

Enhancing the efficiency and Minimizing turnaround time in OB-Gyn OPD in a private tertiary care hospital in Kochi:A Process Improvement Study

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Internship Organization

- Located in Kochi, Kerala in southern India, Rajagiri Hospital is a multi-specialty tertiary care facility with 450 beds. It was established in 2014, and the Rajagiri (CMI) network of institutions owns and operates it.
- The hospital has received top certifications from prestigious organizations like the Joint Commission International (JCI), National Accreditation Board for Hospitals and Healthcare Providers (NABH), and National Accreditation Board for Testing and Calibration Laboratories (NABL). These certifications are given to hospitals that meet the highest international standards for patient safety, quality of care, and testing accuracy.
- Rajagiri Hospital combines the best of both western medicine and Ayurveda to provide patients with a comprehensive healing experience. General medicine, spinal surgery, hepatobiliary and pancreato (GI) surgery, dermatology, plastics-microvascular and cosmetic surgery, pathology, paediatric surgery, rheumatology, adolescent medicine, endocrinology, ENT, physical medicine, thoracic surgery, gerontology, dental surgery with specialties, haematology, ophthalmology, and interventional radiology are among the medical services provided by the hospital.

Abstract

- This abstract offers an overview of the primary findings and suggestions from a dissertation that sought to boost productivity and minimise turnaround times in the OB-Gyn OPD. The study looked for process improvement techniques to address the challenges and bottlenecks causing long wait times in the ObGYN OPD.
- The review of the current process identified a variety of factors that contribute to delays, including ineffective patient flow, inadequate staff levels, communication problems. These conclusions led to several recommendations for improving patient care and operational efficiency. The recommendations included implementing buffer time, ensuring a prompt start of the OPD, allocating separate slots for scan patients, developing patient education and engagement, avoiding overbooking, setting strict time limits for consultations, reducing variables, and encouraging behavioural changes among healthcare staff.
- The findings and recommendations made in this dissertation have implications for healthcare organisations seeking to increase productivity and reduce waiting periods in the ObGYN outpatient setting. Collaboration between healthcare providers, staff, and administrative staff is necessary for these procedures to be successful, as well as regular evaluation and monitoring to ensure sustained improvements.

- **Aim:**

The objective of this study is to determine areas where workflows can be improved in order to decrease turnaround time and boost the effectiveness of the OB-GYN OPD.

- **Research Question**

How can the OB-GYN OPD operate more effectively and with shorter turnaround times while continuing to deliver the most effective available care?

- **Objectives**

1. Analyze the existing workflow and processes in the OB-GYN OPD to identify bottlenecks and areas of inefficiency contributing to the high turnaround time.
2. Identify the key factors influencing the turnaround time in the OB GYN OPD, including patient flow, appointment scheduling, resource allocation.
3. Explore best practices and strategies implemented in other healthcare settings to improve efficiency and reduce turnaround time in OB-GYN OPD.
4. Develop and propose evidence-based recommendations and interventions tailored to the specific needs of the OB-GYN OPD aiming to optimize workflow, streamline processes, and reduce turnaround time.

Methodology

- **Study type:** Descriptive Cross-Sectional Study.
- **Setting of the study:** Rajagiri Hospital, Kochi
- **Study Period:** 1st April 23 to 22nd May 23
- **Sampling Technique:** Non-probability purposive technique
- **Sample size:**

Inclusion criteria: Data collected of all the patients coming to OB-GYN OPD in the working hour (9:00-17:00)

Exclusion criteria: All the same day cross consultation patients

Emergency patients coming directly to the OPD without appointment followed by same day admission.

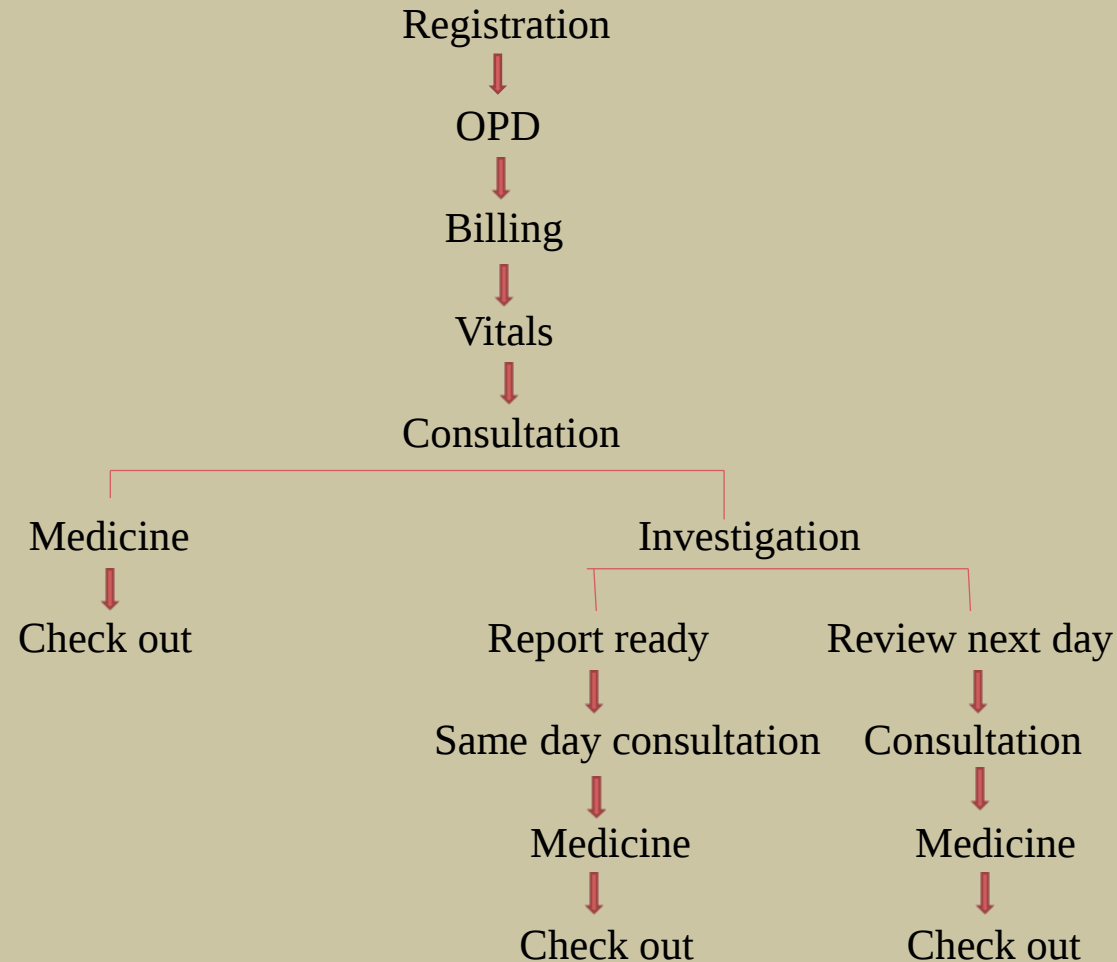
Patients just schedule for admission

- **Data Collection:** Secondary Data collected from the HIS
- **Data Analysis tool:** MS Excel

Study Procedures

1. Literature Review: The first phase entails performing a comprehensive literature review to get a clear understanding of the current knowledge and research related to process improvement in healthcare settings, particularly in outpatient departments and ObGYN specialty.

2. Analysis of current process:



Current Appointment Slot

9:30	11:40	14:40
9:40	11:50	14:50
9:50	12:10	15:00
10:00	12:20	15:10
10:10	12:30	15:20
10:20	12:40	15:30
10:30	Lunch break	15:40
10:40	14:00	16:00
10:50	14:10	16:10
11:00	14:20	16:20
11:10	14:30	16:30
11:20	14:40	16:40
11:30	14:30	

Total Number of slots=36

Appointment slots=29

Walk-ins=7

*No buffer time in between slots

Bottlenecks

- 1. Appointment Scheduling**
- 2. Inefficient Patient Flow**
- 3. Late start of OPD**
- 4. No Buffer time in between appointment slots**
- 5. Resource Allocation and Staffing**
- 6. Information exchange and communication problems**
- 7. Emergency and Urgent Cases**
- 8. Staff training and workload management**
- 9. Overbooking appointments**
- 10. Patient engagement and education**

DATA ANALYSIS AND INTERPRETATION

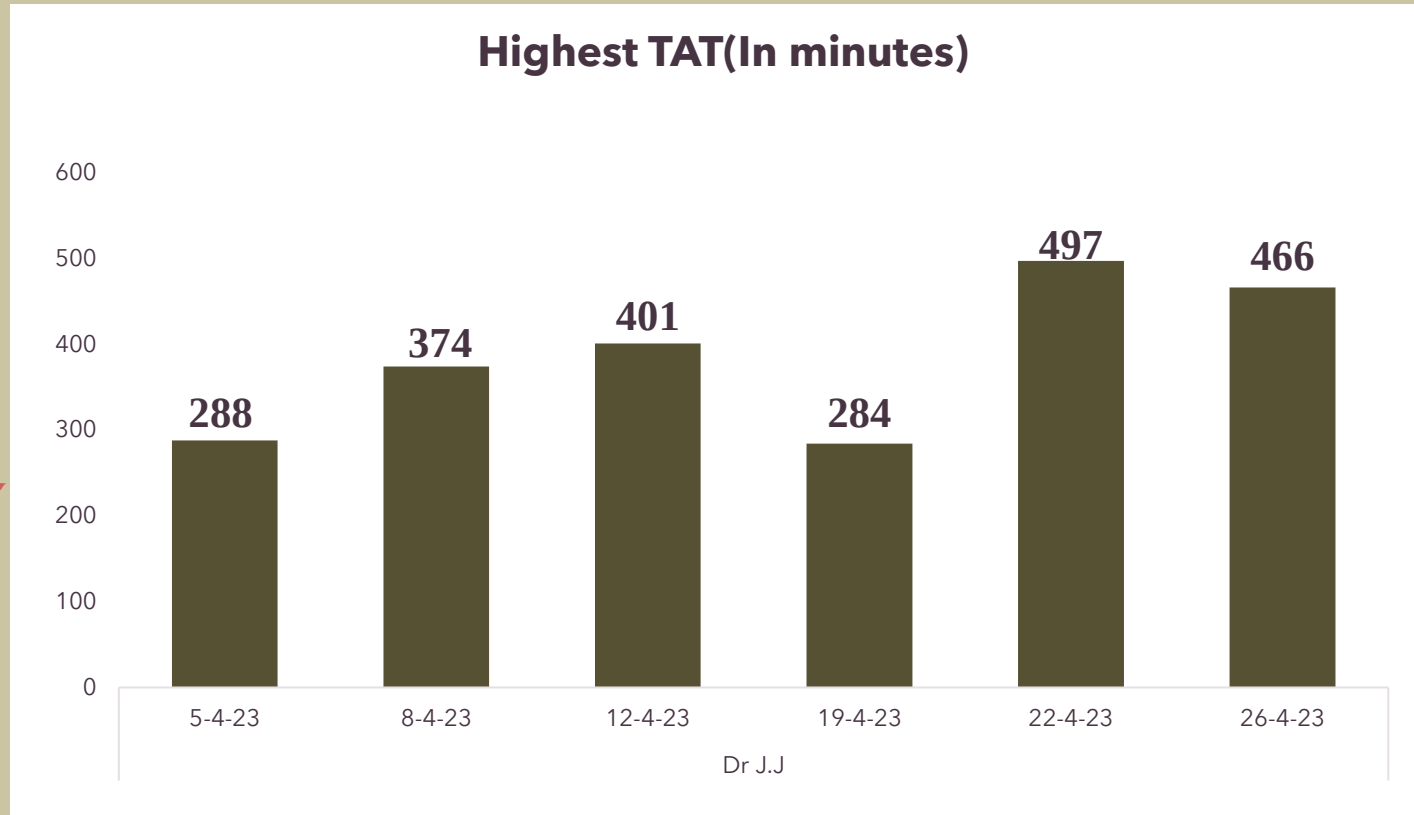


Fig: Dr J.Js Highest TAT in the month of April

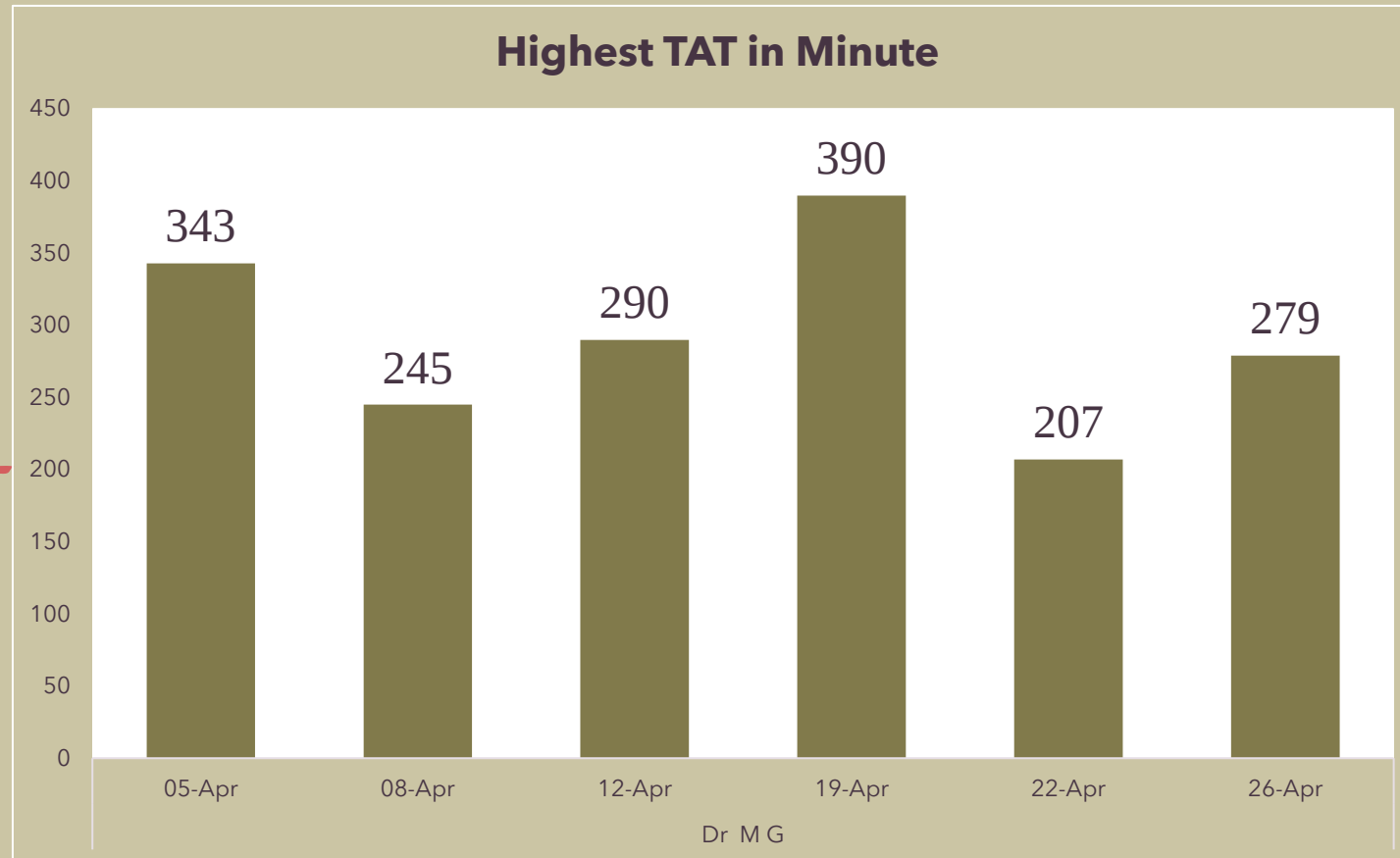
Average TAT

- ❖ Billing to Vital
check=35.18 min
- ❖ Vital to
Consultation=177.68
min

DATA ANALYSIS AND INTERPRETATION

Date	Appointm ent time	Billing Time	Billing to Vital	Vital to consultati on	Signed	TAT
5/4/23 (New)	10:10	10:01	10:35	15:23	15:26	288
8/4/23 (Follow up)	9:50	9:34	9:36	15:50	16:00	374
12/4/23 (follow up)	12:50	10:09	10:25	17:06	17:12	401
19/4/23 (New)	16:10	15:06	15:19	20:03	20:09	284
22/4/23 (Follow up)	15:10	10:27	10:34	18:51	18:52	497
26/4/23 (New)	14:30	10:28	10:49	18:35	18:40	466

DATA ANALYSIS AND INTERPRETATION



Average TAT

❖ Billing to Vital check
=24.68 min

❖ Vital to Consultation
=103.81

Fig: Dr M.Gs Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing Time	Billing to vital	Vital to Consultation	Signed	TAT
5/4/23 (follow up)	15:50	11:33	11:49	17:32	17:46	343
8/4/23 (follow up)	11:00	10:59	11:25	15:19	15:34	234
12/4/23 (Followup)	12:20	10:32	10:34	15:24	15:27	290
19/4/23 (follow up)	11:00	9:35	10:38	16:58	17:02	390
22/4/23 (follow up)	15:00	12:08	12:19	15:46	17:02	207
26/4/23 (Follow up)	11:30	11:26	11:33	16:12	16:15	279

Fig: Dr M.Gs Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION



Fig: Dr R.Ss Highest TAT in the month of April

Average TAT

❖ **Billing to Vital**

check=29min

❖ **Vital to**

**Consultation=71.79
min**

DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing Time	Vital	Consultation	Signed	TAT
1/4/23 (follow up)	12:10	10:47	10:52	14:43	15:07	231
8/4/23(new)	10:10	9:26	9:33	13:11	14:37	218
12/4/23 (Follow up)	12:00	11:41	12:20	15:37	16:22	197
19/4/23 (follow up)	14:30	11:25	11:38	14:57	15:01	199
22/4/23 (follow up)	10:30	9:06	9:17	11:00	11:57	103
26/04/23(New)	11:50	10:39	10:53	15:20	15:21	267

Fig: Dr R.Ss Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Highest TAT in Minute



Average TAT

- ❖ Billing to Vital
check=32.62min
- ❖ Vital to
Consultation= 92min

Fig: Dr V.P s Highest TAT in the month of April

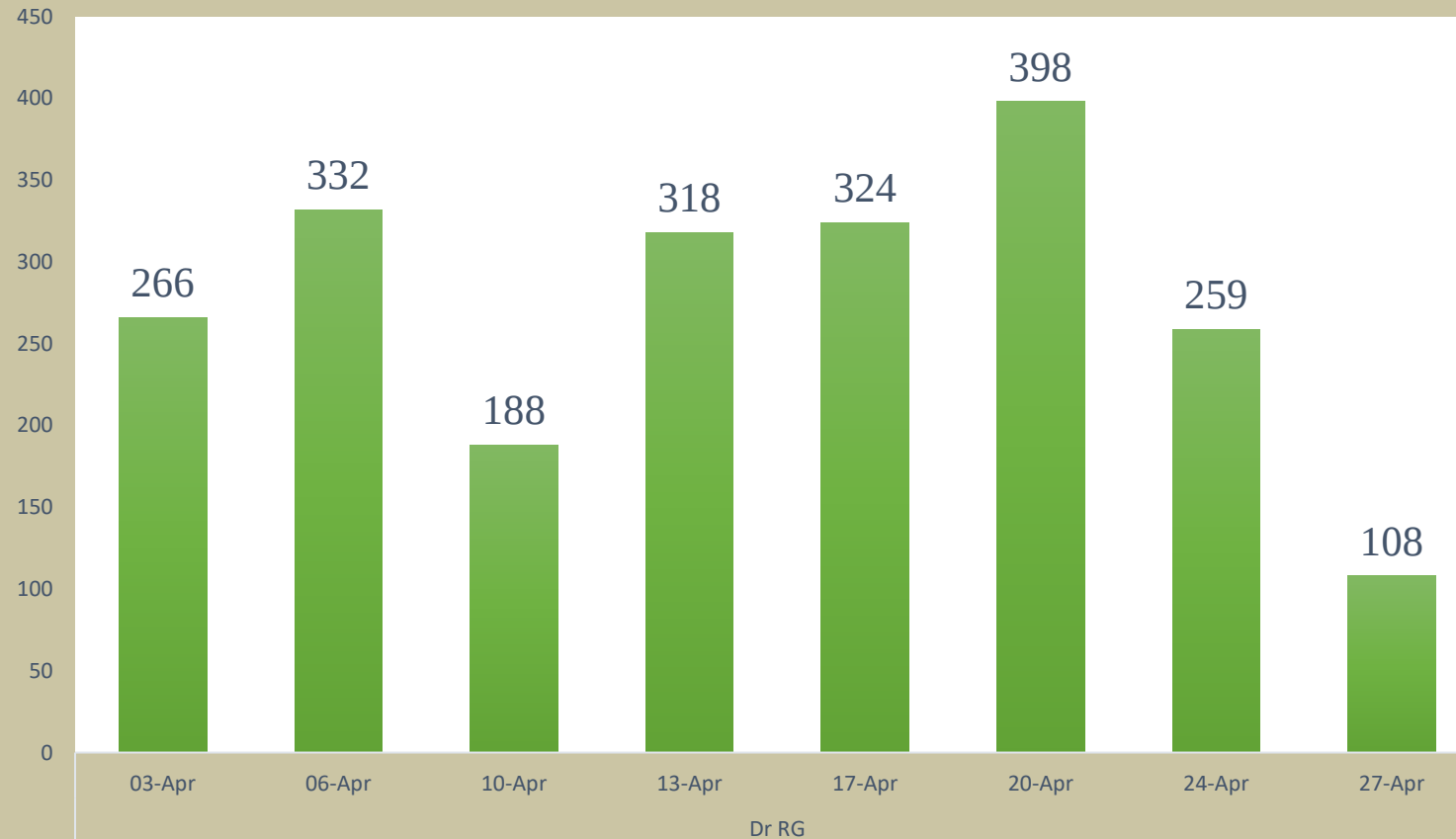
DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing time	Billing to Vital	Vital to consultation	Signed	TAT (Min)
3/4/23 (New)	10:30	10:17	10:29	17:08	17:14	399
6/4/23 (New)	11:00	12:06	13:01	16:08	—	187
10/04/23 (New)	10:40	10:19	10:21	13:36	13:43	195
17/4/23 (New)	16:50	10:20	10:29	16:35	16:42	366
20/4/23 (follow up)	16:10	10:33	10:53	16:22	16:26	329
24/4/23 (New)	12:40	9:45	9:55	15:09	15:49	314
27/4/23 (New)	11:30	10:11	10:18	12:40	12:45	142

Fig: Dr V.Ps Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Highest TAT in minute



Average TAT

- ❖ Billing to Vital
check=29min
- ❖ Vital to Consultation=
103.81min

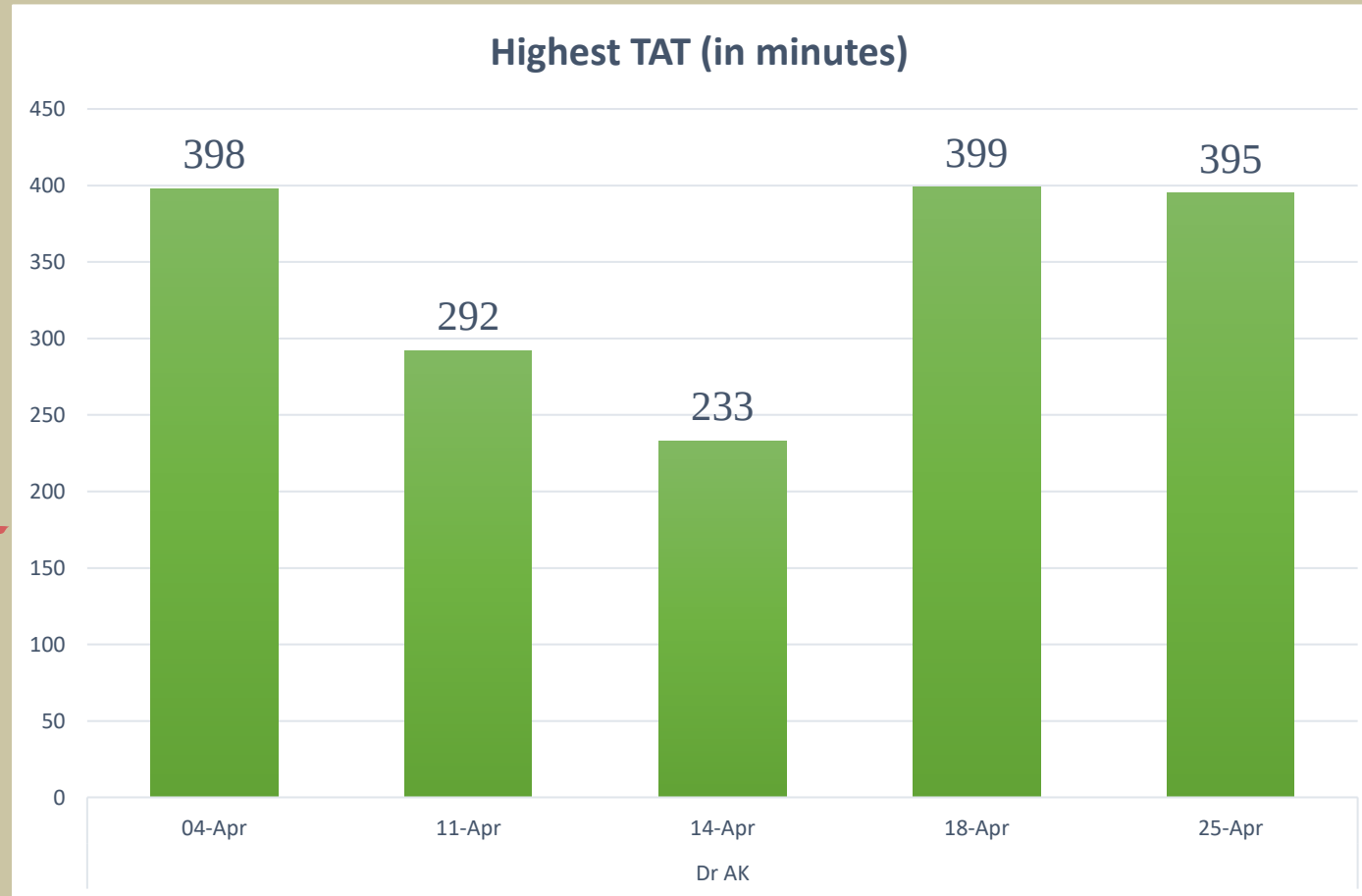
Fig: Dr R.Gs Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing time	Billing to vital	Vital to consultation	Signed	TAT (Minute)
3/4/23 (follow up)	16:30	9:55	11:24	15:50	15:55	266
6/4/23 (New)	11:00	10:52	11:02	16:34	14:47	332
10/4/23 (new)	12:40	9:18	10:39	13:47	13:57	188
13/4/23 (Follow Up)	15:10	10:39	10:50	16:08	16:12	318

Fig: Dr R.Gs Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION



Average TAT

❖ Billing to Vital

check=32.36min

❖ Vital to Consultation=
98min

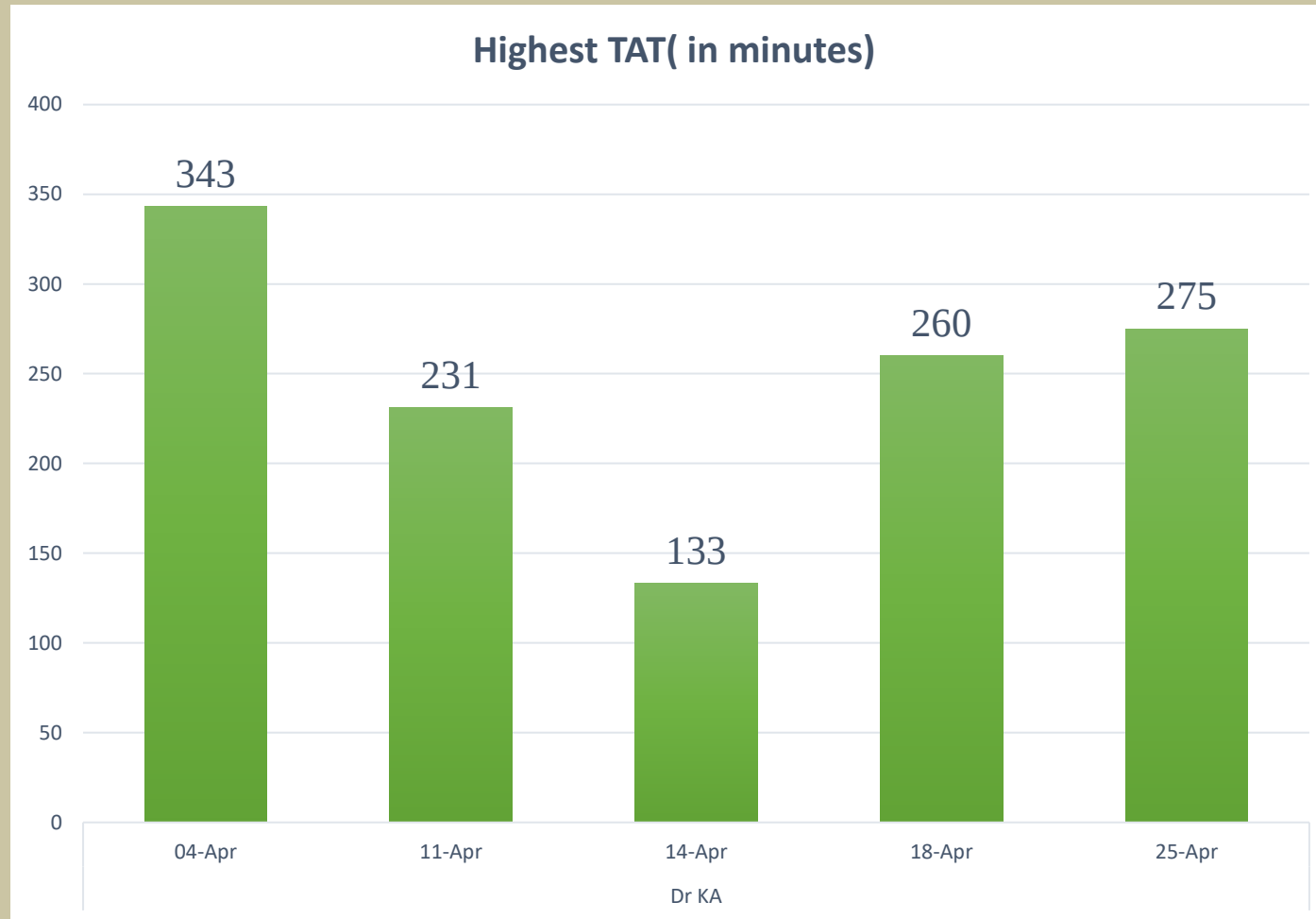
Fig: Dr A.Ks Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing time	Billing to Vital	Vital to Consultation	Signed	TAT (Minute)
4/4/23 (Follow up)	15:10	10:38	11:01	17:39	17:41	398
11/4/23 (Follow up)	14:50	10:06	10:22	15:14	15:41	292
14/4/23 (Follow up)	14:30	10:53	11:14	15:07	15:17	233
18/4/23 (New)	11:00	10:29	10:56	17:34	17:35	399
25/4/23 (Follow up)	10:30	11:29	11:44	18:19	18:21	395

Fig: Dr A.Ks Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION



Average TAT

- ❖ **Billing to Vital
check=31.62min**
- ❖ **Vital to
Consultation=
70min**

Fig: Dr K.As Highest TAT in the month of April

DATA ANALYSIS AND INTERPRETATION

Date	Appointment time	Billing time	Billing to vitals	Vitals to consultation	Signed	TAT (In minute)
4/4/23 (Follow up)	14:00	9:36	9:37	15:20	15:24	343
11/4/23 (New)	12:00	10:32	11:00	14:51	14:59	231
14/4/23 (New)	14:40	8:51	9:38	11:51	11:57	133
18/4/23 (Follow up)	12:50	10:25	10:43	15:03	15:04	260
25/4/23 (Follow up)	15:00	10:23	10:31	15:06	15:08	275

Fig: Dr K.As Highest TAT in the month of April

PROCESS IMPROVEMENT RECOMMENDATION

Modified Appointment slots:

09:30	12:40
09:40	12:50
09:50	Lunch break (60 minutes)
10:00	14:00
10:10	14:10
Buffer time (10 minutes)	14:20
10:30	14:30
10:40	14:40
10:50	Buffer time (10 minutes)
11:00	15:00
11:10	15:10
Buffer time (10 minutes)	15:20
11:30	15:30
11:40	15:40
11:50	Buffer time (10 minutes)
12:00	16:00
12:10	16:10
Buffer time (10 minutes)	16:20
12:20	16:30
12:30	16:40

PROCESS IMPROVEMENT RECOMMENDATION

- Total 34 appointments slots could be arranged according to the new modified appointment slots.
- Initial 4 patients of Growth scan, which takes only 10 minutes per patients.
- Then next 2 walk in patients new, since operation staff always call the patient for consultation according to the appointment time. Usually walk in patients come to OPD in the morning hours.
- Follow up appointments slot should start from 10:20 onwards.

(Since mostly doctors start OPDs after 10:30am)

- OPD should start on time.
- Junior/ On call doctor for walk in patients (In case of delay).
- First morning half patients should leave the hospital by 14:30hrs, more delay than this should be recorded and investigated as soon as possible.
- Better Queuing techniques to avoid the unnecessary crowd in the billing counter.
- Patients call to doctor's room should be done using automated token caller.
- Electronic display appointment token number should be installed.

Factors Responsible for prolonged waiting time in OPD

1. Late start of OPD
2. Internal meeting
3. IP Patients
4. Medical Emergencies and Unexpected Events
5. Inadequate staff training
6. Resource allocation
7. Ineffective Appointment Scheduling
8. High Patient Volume
9. Complexity of Cases
10. Delays in Accessing Additional Services
11. Communication Challenges

Limitation of the Study

- Data were collected for 1 month only.
 - Language barriers
 - Could not find the actual reason for the highest Turnaround time for that month.
 - Could not gather the actual number of IP patients and labor room details.
-

Recommendation

- Introduce Buffer Time
- Ensure prompt start of OPD
- Provide Dedicated Time Slots for Patients Requiring Scan
- Minimize Overbooking
- Maintain Proper Consultation Time frame
- Continuous Staff training
- Reduce Variables and Standardize Procedures
- Promote Behavioral Changes of Healthcare Staff

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Thank You