CHAPTER- 13

A STUDY ON TURN-AROUND-TIME IN RADIOLOGY DEPARTMENT AT MISSION HOSPITAL DURGAPUR

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INTRODUCTION

Turnaround time (TAT) refers to the time taken for a process to commence and conclude, and adopting an automated workflow solution can substantially enhance this duration. Physicians commonly rely on TAT as a benchmark for assessing laboratory performance, using it to convey timelines and gauge the efficiency of the testing process. Additionally, TAT serves as a quality indicator to evaluate the effectiveness and proficiency of laboratory operations, meeting the expectations and satisfaction of clinicians and patients. In essence, turnaround time is the temporal interval from the initiation to the completion of a given process [1]. Recognizing the universal significance of time, especially in critical situations such as medical emergencies, underscores its pivotal role in saving lives and reducing complications. In the healthcare sector, time plays a crucial role in

patient treatment, with effective Turn-around-Time (TAT) proving to be a decisive factor between life and death or the development of further complications. The current trend in medical care facilities emphasizes the importance of minimizing TAT to enhance healthcare delivery by optimizing resources and services, ultimately contributing to increased patient satisfaction. In pursuit of efficient care, the medical industry has set an optimistic and promising TAT goal of one hour for the Radiology Department, covering the entire process from patient intake to report reading. Ongoing advancements are continually explored to further streamline processes and improve patient facilitation.

Quality is characterized as the capacity of a product or service to meet the requirements and expectations of the customer. Laboratories predominantly concentrate on technical and analytical quality to ensure the reliability and accuracy of test results. On the other hand, patients and clinicians prioritize swift, dependable, and efficient services from the laboratory. Turnaround time (TAT), indicating how promptly laboratory personnel provide test results, stands out as a prominent indicator of laboratory service, frequently serving as a key performance metric for evaluating laboratory performance [2].

RESEARCH OBJECTIVES

1. To understand the operational workflow of the radiology department and the pattern of incoming out-patients recommended for different diagnostic procedures.
2. To assess the waiting period for patients prescribed various radiological examinations.
3. To examine the timing of report generation for diagnosed patients.

4. To evaluate if there have been delays in Turn-Around-Time.
5. To identify the factors contributing to delays in Turn-Around-Time.

RESEARCH METHODOLOGY

The research aimed to investigate the existence of unnecessary delays in the waiting time at the radiology Outpatient Department (OPD) of Mission Hospital in Durgapur, West Bengal. The study employed a co-relational study design, focusing on the radiology department on the ground floor of the hospital. The study population comprised over 1000 OPD patients recommended for radiological investigations such as USG, CT-Scan, and MRI. The research duration spanned three months, from March 1, 2023, to May 31, 2023.

Inclusion criteria encompassed OPD patients prescribed radiological investigations, while exclusion criteria applied to In-Patient Department (IPD) and Emergency Room (ER) patients due to their distinct scheduling. The study employed a primary data collection tool, maintaining a checklist of patient billing time, in-time for the procedure, and final report time, complemented by secondary data obtained through the Hospital Information System (HIS). Simple random sampling was the chosen technique.

A quantitative research approach was adopted to analyse waiting times between patient billing and procedure in-time, as well as Turn-Around Time (TAT) for report generation. MS-Excel facilitated data analysis, utilizing charts like bar graphs and pie charts, along with calculations based on formulas such as percentage, average, and count. The study adhered to ethical

considerations, prioritizing patient confidentiality throughout, safeguarding patient information, including Unique Health ID (UHID) and other relevant details.

RESULTS AND DISCUSSION

The distribution of samples across different specialties, including USG OPD, USG HC, CT, and MRI, was examined, with an emphasis on the prominence of USG OPD, which constituted 52% of the total samples. The waiting time between patient billing time and procedure in-time for each specialty was scrutinized, revealing variations in average waiting times. For instance, USG OPD demonstrated an average waiting time of 180 minutes, while USG HC had a significantly lower average waiting time of 45 minutes. Further analysis was conducted on waiting times categorized by duration, and the results highlighted distinctions among specialties.

Additionally, the Turn-Around Time (TAT) for procedure and billing time was scrutinized, unveiling differences between specialties and timings, such as before and after 10 AM. The study also investigated the reasons for increased waiting time in USG OPD, attributing factors such as overlapping patients and the unpreparedness of patients. Moreover, the reporting TAT was examined, indicating the percentage distribution of each specialty within various time intervals, with USG OPD having 35% reporting within 2 to 3 hours and 10% within 4 to 5 hours.

CONCLUSION

In conclusion, the study revealed that patients undergoing USG examinations experienced the maximum waiting time, with delays primarily arising in the USG OPD. The major contributing factor to these delays was the scheduling of

previous patients before the current ones. While waiting times were also observed in CT and MRI, they were mainly due to the time-consuming nature of the procedures rather than specific reasons causing delays. Regarding reporting, USG patients typically received reports on the same day, whereas CT and MRI patients received reports after a day or two, with some complex reports taking up to two days. To address the waiting time concerns, recommendations included placing informational posters outside the USG department in both regional and national languages, providing comprehensive details on patient preparation for USG tests. Additionally, a suggestion was made to commence billing for USG at 10 AM, aligning with the actual start of the procedure, thereby reducing waiting times for patients who had undergone billing before the procedure began. These recommendations aimed to enhance the efficiency of the USG department and improve the overall patient experience.

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