

Study on the Quality Indicators & identify process gaps in Accident & Emergency Department at The Tertiary care Hospital, Durgapur

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INTRODUCTION-

In the hospital and health-care system, the emergency department performs a critical function. The emergency department acts as the hospital's major diagnostic center and is responsible for more than half of the hospital's admissions. To deliver patient-centered treatment and enhanced patient satisfaction, quality improvement and sustaining standards are now of vital importance in the emergency department and emergency team. People from all walks of life want to get treated for their illness as soon as possible. They do not like to be kept waiting. People are impatient all the time. Even after the term "patient" has been defined, those who are in agony have little patience.

Hospitals, according to the World Health Organization, "complement and amplify the efficiency of many other aspects of the healthy system" by offering ongoing access to care for acute and complex diseases. To respond efficiently to public health demands, hospitals concentrate scarce resources within well-planned referral networks. They are a necessary component of universal health coverage and will be crucial in the future.

REVIEW OF LITRATURE

It is critical to develop measurable key performance indicators that may be used to manage and improve performance. These must be comprehensive, including all aspects of the emergency department, from admission to discharge or admission, as well as other supportive services. Although hospitals and ER departments may be able to measure a range of indicators, they may not fully appreciate or utilize their strategic and/or operational value.

Determining what constitutes good quality for many years, physicians, researchers, managers, and regulators have struggled with ED treatment. Our area of expertise deals with a wide range of presentations in a variety of formats, as well as a wide range of practice scopes. In the United Kingdom, emergency department care is evaluated using time-based indicators, such as the 4-hour access standard. While these are straightforward to quantify, they only reflect one aspect of quality. Quality, according to the US Institute of Medicine, has six domains: safe, effective, timely, efficient, equitable, and people centered.

Quality indicators and performance monitoring have been found to improve health care outcomes in previous study and experience. The first step in enhancing pain therapy for ED patients is to evaluate the current care correctly and systematically. Relevant, evidence-based performance indicators are required to identify gaps in the assessment and treatment of pain and to improve patient outcomes.

RESEARCH QUESTION:

WHAT INFLUENCES THE QUALITY INDICATORS AND PROCESS GAPS OF ACCIDENT & EMERGENCY DEPARTMENT AT THE MISSION HOSPITAL?

OBJECTIVES:

- **TO ASSESS THE SELECTED QUALITY INDICATOR IN ACCIDENT & EMERGENCY DEPARTMENT**
- **TO IDENTIFY THE GAPS IN PROCESS FLOW OF EMERGENCY DEPARTMENT**

RESEARCH METHODOLOGY:

- **STUDY DESIGN:** Observational cross-sectional study
- **SETTING:** Accident and Emergency Department, the Mission Hospital, West Durgapur, Bengal
- **STUDY POPULATION:** patients coming in the emergency department.
- **Inclusion criteria:** All patients visiting emergency department.
- **Exclusion criteria:** Patients not admitted in emergency department (i.e., Patients who visited ED for injection, vaccination, suture removal etc.) and patients with incomplete data.
- **3.6 DURATION OF STUDY:** 22nd March 2021 to 19th June 2021

METHODOLOGICAL APPROACH:

- **Quality indicators included in study are as follow:**
 - 1. Length of stay of the patient in ED (less than hour) 2. Time taken to start initial assessment (1 min)**
 - 2. Patients who left ED without being seen**
 - 3. ED return within 72 hours**
 - 4. ED conversion**
 - 5. Number of ED LAMA cases**
 - 6. Number of ED deaths**
 - 7. Ambulance Response Time (10 min)**
 - 8. Incident occurred in ED.**

- To determine the length of stay in the ED, convenience sampling was used to collect data on 10 patients every day during working hours, i.e., 9 a.m. to 6 p.m. ED LAMA is used to determine if an ED conversion complies. ED deaths, ED incident returns, ambulance response time, and patient departed ED without being examined were all considered, as well as secondary data on the total number of patients that visited the ED. The total number of ambulance calls throughout the study period was considered for calculating ambulance response time.
- Second, daily convenience sampling was used to obtain data for the gap analysis. Patients were tracked throughout the procedure, from the time they entered the emergency department until they left, and the time it took for each step was recorded. Informal discussion with ED employees about delays and gaps in the process flow, as well as the causes for the delays. This data was also used to determine the amount of time it takes to begin the initial examination. Because it is a necessary component of the process.

SAMPLE SIZE:

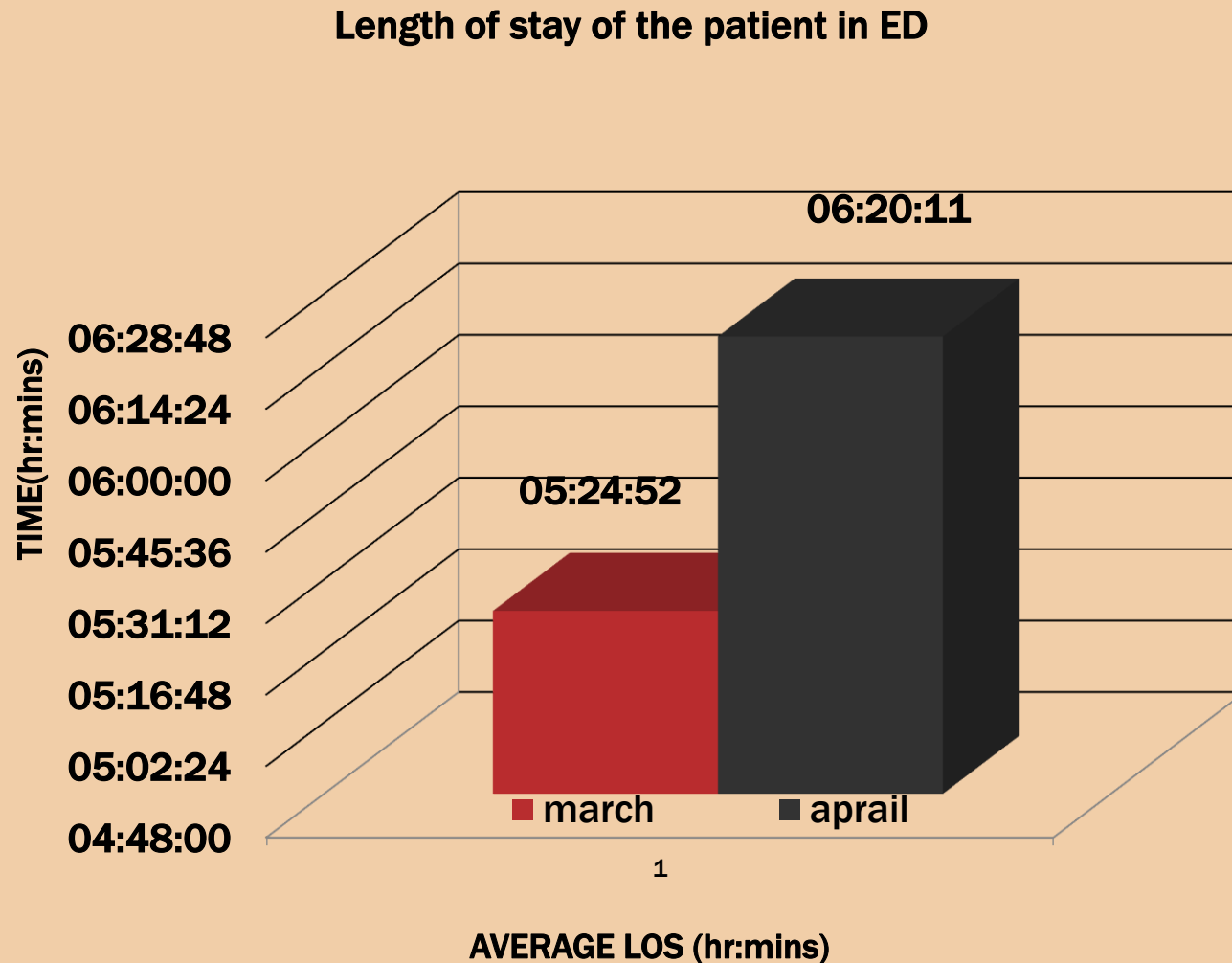
- For ED conversion, ED LAMA, ED deaths, ED incidents, ED return, patient left ED without being seen total no of patients (3285) who visited Accident and Emergency dept. during the study period was taken. For ambulance response time total no of calls 163 during the study period were considered.
- For length of stay of patient in ED total sample of 494 patients were taken through convenience sampling 10 patients daily during the study period through direct observation.
- For Gap in process of the ED sample of 494 patients were taken and that patients were followed throughout the process to find out the gaps.

DATA COLLECTION PROCEDURE:

- Primary data - Collected through TAT form (see annexure-1), process gap by direct observation. For length of stay of the patients in ED, time taken for initial assessment.
- Secondary data- Collected from the Master register of emergency department, Procedure register and Ambulance register. For ED return within 72 hours, ED conversion, ED LAMA, Ed deaths, Ambulance response time, and incident occurred in ED.

Quality indicators:

Length of stay of the patient in ED

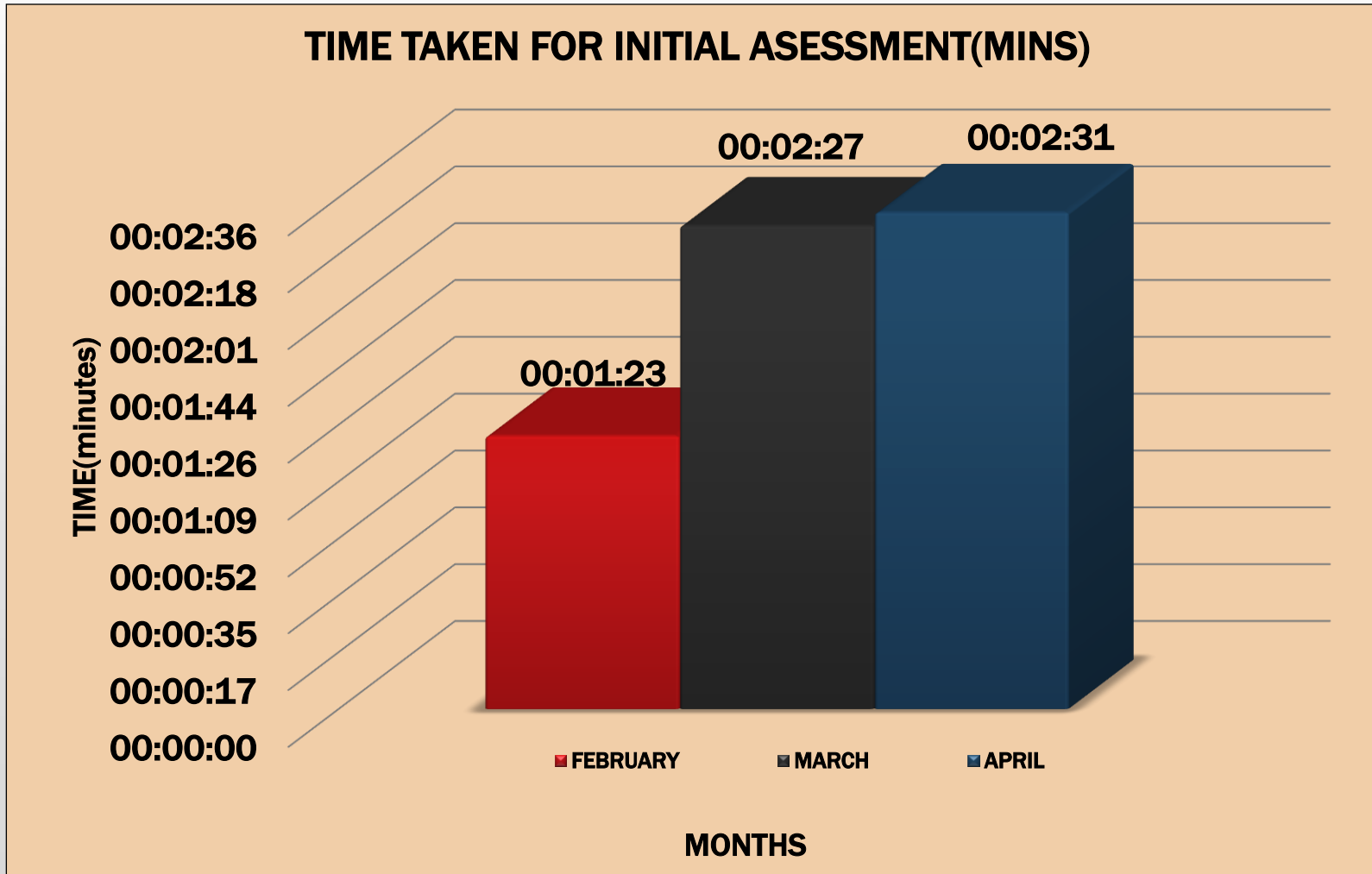


- For this measure, a total of 494 patients were sampled
- According to the protocol of the organization, the standard time is one hour.
- March (247) and April (247) to determine the ED turnaround time
- Average length of stay-

March-**05:24:52**

April-**06:20:11**

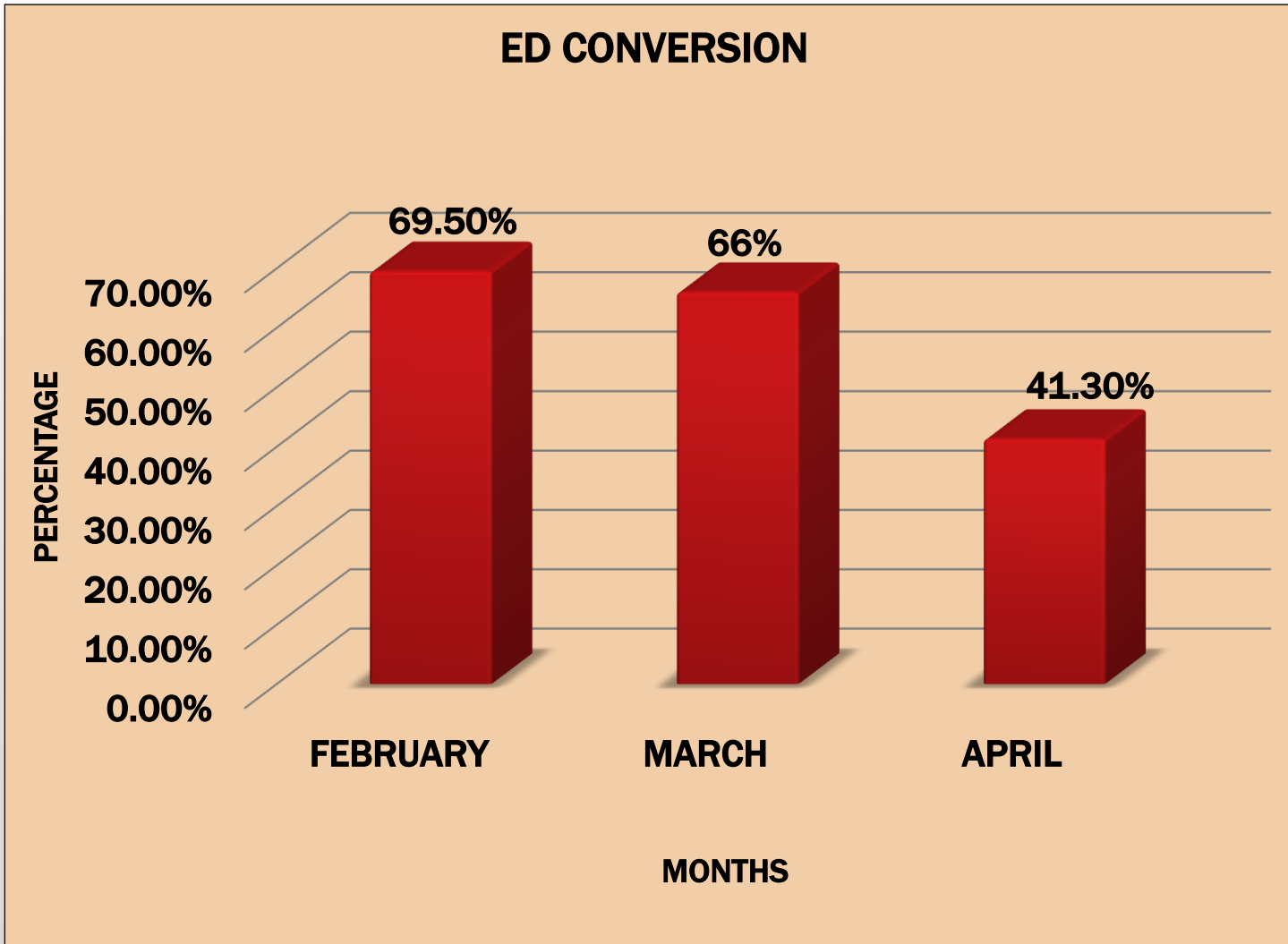
Time taken for initial assessment



The data for this indicator came from a sample of 247 patients and the turnaround time format. Time taken by the doctor to begin the initial assessment and primary survey. The standard time for beginning the initial assessment, according to the organization's procedure, is less than one minute.

- **Patients who left ED without being seen:** During the study period, no case of someone leaving the emergency room without receiving any form of assessment was seen or observed. Because most of the patients who came to E were recommended by other corporate hospitals. The fact that not all cases, such as patients arriving after working hours, could be observed was a major drawback of this indicator.
- **ED return within 72 hours:** There were only four such instances during the study period, all of which returned to the ED within 72 hours with the same symptoms after being treated for the same. There were no such incidents registered and seen in the months of February, March, and April.

ED conversion

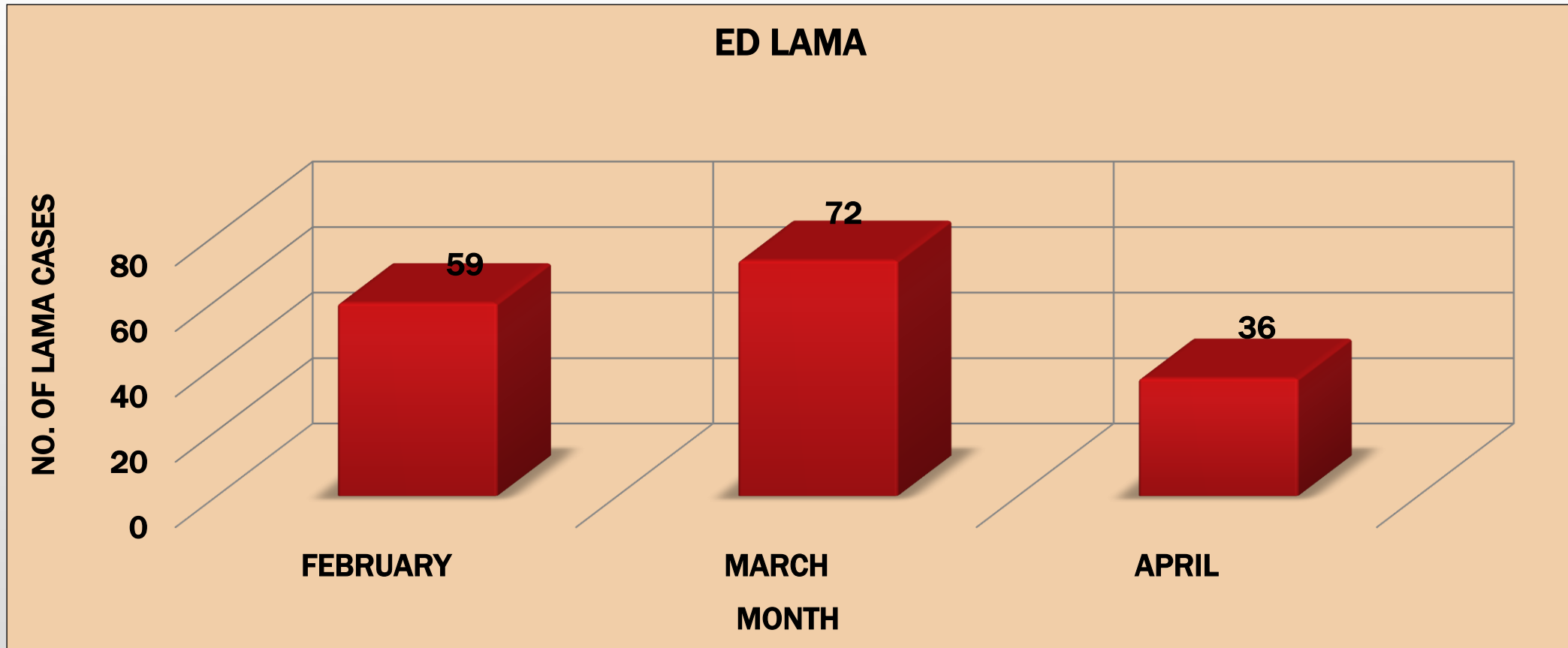


During the study period, 3285 people walked through the doors, with 1871 of them being hospitalized patients. There were 1132 emergency OPD discharges, 167 LAMA, I brought dead, 36 emergency deaths, and two additional instances (DORB).

ED Conversion in the month of February, march, and April

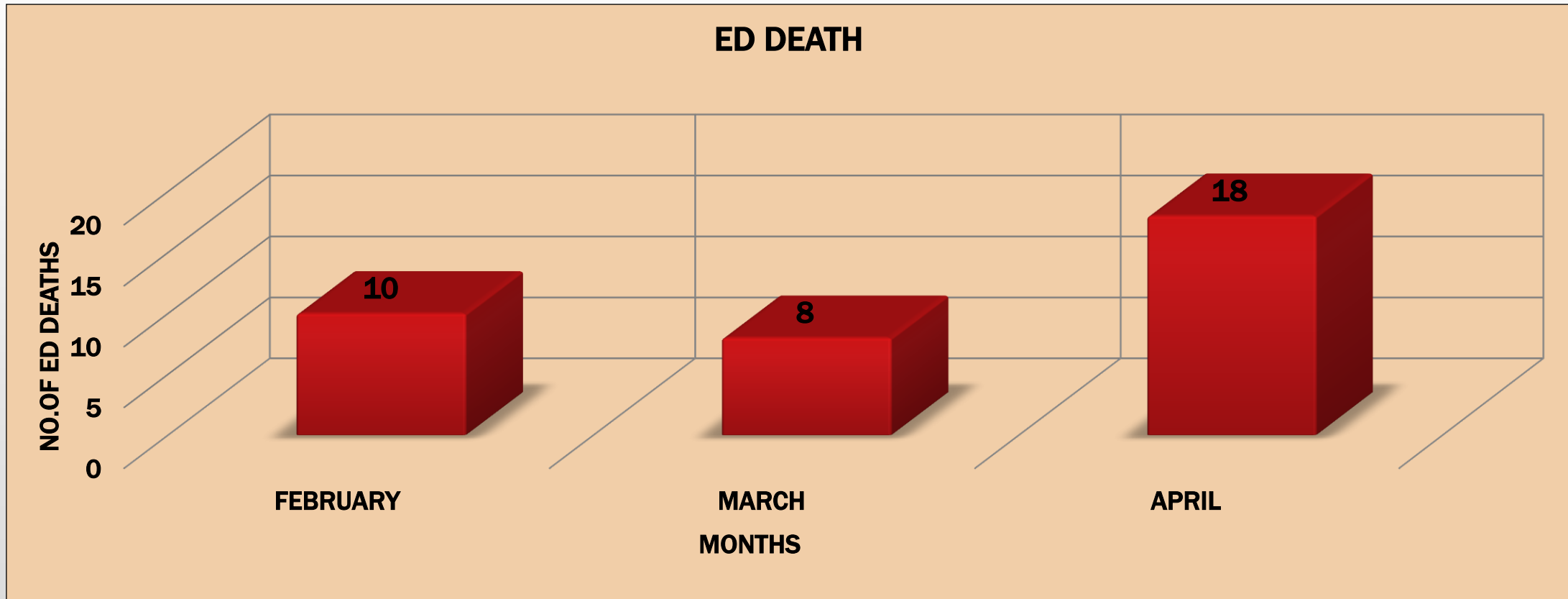
MONTHS	TOTAL FOOTFALL	TOTAL ADMISSIONS	TOTAL GENERAL WARD TRANSFER	TOTAL CRITICAL CARE TRANSFER
FEBRUARY	949	657	217	426
MARCH	1102	727	276	443
APRIL	1234	487	183	287
TOTAL	3285	1871	676	1156

Number of ED LAMA cases



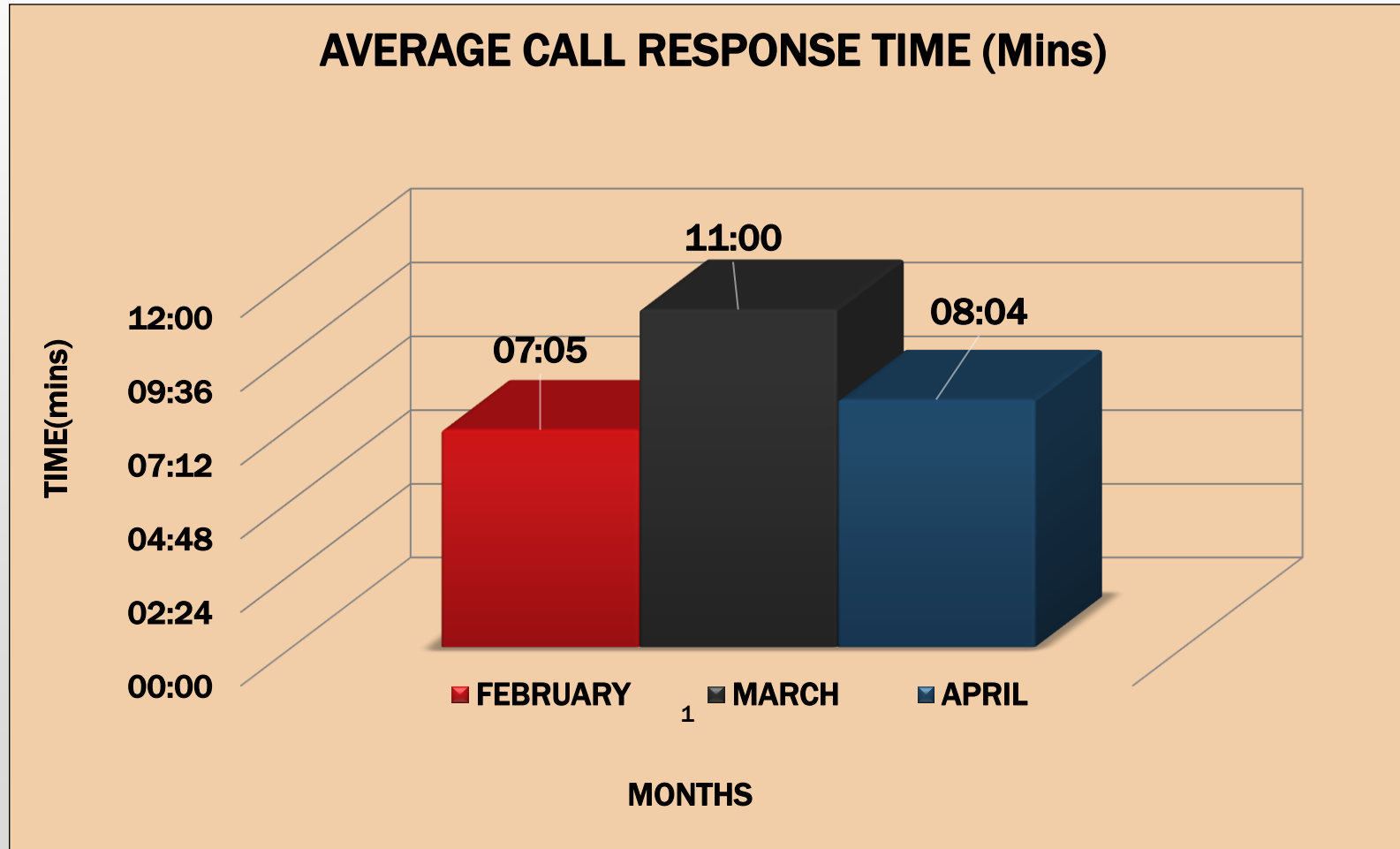
N=3285 out of this there were 167 LAMA cases.

Number of ED deaths



In the months of February, March, and April, 36 people died in emergency rooms. A total of 3285 people walked through the door.

AVERAGE CALL RESPONSE TIME:



In the months of February and April, it is within the organization's norm of 10 minutes. It is more than regular time in March.

Incident occurred in ED

During the research period, just two instances were recorded. None of it has anything to do with the patients. One was an equipment-related near-miss event: an oxygen cylinder fell from the oxygen cylinder carrying trolley while being paused for moving a patient from the emergency room to the intensive care unit, causing oxygen leakage. This occurred in March 2021. Another was an adverse occurrence due to equipment, in which a patient's blood sample got jammed in a Pneumatic chute and caused a delay in laboratory testing and reports.

PROCESS FLOW

When a patient arrives at the Accident & Emergency Department, he or she is assessed by the department's emergency workers, and triaging is done on the bedside due to space constraints. Within one minute of the patient's arrival, the initial assessment begins. If resuscitation is required, the patient is transported to the resuscitation bay before the triage procedure begins to stabilize the patient's life-threatening condition. The patient is largely surveyed and assessed by the Emergency Doctor after triage and resuscitation.

Any patient stabilization and point-of-care tests (such as Acid-Base Gas Analysis, Random Blood Sugar, USG, and ECG) that are required are completed at this time. Doctors may request admission after assessing the patient, or they may continue to assess and hold the patient for observation. If an investigation is required, they will send an investigation request and ask the patient's relative to pay for the investigation. Patients who have never been registered (those who are visiting the hospital for the first time) are sent for registration first, after which OP registration is completed and an admission request is sent.

Following the patient's admission, additional assessments are performed, necessary care is provided, and significant investigations such as laboratory investigations, radiology investigations, and echocardiograms are sent. After receiving the patient's report, the emergency doctors make a diagnosis of the situation and, after consulting with the senior consultant, transfer the patient to ICCUACU/Ward. The attending Emergency Doctor counsels the patient's relative and discusses the patient's current state with them. After completing all the pre-requisite measures, the patient is now ready to be transferred to the ICCU/ICU/Ward.

The following are the significant shortcomings that have been identified as having a direct or indirect impact on the emergency department's quality and performance:

- **Assessment & Stabilization average time taken for assessment to start is more than one minute**
- **Delay by the Patient party in decision making Waiting for the admissions consultant**
- **Delay due to laboratory investigation delay in taking the sample**
- **Delay due to radiology investigations**
- **Delay due to GDA Non-Availability**
- **Delay due to staff scheduling for the shifts**
- **Delay by the senior consultant**
- **Exit Block**
- **Delay due to procedures**

CONCLUSION

- High waiting times were found to be the only independent risk factor for patient dissatisfaction. Information about delays and the causes for the delays might be conveyed to patients in EDs in a systematic manner, which could be a useful technique for reducing perceived wait times and improving patient satisfaction.
- It is critical to monitor all key performance indicators, including quality and clinical indicators, to ensure that the emergency department of a multispecialty hospital runs smoothly. The primary reasons for the delay are gaps such as investigation delays, exit blocks, communication delays, radiography delays, admission delays, evaluation, and stabilization delays, GDA non-availability, shifting delays, and Sr. Consultant delays & process delays.
- Gaps leading to increased length of stay should be scientifically investigated and improved on a continuous basis. Continuous detailed in-depth studies should be conducted to analyze the performance of different departments that are found to have a higher proportion of delayed cases affecting quality indicators.
- By doing so, we will be able to improve the emergency department's process flow, which will not only help to reduce overcrowding, but will also lead to increased patient and employee satisfaction. We can achieve the goal of providing patient-centered care by reengineering the emergency department's process flow.

RECOMMENDATIONS

- A separate area for simple treatments like injections and suturing. Vaccinations and other preventative measures.
- in addition to a separate small X-ray and radio-diagnosis unit in the emergency department to reduce the time spent on non-potential patients and investigation processes.
- Designated space with sufficient manpower and a waiting area for expedited cases to prevent time wasting in the admissions process, separate counters for ER registration and ER-generated lab orders.
- An automated ambulance monitoring system should be put in place.
- The Ambulance has a single point of contact.

PROCESS GAP: To speed up the discharge process in the IPD to reduce the emergency department's exit blockage.

- Employees in the emergency department should be trained in emergency department protocols.

THANK YOU



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