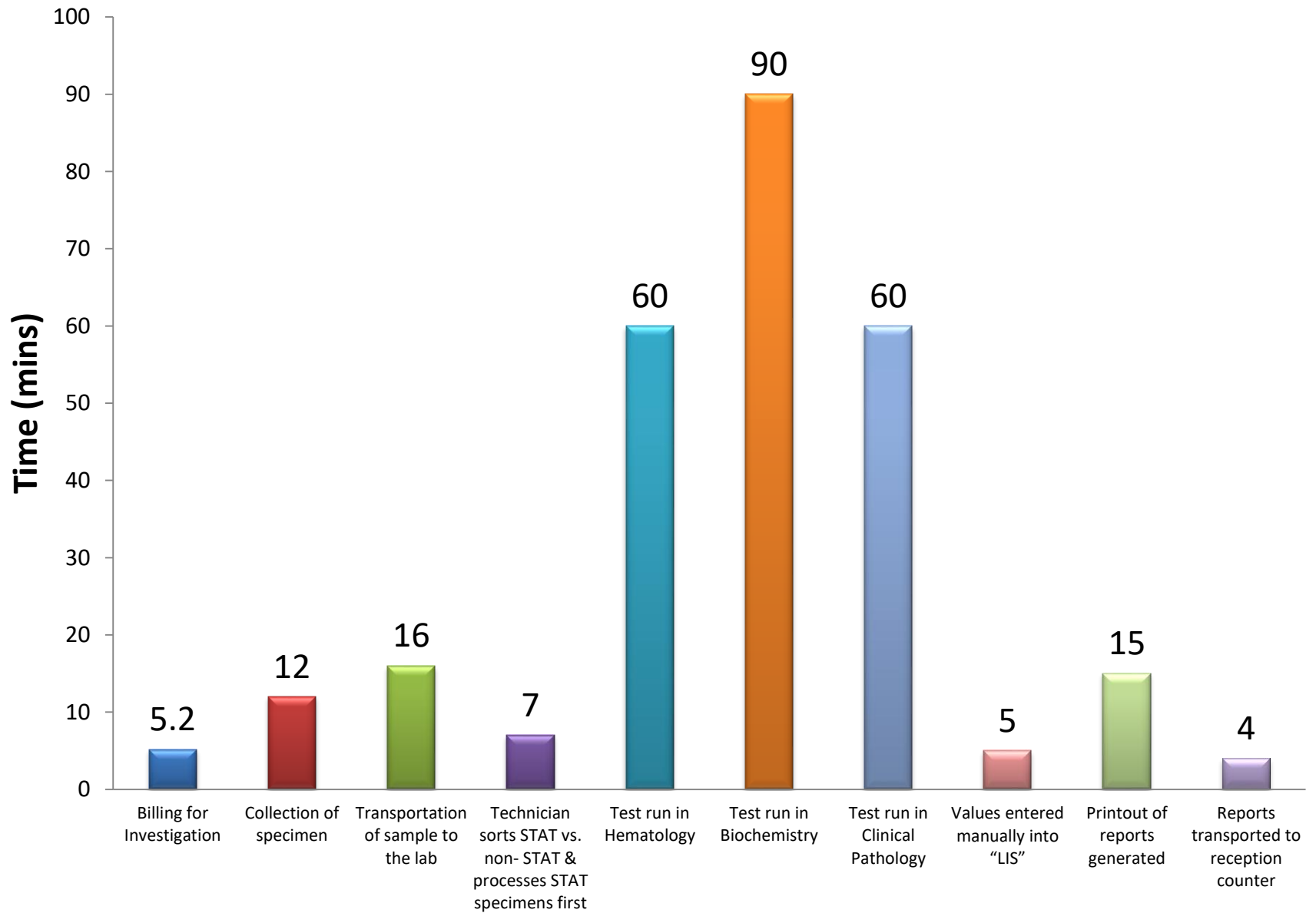
Data Analysis & Interpretation

1. Process flow showing average time taken for the steps is as follows:

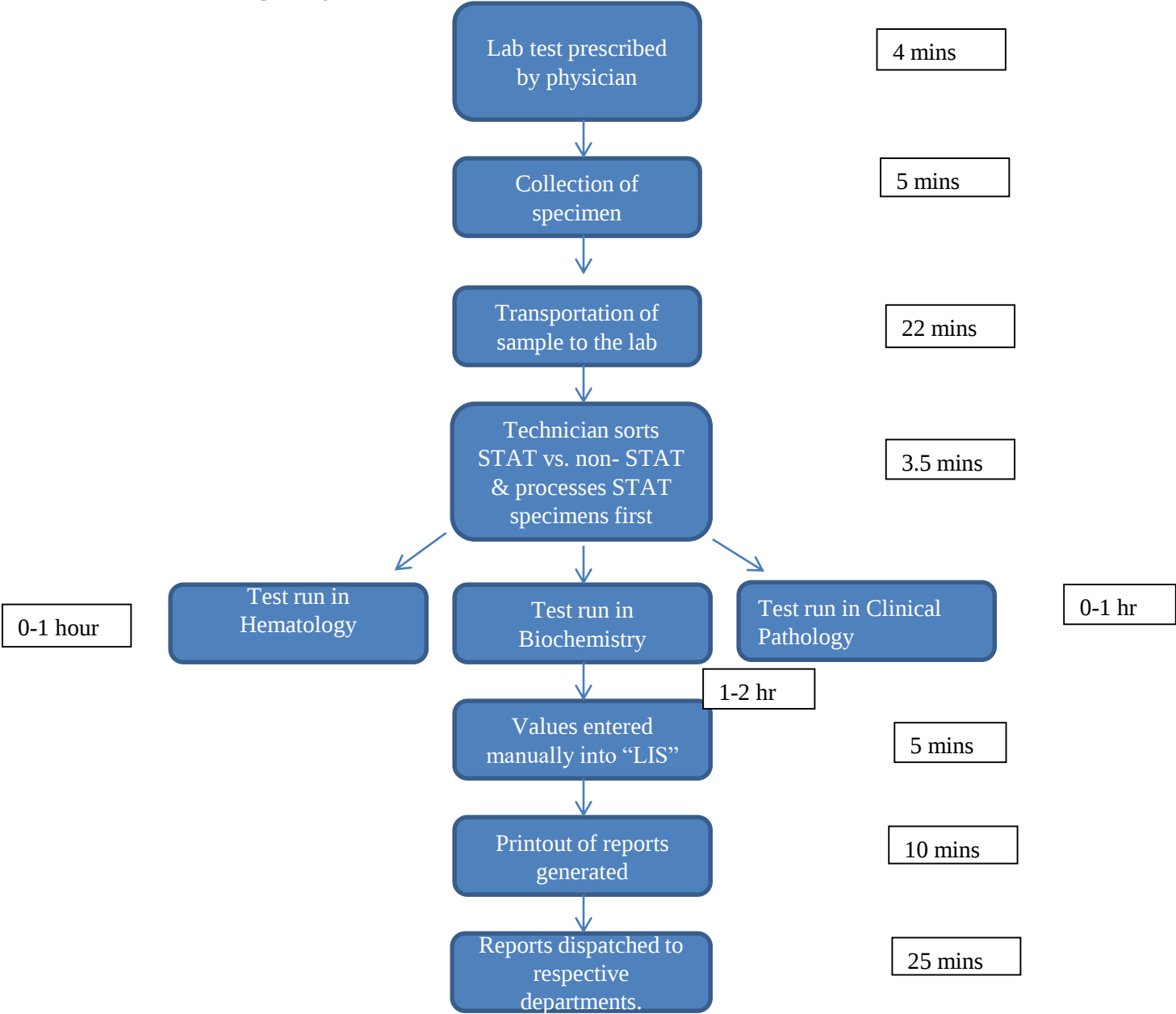
i) For OPD Patients:



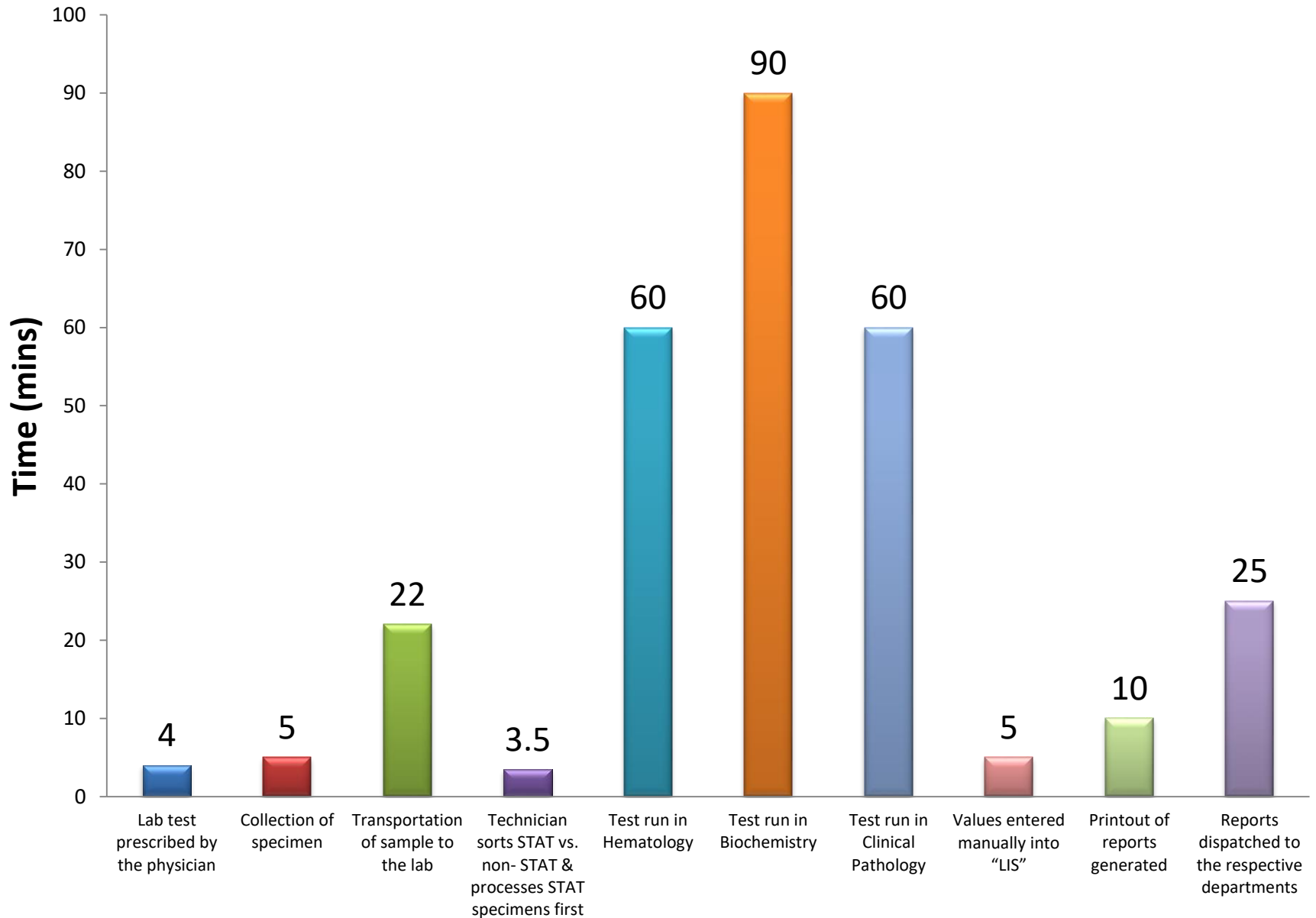
For OPD Patients



i) For IPD Patients & Emergency:

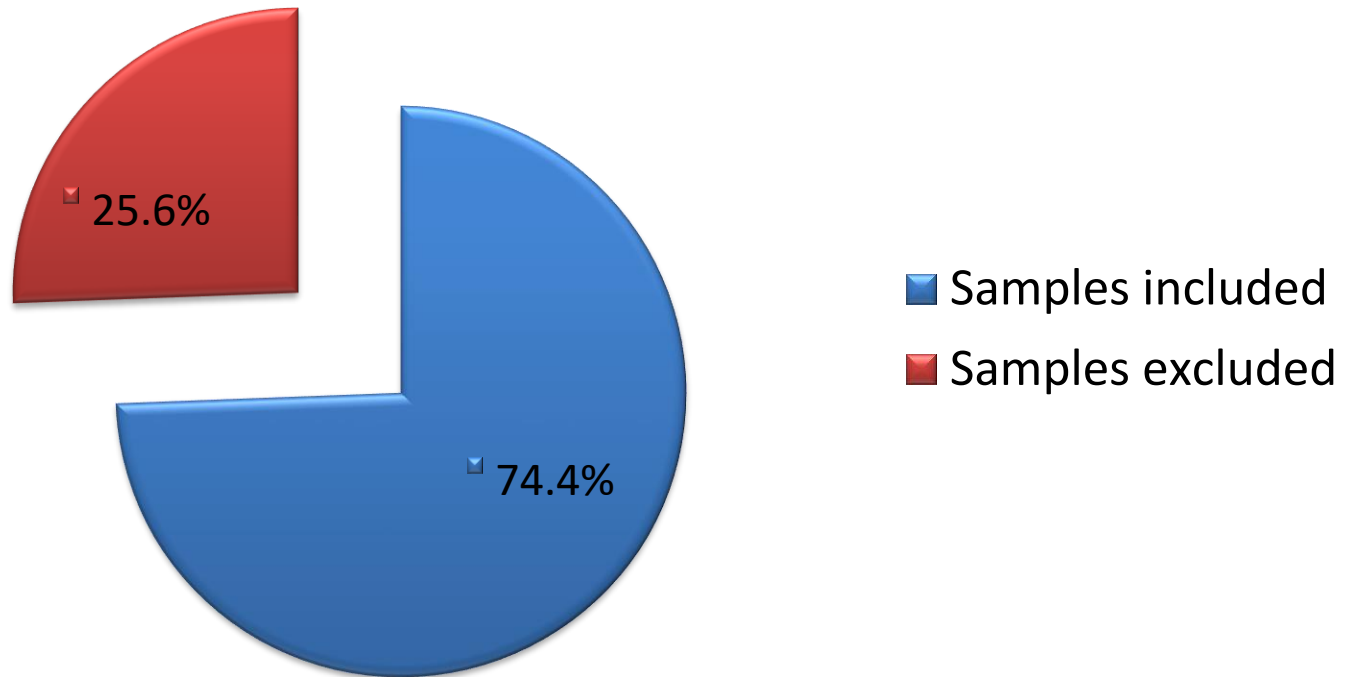


For IPD & Emergency Patients



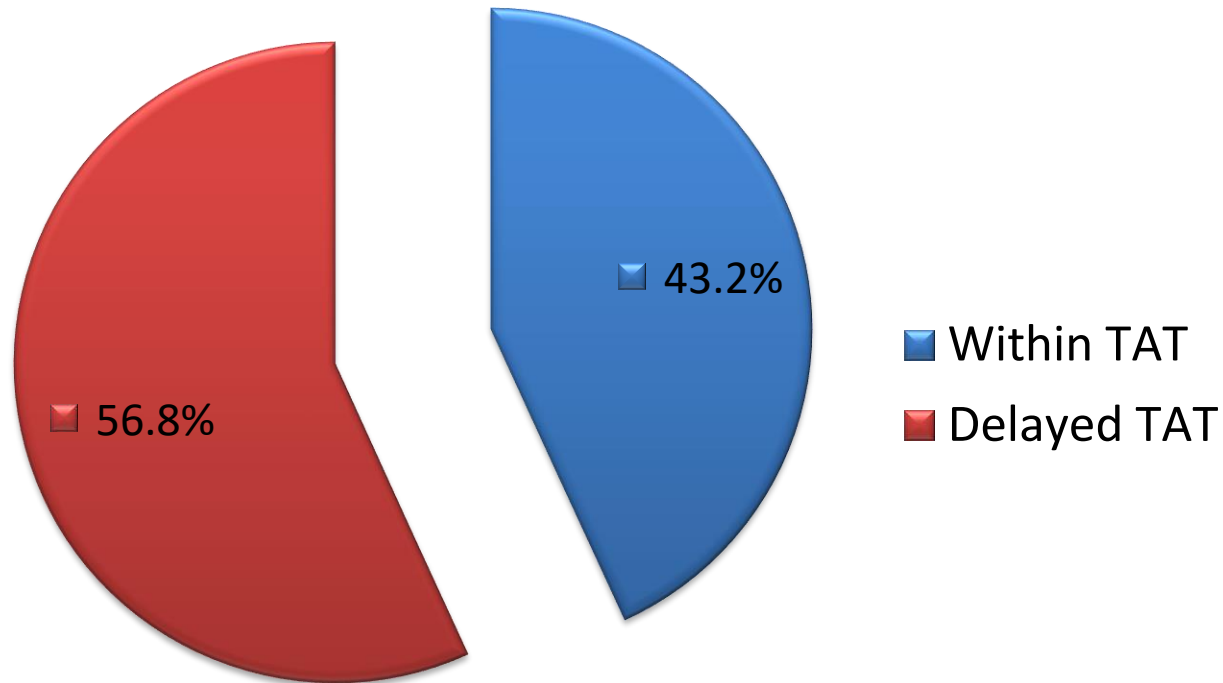
2. Observation of diagnostic samples

Total 383 diagnostic samples were observed. Out of 383, 285 samples (74.4%) were taken for analysis. Rest 98 samples (25.6%) were under exclusion criteria.



3. TAT for laboratory samples

Out of total 285 samples included for study, 123 (43.2%) samples were within TAT time and 162 (56.8%) samples were delayed.

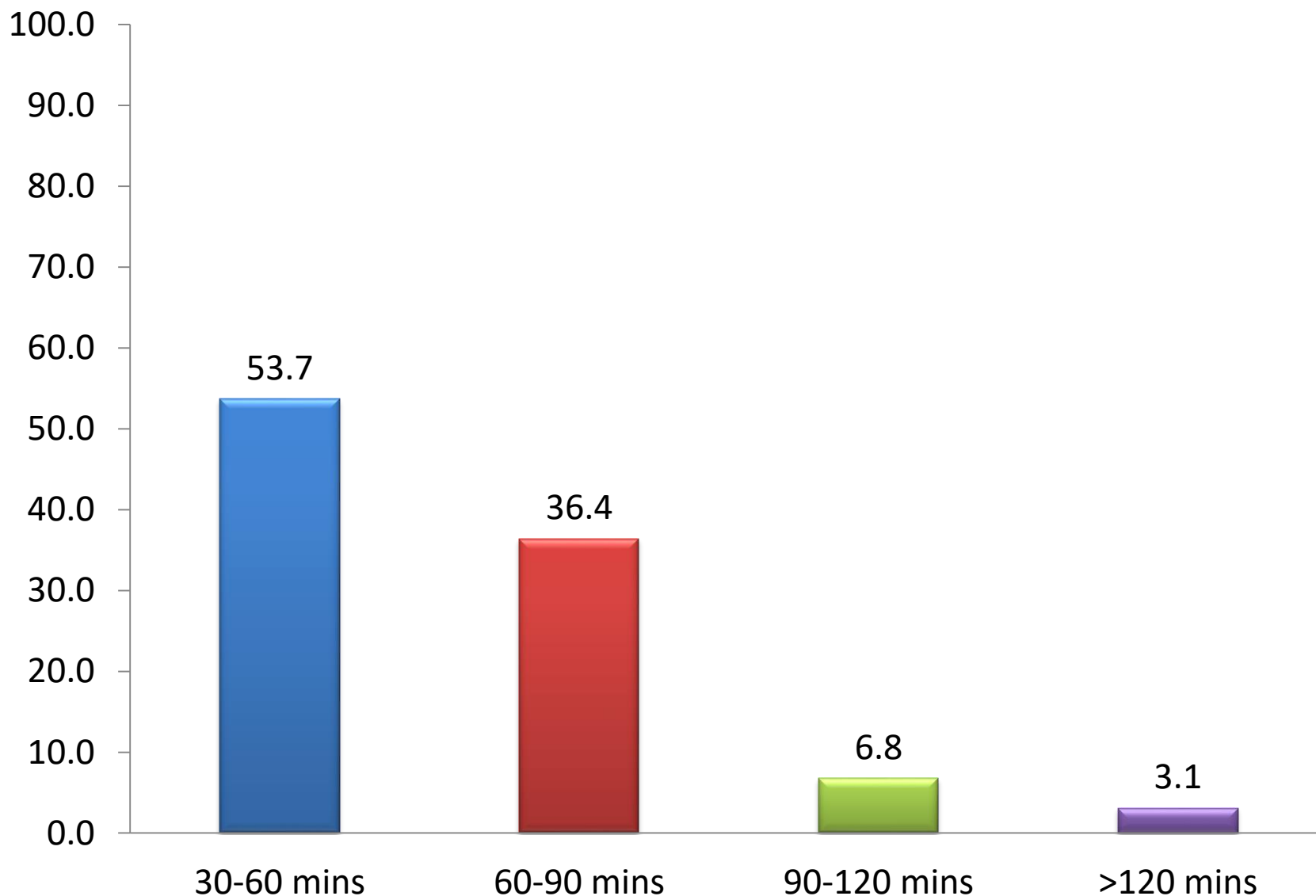


4. Distribution of delayed TAT timings

The specimens were divided into 5 groups:

- TAT within 30 min
 - TAT between 30 and 60 min
 - TAT between 60 and 90 min
 - TAT between 90 min and 120 min
 - TAT over 120 min
- The average time taken for each step was measured.
 - Out of total 162 samples which were delayed, 87 (53.7%) samples had TAT between 30 minutes to 60 minutes, 59 (36.4%) samples had TAT between 60 minutes to 90 minutes, 11 (6.8%) samples had TAT between 90 minutes to 120 minutes and 5 (3.1%) samples had TAT over 120 minutes.

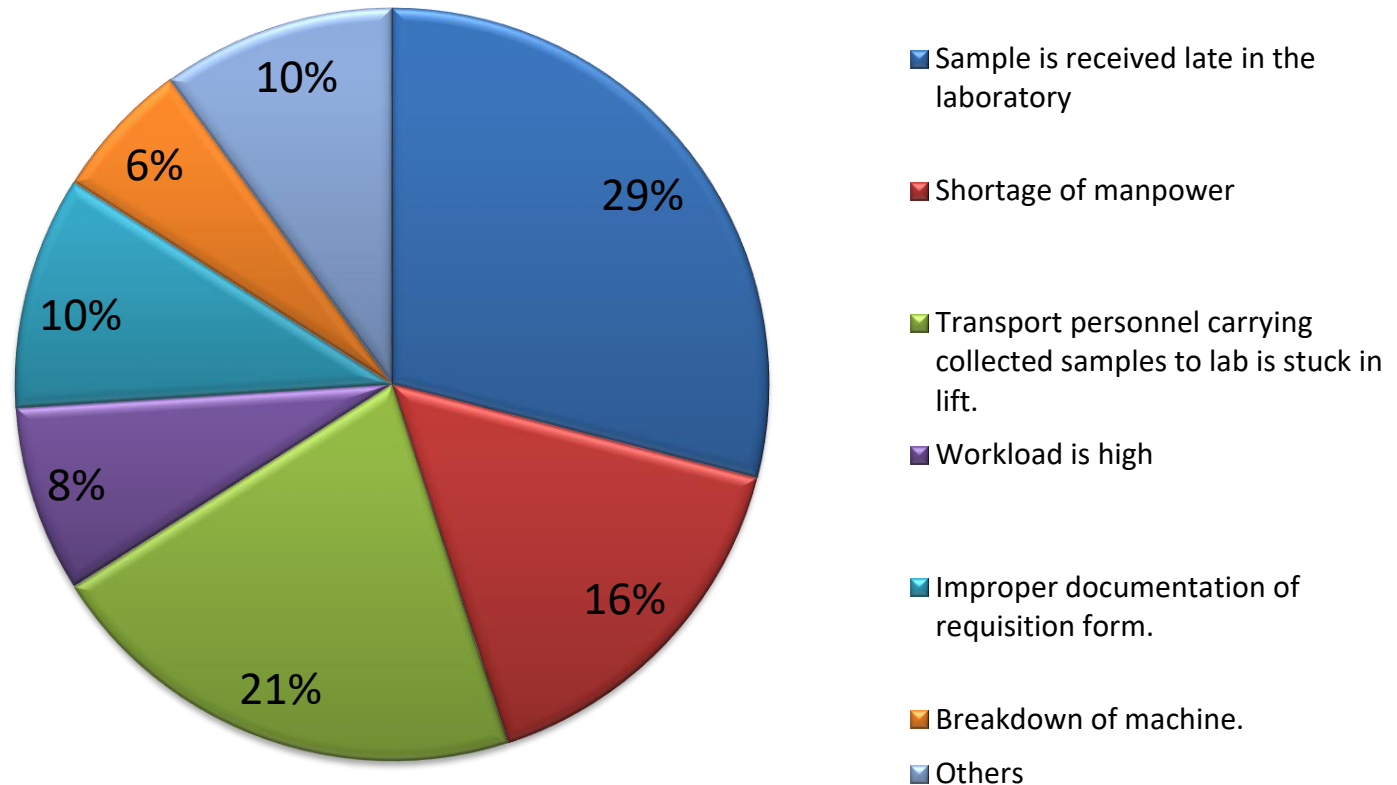
Percentage Distribution of delayed TAT Timings



5. Reasons of Delay

REASONS FOR DELAY IN REPORTS OF STAT INVESTIGATIONS	PERCENTAGE OF OVERALL DELAY
Sample is received late in the laboratory	29%
Shortage of manpower	16%
Time taken for transportation of collected samples to lab.	21%
Workload is high	8%
Delayed reporting.	10%
Breakdown of machine.	6%
Others	10%

PERCENTAGE OF OVERALL DELAY



It is evident from the above pie chart that out of 100% stat investigations, 29% patients faced delay in reports as sample was received late in the laboratory, 16% due to shortage of manpower, 21% faced delay as transport personnel carrying samples to lab stuck in lift, 8% delays were due to high workload, 10% delays were due to delay in reporting, 6% due to breakdown of machine, and 10% delays were due to other reasons.

DISCUSSION

- Following were the reasons for delay in Turnaround time of STAT investigations:
 - ✓ Sample is received late in the laboratory. (For OPD)
 - ✓ Time taken in transportation of collected sample to the lab. (For IPD & Emergency)
 - ✓ Delayed reporting.
 - ✓ Shortage of manpower.
 - ✓ Workload is high during weekdays.
 - ✓ Frequent instrumentation failure.

RECOMMENDATIONS

- Transport personnel coming from the IPD and Emergency should be restriction free to use the lift while coming to the lab.
- Additional transport personnel can be given during peak hours in lab.
- Pneumatic shoot can drastically reduce the sample carrying time.
- TAT should be specified as per the investigations as few tests have very less TAT and others have more TAT. For instance, the need to centrifuge Potassium specimens prior to biochemical analysis causes the laboratory TAT interval for this test to be longer than those of hemoglobin and prothrombin.
- The reports should be made available online in all the departments of the hospital.

CONCLUSION

- The study shows that there are various reasons of delay
- Such as time taken in transportation of collected sample to the lab etc.
- Therefore management of staff and new technology could be used to overcome these issues

Thank You

