

A DISSERTATION REPORT ON
“A STUDY ON THE IMPACT OF PATIENT WAITING TIME IN
HOSPITALS”

With special reference to

ASTER MEDCITY, CHERANALLOOR-KOCHI

Submitted to

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

In partial fulfillment of the requirements for the award of the degree of
BACHELOR OF BUSINESS ADMINISTRATION

By

SHREYA AJI JOHN

(Reg. No.210021080034)

Under the guidance of

DR. SREEJA S

ASSISTANT PROFESSOR

Department of Bachelor of Business Administration



BHARATA MATA COLLEGE

THRIKKAKARA, KOCHI-21

Accredited with 'A+' Grade By

National Assessment and Accreditation Council (NAAC)



BHARATA MATA COLLEGE

DEPARTMENT OF BACHELOR OF BUSINESS ADMINISTRATION

(Affiliated to Mahatma Gandhi University – KOTTAYAM)

Accredited with 'A+' grade by National Assessment and Administration (NAAC)

CERTIFICATE

This is to certify that the Dissertation Project entitled “**Study on impact of patient waiting time in hospital at Aster Medcity**” is a bonafide report of the project work done by SHREYA AJI JOHN, under the supervision and guidance of Asst. Prof. Dr. Sreeja.S, in partial fulfilment of the requirements of the Bachelor of Business Administration (BBA) programme of Mahatma Gandhi University. It is also certified that this report has not been submitted to any other institute/ University for the award of any Degree/Diploma

PROF. MANJU MALATHY

DR.SREEJA S

HEAD OF THE DEPARTMENT

PROJECT GUIDE

BBA

DECLARATION

I , SHREYA AJI JOHN, hereby declare that this report is a bonafide record of Dissertation Project undergone by me at ASTER MEDCITY, CHERANALLOR-KOCHI, during 11th DECEMBER 2023 To 06th JANUARY 2024 in partial fulfillment of the requirements of the Bachelor of Business Administration (BBA) programme of Mahatma Gandhi University. It is also declared that this report has not been submitted to any other Institute/University for the award of any Degree/ Diploma.

Place : Thrikkakara

Date:

SHREYA AJI JOHN

ACKNOWLEDGEMENT

We are grateful to God Almighty for having blessed us with his insight and knowledge, and for guiding us during the course of the study.

I wish to thank, **Dr. Johnson K M** principal of **BHARATA MATA COLLEGE, THRIKKAKARA** for providing us all facilities for the successful completion of the project.

It's my privilege to thank **PROF. MANJU MALATHY** for granting permission and all sorts of facilities and assistance to undertake the project report.

I'm highly indebted to my lecture and guide **Asst. Prof. DR. SREEJA .S**, for giving her valuable time in filling the information gap and her sincere efforts in correcting manuscripts and other innumerable services rendered by her.

I am extremely thankful **ASTER MEDCITY, CHERANALLOOR** for permitting me to complete the project within the premises. I express my sincere thanks and gratitude to the employees for providing the facilities and for all the department heads and the staff members for their co-operation and support

We would also like to extend a heartfelt thanks to all our respondents who participated in our study, whose sincere co-operation and support made this venture possible.

Last but not the least, we express our sincere and utmost gratitude towards our teachers, family and friends for supporting and encouraging us all throughout the study. We are also grateful to all who have in one way or the other helped us in accomplishing our goal by contributing their valuable comments and suggestions.

PLACE: THRIKKAKARA

DATE:

SHREYA AJI JOHN

CONTENTS

SL NO	CHAPTERS	Page No.
I	INTRODUCTION	
	1.1 Introduction	
	1.2 Problem definition	
	1.3 Objectives of the study	
	1.4 Scope of the study	
	1.5 Limitations of the study	
II	LITERATURE REVIEW	
III	INDUSTRY PROFILE	
	3.1 brief history of the industry	
	3.2 industrial performance- Global, National and Regional	
	3.3 prospects and challenges in the industry	
IV	COMPANY PROFILE	
	4.1 Brief history of the organisation and current board of directors/ organizational chart	
	4.2 Mission, Vision Statement and Quality policy followed	
	4.3 Business process of the organization- Product Profile	
	4.4 SWOT Analysis of the company	
V	RESEARCH METHODOLOGY	
	5.1 Statement Of The Problem	
	5.2 Research Design	
	5.3 Sample Design	
	5.3.1 Population	
	5.3.2 Sampling Technique	
	5.3.3 Sample Size	
	5.4 Data collection design	
	5.4.1 Data source	
	5.4.2 Data collection tool	
	5.4.3 Data analysis tool	

VI	DATA INTERPRETATION AND ANALYSIS	
VII	FINDINGS, SUGGESTIONS AND CONCLUSION	

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION TO THE TOPIC

The official topic of the project is “The study on Impact of patient waiting time in hospitals”.

The concept of patient waiting time in hospitals is a crucial and multifaceted aspect that significantly influences the overall efficiency and quality of healthcare services. Waiting time is the amount of time it takes for patients to get various services within a hospital, such as consultations with healthcare experts, diagnostic testing, treatments, or surgical operations. The patient wait times in hospitals have serious consequences for both individuals and the healthcare system as a whole. Excessive wait times can cause patient discontent, anxiety, and, in certain situations, poor health results. In contrast, effective waiting time management may improve patient happiness, lead to better healthcare outcomes, and optimize resource utilization.

Understanding and managing patient wait times requires a multidimensional strategy that includes effective appointment scheduling, simplified check-in procedures, the use of technology, and continual efforts to enhance overall healthcare delivery. They delve into the heart of healthcare efficiency, resource allocation, and the delicate balance of addressing patient requirements while managing the expectations imposed on healthcare professionals. As healthcare institutions try to deliver patient-centered treatment and improve overall quality, addressing and reducing wait times has become a primary goal. This investigation into patient wait times delves into the complexities of the problem, seeking to understand the factors that contribute to delays, the impact on both patients and healthcare providers, and the innovative strategies that can be used to create a more streamlined and patient-friendly healthcare environment. By investigating the complexities of patient wait times, we may discover areas for improvement, execute focused interventions, and eventually contribute to a healthcare environment that values prompt, efficient, and patient-centered treatment. In this context, the study aims to look into the numerous dimensions of patient waiting times in

hospitals, exploring their influence on patient well-being, the issues faced by healthcare personnel, and the methods that may be used to improve the overall patient experience.

Key components of patient waiting time:

1) Check-in Process:

In the check-in process, it refers to the time it takes for patients to register, verify personal and insurance information, and complete administrative chores.

2) Triage time:

It refers to the amount of time patients spends in the triage area, where healthcare workers priorities patients based on their medical urgency.

3) Consultation Time:

The consultation time refers to the time spent with healthcare practitioners for consultations, examinations, and treatment plan talks. Delays in this step might greatly increase overall waiting times.

4) Diagnostic test time:

The amount of time patients spends undergoing imaging or laboratory testing. Delays in collecting test findings can have an influence on the next steps of patient treatment.

5) Communication time:

The time healthcare practitioners spend communicating critical information, treatment plans, and patient instructions. Effective communication can improve patient comprehension and satisfaction.

6) Follow-up Appointments:

The time required to plan and attends follow-up visits for further care or post-treatment monitoring.

7) Pharmacy-Waiting Time:

The amount of time patients spend waiting for their prescribed drugs from the hospital pharmacy.

8) Technology and System Delays:

The delays caused by technological difficulties, such as faulty equipment, electronic health record (EHR) system malfunctions, or scheduling software faults.

1.2 PROBLEM DEFINITION

The issue of longer wait times for different healthcare services, such as initial check-in and consultations, diagnostic testing, and treatments, is the root cause of the problem of patient waiting times in hospitals. Patients as well as healthcare providers are negatively impacted by this complex issue.

Extended waiting periods provide notable obstacles for patients and healthcare personnel alike, affecting the overall standard of service, patient contentment, and systemic efficiency.

The key aspects are:

1) Patient dissatisfaction:

Patients are frequently dissatisfied with extended wait times. This discontent might have an impact on the overall perception of the healthcare institution and patient decisions to seek future care.

2) Negative Impact on Patient Experience:

Prolonged wait times can negatively impact the patient experience, overshadowing positive encounters with healthcare personnel and the quality of care received.

3) Delayed Access to Care:

Excessive waiting times might delay access to important medical treatments, hindering early diagnosis and treatment of health disorders. This delay may cause disease progression or symptom exacerbation.

4) Impact on emergency cases:

Prolonged wait periods in emergency departments can be especially detrimental to individuals with severe or life-threatening diseases who require rapid treatment.

5) Resource Utilization Challenges:

Inefficient use of resources, such as healthcare workers, examination rooms, and diagnostic equipment, can lead to longer wait times, hurting the overall productivity of the institution.

6) Communication breakdowns:

Extended wait periods may cause communication problems between healthcare staff and patients. This lack of communication might cause patients to become anxious and frustrated.

7) Impact on Staff Morale:

Prolonged wait times can have a negative impact on healthcare worker morale, causing stress and job discontent. This can have an influence on the quality of patient treatment.

1.3 OBJECTIVES OF THE STUDY

Primary and secondary objectives for analyzing and regulating patient waiting times in healthcare settings can be described in terms of the particular aims of a research study, quality improvement programme, or healthcare intervention. Primary objectives are often the research's core outcomes or goals, whereas secondary objectives give additional insights or focus on specific parts of the study.

The objectives are as follows:

- Reduce patient discomfort:

To reduce the amount of time patients spend waiting for different healthcare treatments to alleviate suffering, frustration, and inconvenience.

- Enhance Patient Satisfaction:

To enhance and reduce wait times, demonstrate a dedication to patient-centered treatment, and provide a good healthcare experience to increase overall patient satisfaction.

- Ensure timely access to care:

To determine and ensure patients get timely access to appropriate healthcare services to avoid delays in diagnosis and treatment.

- Prioritize urgent cases:

To implement triage mechanisms and accelerate care for patients with urgent or severe medical problems, ensuring that those in greatest need receive early attention.

1.4 SCOPE OF THE STUDY

Waiting time in patients in a healthcare setting is wide and includes several stages of the patient's journey. Understanding and managing the breadth of waiting time is critical for healthcare professionals seeking to improve patient experiences and overall healthcare delivery.

- 1) Appointment Scheduling:

The amount of time patients must wait for an available appointment, which includes routine check-ups, follow-up visits, and consultations for special health issues.

- 2) Check-in and Registration:

The time patients spend doing administrative chores during the check-in and registration processes, such as submitting personal information and insurance data.

- 3) Diagnostic testing time:

The time it takes for patients to wait for and have numerous diagnostic tests performed, such as imaging studies (X-rays, MRI, CT scans), laboratory testing (blood tests, urine tests), and other essential investigations.

- 4) Treatment and procedure duration:

The amount of time patients spend waiting for and undergoing medical treatments, operations, or surgeries, whether inpatient or outpatient.

1.5 LIMITATIONS OF THE STUDY

1) Subjectivity in Patient Experience:

Patient impressions of wait times can be subjective, impacted by factors such as individual tolerance, expectations, and the nature of the medical interaction. Different patients may interpret the same waiting time differently.

2) Variability in Types of Service:

Waiting periods might vary greatly based on the type of treatment and the medical condition. Waiting times for emergency situations, routine check-ups, and diagnostic procedures may vary.

3) Day-to-Day Variations:

Patient volumes and wait times might fluctuate dramatically from day to day, or even within a single day, making it difficult to generalize data or detect persistent patterns.

4) Impact of External Factors:

External variables, such as crises, sudden influxes of patients, or staff shortages, can all have an influence on wait times and may be beyond the healthcare provider's direct control.

5) Incomplete Data and Documentation:

Healthcare institutions may not regularly document or track wait times, resulting in inadequate statistics. Inaccuracies in recording or reporting wait times might further reduce the information's credibility.

CHAPTER 2
LITERATURE REVIEW

1. **Osundina, K. S., & Opeke, R. O. (2017)** Stated, the survey found that most patients were unsatisfied with the treatments provided, with long waiting times being the leading source of discontent. Healthcare institutions and managers must address deficiencies in human resources, logistics, and internal procedures to reduce waiting times and improve healthcare delivery.
2. **Chandra, D. (2015)** Stated that patients often face the issue of waiting in a queue. Medical care units have challenges related to appointment systems, patient flow, records, and examination procedures, resulting in increasing wait times and dissatisfaction among patients. Hospitals are using methodologies like queuing models, process models, Hospital Information Systems, Six Sigma, and simulations to address the gap in everyday tasks.
3. **Mohebbifar, R., Hasanpoor, E., Mohseni, M., Sokhanvar, M., Khosravizadeh, O., & Isfahani, H. M. (2014)**. State as in overall, the average waiting time for each patient was around 161 minutes. 161 minutes is a prolonged wait period for each outpatient at the hospital. These models can effectively reduce outpatient waiting times. This study found that hospitals adopting the model before admission and using the process model had improved functioning. For shorter doctor visits, healthcare organisations should prioritise monitoring and control while adhering to established regulations.
4. **Ir M, D., Johari Dato Mohd Ghazali, R., Hazilah Abd Manaf, N., Hassan Asaari Abdullah, A., Abu Bakar, A., Salikin, F., ... & Ismefariana Wan Ismail, W. (2011)**. On average, patients wait more than two hours from registration to receiving their prescription paper, with only 15 minutes of contact with medical professionals. Employee surveys identify several variables that contribute to long wait times, including employee attitude and work process, severe workload, management and supervisory issues, and inadequate facilities.
5. **Brekke, K. R., Siciliani, L., & Straume, O. R. (2008)** state the hospital competition can only lower waiting times if the competitive demand sector is small, as opposed to a benchmark instance of local monopolies. If free choice affects a significant portion of patients (i.e., the competitive segment), competition might lead to longer wait times. If there is a large enough competitive demand sector, hospital competition is preferable to monopoly due to abnormally short wait times and expensive costs. Competition can lead to longer wait times, resulting in reduced activity and higher welfare.
6. **Siciliani, L., Stanciole, A., & Jacobs, R. (2009)** says that for low waiting times, longer waiting times reduce costs due to less idle capacity. However, larger waiting times may

raise expenses due to increased waiting list management costs. An ideal rationing system would prioritise patients with high expected benefit, deny treatment to those with low expected benefit, and establish a waiting period below the cost-minimizing level.

7. **Ishijima, H., Eliakimu, E., & Mshana, J. M. (2016)** state that using the 5S strategy can reduce patient wait times in OPDs, particularly for repetitive labor processes. The study found that implementing the 5S method can cut wait time. Insufficient human resources have led to increased workload for health workers and more complex work procedures. Lean management techniques, such as the 5S method, have been shown to enhance throughput and reduce waste. Practicing the 5S method and lowering lead-times for health services providing improves job satisfaction among health personnel.
8. **McCarthy, K., McGee, H. M., & O'Boyle, C. A. (2000)** state half of the outpatients had to wait longer than their scheduled appointment time to be seen. Only half of the patients were seen at the appropriate time of consultation. Early appointments were connected with the greatest delay. Staff delays in establishing clinics may also add to the excessive wait at this time. Patients who waited longer reported lower levels of satisfaction with their wait times. This lends credence to the claim that patients do not find waiting for a shorter amount of time undesirable. Waiting times are a simple indicator of service quality in outpatient clinics, but they should not be used as a surrogate for other quality factors.
9. **Belayneh, M., Woldie, M., Berhanu, N., & Tamiru, M. (2017)** state that long patient wait times at two hospitals were mostly due to a high number of patients with limited doctors, lengthy card searches, and lengthy registration processes. The institution has inadequate infrastructure and physicians. Long wait times might lead to poor patient satisfaction. Health care institutions and managers must address gaps in human resources, logistics, and internal procedures to reduce wait times and improve patient care.
10. **Sriram, S., & Noochpoung, R. (2018)** state the higher socioeconomic level correlates with lower wait times among ethnic groups. Privately held hospitals have shorter wait times, while non-profit hospitals have longer wait times. Patients who cannot afford private hospitals face lengthier wait times for services.
11. **Usman, S. O., Olowoyeye, E., Adegbamigbe, O. J., Olubayo, G. P., Ibijola, A. A., Tijani, A. B. & Ipinmoye, T. (2020)** state that in a competitively managed health-care environment, patient wait times are becoming increasingly critical in a clinic's capacity to attract new business. Efforts should be made not just to minimize patient waiting time,

but health management should also invest in resources and activities that ensure a useful use of the time patients spend in the process of obtaining healthcare services.

- 12. Almomani, I., & Alsarheed, A. (2016).**State the methods discussed in this article improve the software used to manage outpatient clinic services, reducing wait times. To better understand existing OMS and assess patient satisfaction, both quantitative and qualitative methodologies were applied. Five major issues that might cause long or unmeasured wait times have been identified: appointment type, ticket numbering, doctor late arrival, early arriving patient, and patient distribution list.
- 13. Miller, R., & Chalapati, N. (2015)** state that lean technologies needed to enhance patient care are not hard to understand or operate. The most difficult aspect is figuring out which stakeholders to involve in order to develop a shared definition of value that serves as the foundation for the whole implementation. The modifications detailed in this report were not transient, and the decrease in patient waiting time has persisted after the first deployment.
- 14. Mehra, P. (2016)** state the patients with longer wait times reported lower levels of satisfaction with healthcare quality. Male patients and those with male physicians saw longer wait times than female patients and those with female providers. The sophisticated regression analysis indicates that waiting time has a minimal impact on overall clinic quality satisfaction. The waiting time did not affect the link between satisfaction with dominant communication style and overall satisfaction at the outpatient clinic.
- 15. Munavalli, J. R., Rao, S. V., Srinivasan, A., & van Merode, G. G. (2020)** stated that integral patient scheduling, which considers departmental status and global optimisation, may reduce waiting and cycle times in healthcare centres. It solves the problem of uncontrolled waiting periods and high cycle durations by using a route optimisation strategy. This scheduling strategy reduces waiting times without requiring more resources. Effective management of waiting periods is crucial in open loop OPC systems, which are used to assess quality of treatment.
- 16. Tran, T. D., Van Nguyen, U., Nong, V. M., & Tran, B. X. (2017)**Suggest that while waiting times decreased from 2014 to 2015, those with health insurance saw significantly longer wait times compared to those without. The study recommends promoting and distributing human resources in outpatient clinics, as well as simplifying health insurance administrative procedures.
- 17. Nottingham, Q. J., Johnson, D. M., & Russell, R. S. (2018)** states that the research connects quality management with healthcare by examining patients' perceptions of

service delivery by providers and practices. In a rural context, a study established a negative correlation between waiting time and patient satisfaction with treatment quality. The study also discovered that waiting time is more closely related to patient referrals to the practice than to care provider referrals.

- 18. Patel, R., & Patel, H. R. (2017)** state that registration times vary based on factors such as patient traffic in the hospital and the number of registration counters. Longer registration times create inconvenience for patients. Longer wait times at the OPD may negatively affect patient satisfaction.
- 19. Tiwari, Y., Goel, S., & Singh, A. (2014)** stated patient flow is irregular, contributing to overpopulation. Many tertiary care institutions in India are experiencing issues with patient flow systems. Overcrowding, overuse, inadequate staffing, and lack of coordination of treatment are common issues in emergency departments. Overcrowding and poor patient flow in EDs can lead to long wait times, inappropriate care, and poor quality services.
- 20. Bhambere, S. (2017)** state the longer wait time between patient arrival and initial check-up or diagnosis by a general trainee doctor of the Medical Officer is due to internal and external factors. Limited availability of specialists and hospital workers leads to delays at all levels. In-hospital reasons account for the majority of patient waiting time, which may be greatly reduced.
- 21. Naaz, F., & Mohammed, I. (2019)** state, patient satisfaction is a key measure of the quality of healthcare services at all levels. Patient discontent can be caused by a variety of variables, including queue time, waiting time, physical facilities at the OPD registration counter area, and inadequate signage. Patients were dissatisfied with the OPD waiting time, consultation time, and pharmacy services. Effective communication regarding disease and treatment was also lacking.
- 22. Shahzadi, S., & Annayat, S. (2017)** state that measuring patient waiting time and identifying variables that contribute to high wait times at different service points is necessary, as well as applying queuing theory. The majority of the patients stated that they had no complaints about the services they received. They suggest the outpatient department to relatives and friends and are happy with the services provided.
- 23. Paul, B. C., Kumar, N., Kumar, A., Singh, I. B., & Neogy, S. K. (2021)** State the number of patients in the system affects waiting time, while other metrics remain constant. To optimize the system, either increase the schedule or number of OPD rooms, as decreasing the number of patients does not serve the aim. To reduce overcrowding,

consider creating a sub-waiting area and assigning patients to specific positions inside the queue.

- 24. Sharma, K. A., Yadav, A., Sridhar, C., Malhotra, N., Biji, S., & Kumari, K. (2020)** State the execution of change ideas resulted in a considerable reduction in the waiting period for infertility treatment. A well-organized quality improvement initiative and team efforts may bring about changes in an existing healthcare delivery system, resulting in sustainable benefits over time.
- 25. Anderson, R. T., Camacho, F. T., & Balkrishnan, R. (2007)** state that longer wait times were connected with decreased patient satisfaction. The reduction in pleasure caused by extended wait periods is significantly lessened as time spent increases. These findings indicate that reducing patient wait times at the expense of time spent with the patient in order to enhance patient satisfaction levels would be counterproductive.
- 26. Bleustein, C., Rothschild, D. B., Valen, A., Valatis, E., Schweitzer, L., & Jones, R. (2014)** state Longer wait times are associated with more catastrophic clinical provider assessments of patient satisfaction. The results showed that every facet of the patient experience--specifically, confidence in the care provider and perceived quality of treatment--correlated adversely with longer wait times. Longer wait times not only have a negative influence on metrics such as probability to suggest and overall happiness with the experience, but they also affect impressions of information, instructions, and overall treatment offered by physicians and other caregivers.
- 27. Kreitz, T. M., Winters, B. S., & Pedowitz, D. I. (2016).**state that minimizing wait times in orthopedic clinics may increase patient satisfaction but have little effect on their likelihood of referring the service. Based on these findings, it concluded that an extra 15 minutes of wait time may reduce a patient's overall happiness with their experience but not their likely to refer the practice to their colleagues. One possible reason is that, while the patient was dissatisfied with their specific experience, they did not see it as a reflection of the practice in general.
- 28. Alarcon-Ruiz, C. A., Heredia, P., & Taype-Rondan, A. (2019)** state that Waiting time had a slight inverse relationship with patient satisfaction, but only among those who reported it. Waiting time and consultation time had a non-linear relationship with total patient satisfaction, with a larger correlation in the first 90 minutes of waiting time and 15 minutes of consultation time, respectively.
- 29. Lee, S., Gross, S. E., Pfaff, H., & Dresen, A. (2020)** state that perceived wait time is a substantial indicator of satisfaction. Effective communication can help to reduce

discontent with extended wait times. While waiting time remains a strong predictor of satisfaction, this study suggests that pleasant communication interactions with health care professionals may mitigate the negative consequences of extended wait times.

30. **Lewis, A. K., Harding, K. E., Snowdon, D. A., & Taylor, N. F. (2018).** State that there was low-level evidence that shorter wait times were related with modest improvements in workplace engagement for patients seeking therapy. The small improvements in health outcomes reported in lowering wait time for community outpatient services imply that additional putative benefits, such as boosting patient flow, should be investigated.
31. **Leiba, A., Weiss, Y., Carroll, J. S., Benedek, P., & Bar-dayan, Y. (2002).**state that young patients tend to overestimate waiting times. Patient satisfaction with medical care is adversely connected with time spent booking appointments and waiting in clinics.
32. **Thompson, D. A., Yarnold, P. R., Williams, D. R., & Adams, S. L. (1996)** state the notion that waiting times were less than predicted was related with higher overall happiness. Actual waiting durations did not predict overall patient satisfaction. Actual waiting periods do not indicate total patient satisfaction, but perceptions of waiting time, information delivery, and expressive quality do. Providing information, projecting expressive quality, and regulating waiting time perceptions and expectations may be a more successful technique for improving patient satisfaction in the emergency department than reducing actual wait time.
33. **Soremekun, O. A., Takayesu, J. K., & Bohan, S. J. (2011).** State to reduce perception of wait times and enhance perception of service delivered, when paired with patient expectation management, can improve patient satisfaction. Changes in the wait experience can reduce perceived wait times without affecting real wait times.
34. **Tabibi, S. J., Najafi, B., & Shoaie, S. (2009)** state that to reduce wait times for medical treatments in teaching hospitals' emergency departments and boost patient satisfaction, the method of providing services to patients and training service personnel must be reviewed quickly.
35. **Jabbari, A., Jafarian, M., Khorasani, E., Ghaffari, M., & Majlesi, M. (2011).** State that a timer, a checklist, and patient records were used to measure wait times. Patients had to wait for their orders to be reviewed by the admission nurses. To prevent overcrowding, proper strategies must be implemented, such as prioritizing beds for emergency and non-emergency hospitalization, having an admissions coordinator, adhering to the 30-minute rule, establishing a holding unit, direct admission of patients, and conducting a scientific review of the number of CCU and ICU beds.

36. **Adindu, A., & Esu, E. (2012).** Stated that extended wait times in outpatient clinics are a primary cause of patient dissatisfaction with care and a hindrance to facility utilization. Research demonstrates that patient dissatisfaction with medical quality is not necessarily linked to lengthy wait times.
37. **Alrasheedi, K. F., Al-Mohaithef, M., Edrees, H. H., & Chandramohan, S. (2019).** stated that longer wait times undoubtedly have an impact on patient care and patients' propensity to seek medical attention. This not only ruins the flow of care and treatment, but it also has a detrimental effect on patient outcomes. Consequently, this study looked at the relationship between patient satisfaction and wait times in a few basic healthcare facilities.
38. **Umar, I., Oche, M. O., & Umar, A. S. (2011)** Stated that patient wait time is a factor that impacts healthcare service consumption. Healthcare organizations and providers should implement initiatives to reduce waiting times and improve patient satisfaction. The majority of patients were disappointed with the services provided, with the main reason being the extended waiting time.
39. **Al-Harajin, R. S., Al-Subaie, S. A., & Elzubair, A. G. (2019).** Stated that fifty percent of the patients were pleased with the wait time, while the rest of the patients were dissatisfied. There is a negative link between wait time and patient satisfaction. As a result, lowering wait times may increase patient satisfaction and willingness to continue receiving care at the same healthcare institution.
40. **Aburayya, A., Alshurideh, M., Albqaen, A., Alawadhi, D., & Ayadeh, I. (2020)** Stated that Some patients experienced lengthy wait times for treatment. The questionnaire analysis identified five factors that impact WT issues: employee commitment and attitude, inadequate work processes and procedures, barriers to employee-supervisor relations, high workload and capacity, and poor medical and administrative facilities. This discovery has been linked to the long-term prevalence of WT in primary healthcare settings.

CHAPTER 3
INDUSTRY PROFILE

3.1 BRIEF HISTORY ABOUT THE INDUSTRY

Healthcare eventually began as conventional healthcare, in which many civilizations conducted conscious research on healthcare. One of the first instances is Mesopotamia's "Treatise of Medical Diagnosis and Prognoses," in which tablets were constructed based on reasonable observations of the body. The nineteenth century marked a watershed moment in the history of the healthcare business. Numerous developments in the technical, chemical, and biological disciplines allowed physicians to learn more about illnesses and improve their understanding of how to treat them. Home cures were the starting point for the healthcare sector. It originated as a completely reactive medical practice in which individuals discovered a plant's therapeutic virtues by trial and error, documented them, and passed them on to others. The origins of contemporary healthcare may be traced back to ancient civilizations, when primitive medical techniques and herbal medicines evolved. In ancient Greece, individuals such as Hippocrates lay the groundwork for a more methodical and ethical approach to medicine. During the Middle Ages, medical knowledge was retained and advanced in Islamic civilizations, whilst in Europe, monasteries played an important role in providing medical treatment. The Renaissance was a time of increased interest in anatomy and scientific investigation, providing the basis for our understanding of the human body and illness.

In the nineteenth century, saw substantial advances in medical research, such as the invention of vaccinations, the discovery of anesthesia, and surgical technique improvements. The creation of sophisticated hospitals expanded, and nursing as a profession acquired prestige. In the twentieth century, saw dramatic developments in healthcare, fueled by inventions such as antibiotics, X-rays, and the creation of vaccinations against numerous illnesses. In the twentieth century featured significant developments in medical technology, including the introduction of the MRI and CT scan, which improved diagnostic capabilities. The growth of the biotechnology and pharmaceutical sectors resulted in advancements in medication development and personalized treatment. The healthcare sector has seen possibilities and problems in recent decades as a result of demographic trends, digitization, and globalization.

In today's healthcare sector, they are defined by a dynamic interaction of medical advances, ethical issues, and the continual goal of equitable and efficient healthcare delivery. Rising healthcare expenditures, gaps in access, and global health problems all continue to affect the industry's future. As the healthcare environment advances, there is a greater emphasis on

multidisciplinary cooperation, patient empowerment, and the use of emerging technology to meet the complicated healthcare demands of various populations.

NATURE OF THE INDUSTRY

The healthcare industry encompasses the development and marketing of products and services that promote the preservation and restoration of well-being. The modern healthcare industry is divided into three major components: services, goods, and financing. It may be further broken into several fields and categories, and it relies on multidisciplinary teams of highly qualified professionals and paraprofessionals to meet the healthcare needs of individuals and communities. Healthcare covers a wide range of activities, from preventative and basic care to specialized medical procedures, operations, and rehabilitation. It is an essentially multidisciplinary discipline in which healthcare experts from diverse professions work together to deliver complete and personalized treatment to patients. This collective method brings together physicians, nurses, therapists, chemists, and administrative personnel to handle the varied requirements of patients seeking medical care. The sector operates under a strict regulatory framework that ensures adherence to standards, protocols, and ethical norms in order to protect patient well-being. Several key attributes define the nature of the healthcare industry:

(A) Complexity and Diversity:

The healthcare sector is intrinsically complicated, offering a wide range of services from preventative and basic care to specialized medical treatments and surgical operations.

This intricacy is exacerbated by the wide range of healthcare providers, which include hospitals, clinics, primary care offices, and other allied health professions.

(B) Interdisciplinary Collaboration:

Healthcare is intrinsically multidisciplinary, with practitioners from diverse professions working together to meet patients' holistic requirements. This comprises physicians, nurses, chemists, allied health professionals, administrators, and support personnel, all of whom work together to provide complete, patient-centered care.

(C) Regulatory Environment:

Healthcare works in a highly regulated environment to guarantee patient safety, quality of care, and ethical compliance. Regulatory agencies and standards differ across the world, influencing the behaviour of healthcare practitioners and organisations.

(D) Global Public Health Challenges:

The healthcare business faces worldwide public health concerns such as infectious illnesses, chronic ailments, and rising health risks. Addressing these difficulties needs worldwide collaboration, research, and coordinated solutions.

(E) Focus on Prevention and Wellness:

The healthcare business is increasingly emphasizing preventative care and wellness activities. Beyond treating disorders, there is an understanding of the value of lifestyle, diet, and early intervention in promoting general health.

(F) Economic Considerations:

Healthcare is a key economic engine in many nations. Healthcare funding, insurance systems, and resource allocation are major economic factors that must be balanced with excellent patient treatment.

(G) Patient-Centered Care:

The transition to patient-centered care emphasizes patient engagement in decision-making, personalized treatment regimens, and increased communication between healthcare practitioners and patients.

3.2 INDUSTRIAL PERFORMANCE – GLOBAL, NATIONAL AND REGIONAL

GLOBAL:

Global healthcare performance differs based on varied systems and socioeconomic factors. Developed countries often have improved healthcare infrastructure, higher life expectancy, and access to quality treatments. It is essential for medical research, public health, and providing basic healthcare services to communities globally. Telemedicine and digital health innovations can help bridge access gaps, particularly in distant places. Improving global

healthcare requires tackling difficulties such as infectious illnesses, maternity and child health, and non-communicable diseases. Global assessments frequently include an evaluation of the impact of worldwide health initiatives and programmes. These projects may focus on specific diseases (e.g., HIV/AIDS, malaria) or on wider attempts to enhance the health-care system.

Global health organisations, like the World Health Organisation (WHO), create indices that evaluate nations based on major health metrics. These indexes frequently take into account variables like as life expectancy, maternity and child health, and infectious disease control. Global evaluations compare healthcare spending trends across nations, including overall healthcare spending as a proportion of GDP, public vs private healthcare expenditures, and out-of-pocket healthcare expenses. Comparing expenditure patterns allows us to examine the effectiveness and equality of healthcare finance systems. Global efforts are ongoing to guarantee that healthcare is high-quality, reasonably priced, and available to everyone.

Global health disasters, like the COVID-19 pandemic, highlight the interconnectedness of health and the importance of integrated and resilient healthcare systems. Efforts are underway to attain universal health coverage and promote equitable healthcare for all. And, hence the industry is focusing more on mental health and overall well-being. Some countries utilise a mix of public and private healthcare systems, while others implement universal programmes to provide equitable access to healthcare for all inhabitants. Another important consideration is the quality of care provided.

NATIONAL:

The National Healthcare provides performance management in the healthcare system using quality measurements that are both process and outcome-focused. Government policies, regulatory frameworks, and economic conditions all have an impact on national healthcare. Value-based care models can help governments improve service quality while reducing costs. Some countries have advanced healthcare systems with cutting-edge equipment, experienced workers, and diverse products. These countries gradually prioritize healthcare as a crucial part of their social infrastructure and allocate significant funds towards it. National healthcare systems adapt to shifting demographics, technology improvements, and public expectations, resulting in a complex interplay of factors influencing sector success. Collaborations between

the public and commercial sectors are improving healthcare outcomes by leveraging resources and expertise. National healthcare expenditures and expenditure as a proportion of GDP are important indicators.

Assessments frequently examine the effectiveness of spending and whether resources are distributed correctly to satisfy the population's health requirements. It takes into account the accessibility of healthcare services, which includes the distribution of healthcare facilities, the healthcare personnel, and the availability of critical medical supplies. It assesses the effectiveness of national public health programmes such as vaccination campaigns, illness surveillance, and health promotion initiatives.

REGIONAL:

At the regional level, the socioeconomic, cultural, and geopolitical characteristics of a given location influence the success of the healthcare business. Regional healthcare policies and regulations shape industry dynamics, impacting the performance and growth of healthcare systems. It is essential to assess the efficacy and integration of healthcare networks in a given area. This involves coordinating primary, specialist, and public health services. Assessing community involvement and participation in healthcare choices and projects is critical for ensuring that healthcare services are tailored to the specific requirements of local communities. In regions with disparities, bridging the healthcare gap becomes a priority, often through targeted interventions and policy measures. Governments and healthcare organisations aim to provide equitable access to high-quality healthcare, increase service availability, and strengthen infrastructure. The economic factors, including regional wealth distribution and investment in healthcare, play a crucial role.

3.3 PROSPECTS AND CHALLENGES IN THE INDUSTRY

PROSPECTS:

The healthcare business has enormous potential and opportunities, which are driven by a variety of variables such as technical improvements, demographic shifts, shifting customer tastes, and rising global health issues. The listed below are some of the major prospects of the healthcare industry:

a) Technological advancements:

The fast speed of technology progress, such as artificial intelligence (AI), telemedicine, wearable devices, and precision medicine, offers substantial opportunities for improving healthcare delivery, increasing diagnostic accuracy, and personalising treatment methods.

b) Digital Health Solutions:

The proliferation of digital health technologies, such as electronic health records (EHRs), mobile health applications, remote patient monitoring, and telehealth platforms, presents opportunities for expanding healthcare access, boosting patient involvement, and optimising healthcare operations.

c) Personalized Medicine:

Advances in genomics, molecular biology, and data analytics are propelling the advent of personalized medicine, which tailors treatment strategies to patients' genetic composition, lifestyle circumstances, and biomarker profiles. Personalized medicine promises the promise of more effective and focused medicines, ultimately leading to improved health outcomes.

d) Healthcare Workforce Development:

Addressing labor shortages, increasing workforce diversity, and encouraging continual professional development all offer opportunities for developing a competent and resilient healthcare workforce capable of addressing changing healthcare demands.

e) Population Health Management :

Population health management solutions based on data analytics, predictive modeling, and preventative interventions have the potential to solve population health concerns, reduce healthcare inequities, and promote proactive healthcare delivery.

CHALLENGES:

While the healthcare sector offers great prospects for expansion and innovation, it also faces substantial difficulties that affect efficiency, accessibility, and care quality. The healthcare business faces several important challenges, which includes:

(a) Rising healthcare costs:

Technological improvements, growing demand for services, ageing populations, and the incidence of chronic illnesses all contribute to rising healthcare expenses, which offer a substantial problem. Balancing cost conservation with high-quality treatment is a complicated challenge for healthcare systems across the world.

(b) Data security and technological integration:

The integration of modern technology such as electronic health records (EHRs), telemedicine, and wearable devices raises concerns about data interoperability, privacy, and security. Ensuring the secure and ethical use of health data while harnessing technology to improve patient care is a continuous problem for healthcare providers.

(c) Workforce Shortage and Burnout:

Shortages of healthcare professionals, such as physicians, nurses, and allied health workers, make it difficult to satisfy the increasing demand for healthcare services. Furthermore, healthcare personnel experience significant levels of burnout as a result of excessive workloads, long hours, and emotional stress, which affects patient care and employee retention.

(d) Global Health Crisis and Pandemic:

The advent of global health crises, such as pandemics and infectious disease outbreaks (for example, COVID-19), poses substantial problems to healthcare systems, including resource allocation, emergency planning, and the ability to respond effectively to public health events.

(e) Regulatory Compliance and Healthcare Reform:

Evolving regulatory requirements, compliance standards, and healthcare reforms present problems for healthcare organizations in terms of responding to new legislation, guaranteeing patient safety, and navigating complicated policy landscapes.

CHAPTER 4
COMPANY PROFILE

4.1 BRIEF HISTORY OF THE ORGANIZATION:

Aster Medcity, is the flagship hospital for Aster DM Healthcare. It is located in Kochi, Kerala, and inaugurated in 2015 which nestled on a serene 40-acre waterfront campus, is a 670-bed quaternary care institution and one of the best hospitals in Kerala. Since 2013, the centre has provided great healthcare at an affordable cost through its Centres of Excellence and a multi-specialty hospital, fulfilling the dreams and desires of its beloved chairman, Dr. Azad Moopen. It provides the highest standard of care and a transformative experience for all healthcare needs. This multi-specialty hospital, which is outfitted with expert specialists and cutting-edge equipment, offers patients world-class medical care.

The hospital has evolved over the years into a medical destination that not only attracts thousands of patients from around the world, but also attracts and nurtures the best talent, continues to upgrade technology, and fosters research, education, and a distinct work culture that is ethically and socially responsible.

It has evolved over time into a medical destination that not only attracts thousands of patients from around the world, but also attracts and nurtures the best talent, continues to upgrade technology, and fosters research, education, and a distinct work culture that is ethically and socially relevant. They are Kerala's first quaternary care hospital and was also recognised by NABH and obtained NABH accreditation for Nursing Excellence, as well as Bureau Veritas Green OT (Green Operation Theatres) accreditation, all within a year of opening its doors to the world.

CURRENT BOARD OF DIRECTORS:

Alisha Moopen -

Deputy Managing Director

Amitabh Johri -

Jt. Chief Financial Officer

Anoop Moopen -

Non Executive Director

Azad Moopen -

Chairman & Managing Director

Chenayappillil John George -

Independent Director

Daniel Robert Mintz -	Non Executive Director
Emmanuel David Gootam -	Independent Director
Hemish Purushottam -	Co. Secretary & Compl. Officer
James Mathew -	Independent Director
M R Sunil Kumar -	Jt. Chief Financial Officer
Nitish Shetty -	Chief Executive Officer
Purana Housdurgamvijaya Deepti -	Independent Director
Shamsudheen Bin Mohideen Mammu Haji -	Non Executive Director
T J Wilson -	Non Executive Director
Wayne Earl Keathley -	Independent Director

4.2 MISSION, VISION STATEMENT AND QUALITY POLICY FOLLOWED

MISSION:

Aster Medcity's commitment to providing high-quality healthcare at economical prices has never wavered. The mission is to provide high-quality, patient-centered healthcare with compassion and excellence. We are dedicated to encouraging wellness, furthering medical research, and delivering comprehensive and easily accessible healthcare to our community. A pledge that defines what we do and why we exist. One thing we endeavor to uphold every day and every minute.

VISION:

Aster Medcity is a multi-specialty hospital equipped with qualified doctors and cutting-edge technology that provides world-class medical care to patients. The vision is to be a premier healthcare institution known for innovation, clinical excellence, and unwavering dedication to

enhancing the health and well-being of individuals and communities. We want to create new standards in healthcare delivery, medical education, and research, with the goal of making the world a better and happier place.

The Motto - “We’ll Treat You Well”

QUALITY POLICY FOLLOWED:

At Aster DM Healthcare, we hold the opinion that quality stems from all of the organization's operations. Our firm has implemented total quality management (TQM), a management discipline and philosophy that institutionalize planned and continuous improvement. We also emphasize the need of improving systems and processes rather than individuals, as well as the need for all functions and workers to engage in the improvement process. The Aster DM Healthcare quality model prioritizes the customer (whether internal or external), and is backed by structures, procedures, and outcomes. Aster Medcity aims to acquire national and international accreditation by fostering a dedicated culture and increasing trust among staff, patients, and society.

‘PATIENT SAFETY: Every Patient, First time, Every Time

With a multidisciplinary treatment approach at its core, Aster Medcity offers quality healthcare under Centres of Excellence in -

- Cardiac Sciences

- Neurosciences
- Orthopaedics & Rheumatology
- Infectious Diseases
- Interventional Radiology
- ENT
- Plastic
- Cosmetic & Microvascular Surgery
- Child & Adolescent Health

- Gastroenterology & Hepatology, and Multi-Organ Transplantation

- General Surgery

- Psychiatry

- Dentistry
- Maxillofacial Surgery
- Pulmonology
- Ophthalmology Nephrology & Urology
- Oncology
- Women's Health
- Internal medicine

The Aster Minimal Access Robotic Surgery (MARS) programme has helped over 1200 transplant surgeons, urologists, and gynaecologists undertake robotic procedures. The hospital's clinical programmes, including Physical Medicine & Rehabilitation (PMR), Bone Marrow Transplant, Liver Transplant, Kidney Transplant, Parkinson and Movement Disorders treatment (including Deep Brain Stimulation), Spine Surgery, Epilepsy Surgery, and Cardiac Electrophysiology, have helped hundreds of patients worldwide. Aster Medcity aims to create world healthcare standards to enhance Kerala's stagnating healthcare system.

4.3 BUSINESS PROCESS OF ORGANISATION- PRODUCT PROFILE

A hospital's business process is an intricate network of actions aimed at providing patients with efficient and effective healthcare services. A hospital's product profile consists mostly of the healthcare services, facilities, and amenities it provides.

The following are the process:-

1. Patient Registration:

The procedure starts with registration at the hospital. This entails gathering basic demographic information and producing a unique identity for each patient.

2. Appointment Scheduling:

Patients can arrange appointments for consultations, diagnostic testing, and operations. This approach optimizes resource use and reduces wait times.

3. Consultation and diagnosis:

Patients attend the facility for consultations with healthcare specialists. Doctors diagnose ailments, offer treatments, and, if required, refer patients to additional testing.

4. Diagnostic Services:

To help with diagnosis and treatment planning, hospitals offer a variety of diagnostic services such as laboratory testing, imaging (X-rays, MRIs, CT scans), and pathology investigations.

5. Treatment planning:

Healthcare providers create treatment regimens based on their diagnoses. Medication, surgery, physical therapy, and other therapies may all be used.

6. Inpatient services:

Hospitals provide inpatient treatments for individuals who require more care. This involves hospitalization, nursing care, and patient monitoring in a designated ward or room.

7. Surgery & Procedures:

Hospitals use specialized operating rooms or procedure suites to perform a variety of operations and medical procedures.

8. Pharmacy services:

Hospitals usually have pharmacies where patients may fill prescriptions and get drugs.

9. Medical record management:

Hospitals keep computerized or paper-based medical records that track patient history, diagnosis, treatments, and results.

10. Billing and insurance processing:

After providing care, hospitals manage invoicing and insurance processing. This includes creating invoices, processing insurance claims, and handling financial transactions.

11. Emergency services:

Hospitals frequently have emergency rooms that treat serious patients and provide prompt medical care.

12. Rehabilitation Services:

Patients get rehabilitation therapies such as physical therapy, occupational therapy, and counseling to help them recover.

4.4 SWOT ANALYSIS OF THE COMPANY

SWOT (strengths, weaknesses, opportunities, and threats) is an analytical approach for examining your organization in four areas.

SWOT analysis is a simple way to assess and identify what is ideal for the organization right now, as well as to develop a successful future plan. As a result, the SWOT analysis of Aster DM Healthcare is carried out.

STRENGTH

- **Faster growth:**

Aster DM Healthcare has shown quicker growth in the past 35 years. It began as a single healthcare clinic and has now grown into a well-established healthcare institute with 377 locations in eight countries.

- **Manpower:**

Aster DM Healthcare is committed to hiring and incentivizing the best personnel in the country. Hiring the proper personnel undoubtedly provides cutting-edge competitiveness to other companies.

- **Strategic Partnership:**

Ms Alisha Moopen, deputy managing director of Aster DM Healthcare, signed a seven-year agreement with Siemens to improve its systems, develop more digital services, and provide training and capacity development assistance in its Gulf area and Indian outlets.

- **CSR initiatives:**

Aster DM Healthcare engaged in a variety of CSR initiatives during its journey. The Aster DM volunteer organisation has positively impacted the lives of over a million people via a range of programmes in community development and support, medical and

wellness, foreign relief, disaster recovery, child health, and handicapped community empowerment. These activities have provided Aster DM Healthcare with a strong market image as well as government subsidies.

- **Clinical excellence:**

Aster Medcity is well-known for its high-quality healthcare services, which emphasize clinical knowledge and innovative medical technology.

- **Focus on Strategy:**

It was founded with the goal of providing world-class healthcare services and making pharmaceutical items affordable to the general public and the firm is continuously working towards that goal.

- **Technology-integration:**

Adopting current healthcare technology such as electronic health records, telemedicine, and sophisticated diagnostic instruments to provide better patient care.

- **Accreditation:**

Recognition and accreditation by appropriate healthcare groups and organizations, which ensures compliance with quality standards and best practices.

WEAKNESS:

- **Cost of Services:**

The impression of greater healthcare prices might be a drawback, limiting access for some parts of the population.

- **Geographic Concentration:**

If the hospital primarily serves a small population, growth options may be limited, and reliance on a single location may be a weakness.

- **Workforce Challenges:**

As with many healthcare organizations, managing staff shortages, burnout, and keeping trained healthcare personnel may be difficult tasks.

- **Less Awareness:**

The average populace takes Aster DM Healthcare medications as recommended by their doctor, but they are unaware of the brand of prescription they are taking. For example, Cipla spends substantially on advertising, thus the brand's name has reached every Indian family.

- **Compliance with Principles:**

Because the organization operates in a sector, it must adhere to certain rules and constraints, which can be challenging and costly for Aster DM Healthcare.

- **Employee Overheads:**

Because pharmaceuticals are a research-intensive industry, Aster DM Healthcare has a labor-intensive company. It comprises highly competent professionals, and dealing with them is not a simple task.

- **Limited Success Outside of Key Business:**

Despite being one of the industry's leading healthcare organizations, Aster DM Healthcare has failed to grow into other product categories owing to its present culture.

OPPURTUNITIES:

- **Enter New Market:**

Because the government has erected hurdles for new entrants into the Bio-Technology and Drugs Industry, Aster DM Healthcare use this chance to expand its pharmacy business footprint.

- **New technologies:**

Aster DM Healthcare may employ new technology to launch a distinct pricing strategy in the new market. It will enable the organization to retain current clients by offering

outstanding service while also attracting new customers through a variety of value-oriented promotions.

- **Policy Reform:**

According to certain experts and evaluations, the Patient Protection and Affordable Care Act (ACA Act) approved by the US government would pave the way for a new set of changes that will benefit generic medicine manufacturers. If this report is true, it will be a great help to the organization.

- **Backward Integration:**

To enhance its profit margin, Aster DM Healthcare focuses on producing raw ingredients for medications.

- **Patient-driven Health Care:**

As demand for wearable biometric devices and telemedicine rises, patterns indicate a shift towards more patient-centric care. This will boost the patient's engagement, which will help the business if well investigated.

THREATS:

- **Government Intervention:**

Medical care administrations are tightly regulated by the government in many countries, including the United States.

- **Commodification:**

Commoditization has a detrimental impact on persons working in the healthcare industry since it prevents manufacturers from charging a profitable price for their products.

- **Competition:**

Aster DM Healthcare faces stiff competition from Fortis Healthcare and Apollo Hospitals Enterprise.

- **Political instability:**

High taxes and an unpredictable political climate hinder an organization's potential to reach new heights of success.

- Counterfeit Drugs:

Aster DM Healthcare product is also prone to counterfeit and low-quality product copying, particularly in emerging and low-income countries.

- The Growing Technological Expertise of Local competitors in the Export Market:

One of the most significant concerns to Aster DM Healthcare's collaboration with local competitors in the export market is the risk of losing intellectual property rights. In emerging nations, particularly in China, the foundation for intellectual property rights is weak.

CHAPTER 5
RESEARCH METHODOLOGY

5.1 STATEMENT OF THE PROBLEM

The project aims to determine the impact of patient waiting time in Aster Medcity, Kochi. A self-prepared questionnaire was utilized to collect data on patient waiting time in accordance with various criteria.

5.2 RESEARCH DESIGN

The research design is the general plan or method utilized to carry out a research study and answer the research questions or objectives. A well-designed research study assures that the information gathered is accurate, valid, and relevant to the research goals. It defines the organization of the study, the methodologies and processes that will be used, and the reasoning behind these decisions. The research strategy, whether qualitative, quantitative, or mixed-methods, refines the technique by structuring data gathering and analysis tactics. Researchers must carefully examine the context of the research, whether it is in a controlled laboratory environment, a real-world field setting, or even the digital sphere. In essence, the research design is the conceptual framework that establishes the basis for a thorough and cohesive investigation, guaranteeing that the obtained data is reliable, valid, and relevant to the study's intended objectives. In here, the research design applied in this study is the descriptive research study. Descriptive research is a form of study that seeks to offer a thorough description or depiction of a phenomena without attempting to influence or control it. The fundamental goal of descriptive research is to observe, document, analyze, and convey information about the traits, behaviors, or situations of a certain topic or group. This form of study is frequently utilized to answer inquiries regarding who, what, when, where, and how

5.3 SAMPLE DESIGN

To choose the sample, a simple random sampling procedure is used. Here, a random sample is collected from the population to guarantee that each person has an equal chance of being picked and that one person's selection does not influence the selection of another.

5.3.1 POPULATION:

The term "population" refers to the total group of people or situations who have a similar attribute and are the subject of a research study. The population symbolises the larger group to whom the study findings are meant to be applied. The definition and identification of the population are critical phases in the design and implementation of a research project.

5.3.2 SAMPLING TECHNIQUE:

Sampling techniques in research methodology are the methods and procedures used to pick a selection of persons or items from a broader population to examine. The purpose of sampling is to collect data from a representative sample that can be applied to the complete population. The selection of sampling technique relies on the research objectives, nature of the study, and practical concerns.

5.3.3 SAMPLE SIZE:

The sample size refers to the plan or method for selecting a subset of persons, items, or data points from a broader population for study purposes. It includes determining the sample size, selection technique, and inclusion criteria. It is an important component of the overall research design, as it influences the reliability, validity, and generalizability of study findings.

- The sample size for the research acquired throughout the investigation was 50.

5.4 DATA COLLECTION DESIGN

Data collection design refers to the systematic approach and process used to collect information or data in a research endeavor. It includes deciding what data to gather, how to acquire it, and which methods or instruments to utilize. A well-designed data collecting method guarantees that the information acquired is correct, trustworthy, and relevant to the study goal.

Close-ended questions require respondents to select preset replies, such as "yes/no" or "true/false" or multiple-choice questions.

In simple terms, the Likert scale is a 5 or 7-point scale that captures qualitative data in the form of "I agree" or "I disagree" alternatives and delivers these insights as easy-to-analyse quantitative data reports.

The 5-point Likert scale is a worldwide measure used to evaluate attitudes and beliefs. The scale offers five answer alternatives, including two extreme poles, a neutral option, and intermediate options.

The examples include: agreeing, entirely agreeing, neither agreeing nor disagreeing, and fully disagreeing. The data was collected using a self-created questionnaire. The survey included closed-ended questions and a 5-point Likert scale with five response alternatives:

Very satisfied, Satisfied, Neutral, Dissatisfied, Highly dissatisfied.

5.4.1 DATA SOURCES

To attain the goals of the study, both primary data sources and secondary data sources were used.

PRIMARY DATA SOURCE:

Primary data is information gathered directly from original sources for the specific purpose of a research endeavor or study. This data is firsthand and has not been previously collected or analyzed by anyone else. Primary data is often designed to fulfill specific study aims and obtained using a variety of approaches, such as surveys, interviews, observations, experiments, and direct contact with individuals.

SECONDARY DATA SOURCE:

Secondary data refers to data that has previously been gathered, analyzed, and published by someone else for purposes other than the present study. This information is gathered from existing sources, such as books, journals, government publications, databases, and past research investigations. Secondary data can give significant insights, background information, and context for research studies that do not need direct data gathering.

Thus, the source of data collected was self-prepared questionnaire.

5.4.2 DATA COLLECTION TOOLS

Data collection tools are devices or procedures used to collect information or data for study, analysis, or decision-making. The type of data collecting instruments used depends on the

nature of the study, the type of data required, and the research objectives. Here , the listed above are the common data collection tools.

METHODS OF COLLECTING DATA

Primary data can be obtained by:

1. Observation method
2. Interview method
3. Questionnaire method
4. Communication
5. Schedule method

- Observation method:

Observational methods include methodically viewing and documenting behaviours, interactions, or occurrences in real time.

- Interview method :

Interviews are direct encounters between a researcher and a participant or responder to collect comprehensive qualitative or quantitative data. Interviews can be organised, semi-structured, or unstructured, depending on the amount of freedom and depth of study desired.

- Surveys and questionnaire method:

Surveys and questionnaires are popular methods for gathering self-reported details gathered from people or groups.

- Communication:

Respondents are questioned orally or in writing throughout this procedure. This method is adaptable. Generally, it is less costly and quicker than observation.

- Schedule method:

When the survey technique is applied, the schedule method serves as a tool for collecting outside data. Performa schedules include a list of queries and tables. This post is

occupied by field experts who have been appointed particularly for it. The field staff creates schedules, distributes them, and collects replies to their queries.

Source of Secondary Data:

Secondary data sources may be classified into internal and external sources. Data from internal sources may already be in the study group's possession, while other organizations can access external content. Newspapers, books, and official reports from the federal, state, and municipal governments are a few examples of these sources.

5.4.3 DATA ANALYSIS TOOL

After collecting the data, it is analyzed using the percentage method. This study's analysis techniques include:

- Percentage analysis is used to generate a contingency table based on frequency distribution to better comprehend the obtained data.

$$\text{PERCENTAGE ANALYSIS} = \frac{\text{NUMBER OF RESPONDENTS} * 100}{\text{TOTAL SAMPLE}}$$

- Pie diagrams
 - also referred to as pie charts, are frequently used in data visualization to depict the distribution of categorical data as percentage of the total. They are effective in demonstrating how different components contribute to the total. It is a statistical graph that can be divided into slices to show numerical proportions.

CHAPTER 6
DATA INTERPRETATION AND ANALYSIS

1.

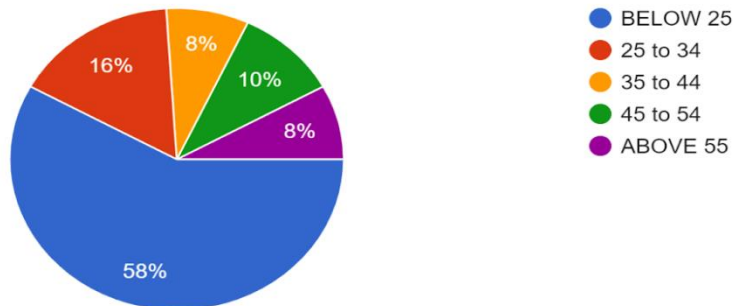


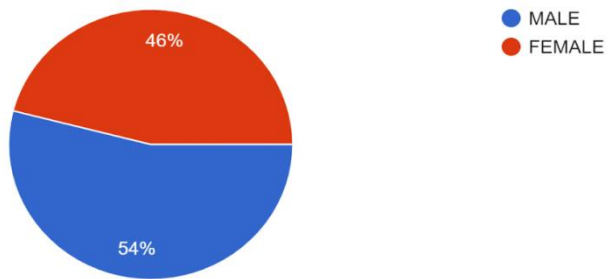
CHART NO. 1

AGE	RESPONDENTS	PERCENTAGE
Below 25	29	58%
25 to 34	8	16%
35 to 44	4	8%
45 to 54	5	10%
Above 55	4	8%
Total	50	100%

INTERPRETATION:

According to the data collected, 59% of the respondents are below 25 years of age, 16% are between 25 to 34 years , 8% are between 35 to 44 years , 10% are between 45 to 54 years and the rest 4 % are above 55 years of age.

2.

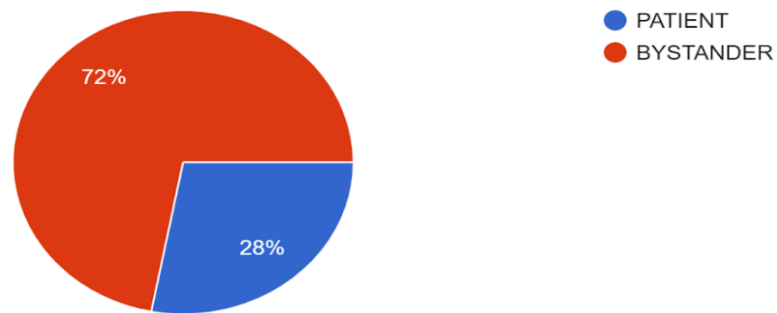


Gender	respondents	Percentage
Male	23	54%
Female	27	46%
Total	50	100%

Interpretation:

According to the data, 54% of the responses were by men and 46% of the response was women.

3.

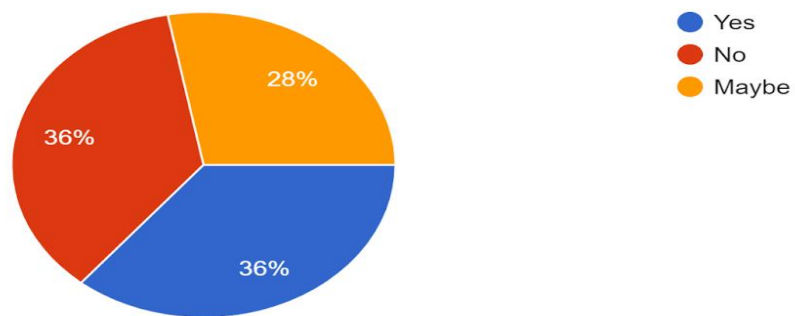


Options	respondents	percentage
Patient	36	28%
Bystander	14	72%
total	50	100%

Interpretation:

According to the data collected , 28% are patients and 72% were bystanders respondents.

4.

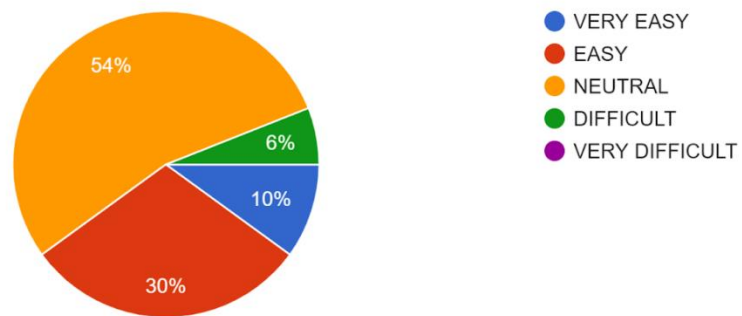


Options	Respondents	%
Yes	18	36%
No	18	36%
Maybe	14	28%
total	50	100%

Interpretation:

According to the data , 36% responded Yes , 36% responded No and 28% responded maybe about being informed about the expected wait time.

5.

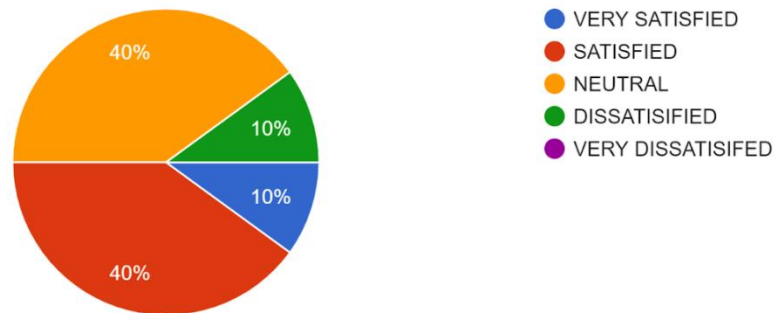


Options	respondents	%
Very easy	5	10%
Easy	15	30%
Neutral	27	54%
Difficult	3	6%
Very difficult	0	0%
total	50	100%

Interpretation:

According to the data, about 10% very easy , 30% easy , 54% neutral ,and 6% responded very difficult in the check-in process.

6.

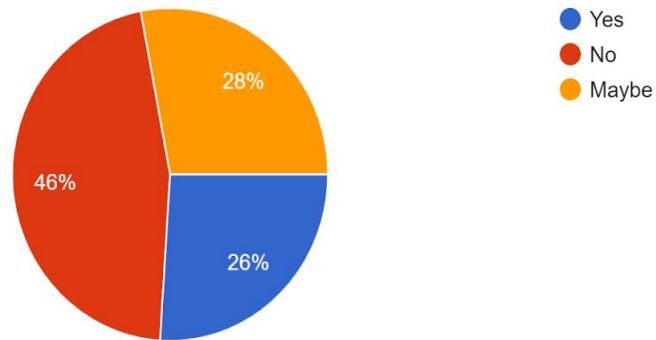


Options	respondents	%
Very satisfied	5	10%
Satisfied	20	40%
Neutral	20	40%
Dissatisfied	5	10%
Very dissatisfied	0	0%
Total	50	100%

Interpretation:

According to the Data, the satisfaction level of respondents are as follows – 10% very satisfied , 40% satisfied, 40% neutral , and 10% dissatisfied with the environment in comfort and amenities.

7.

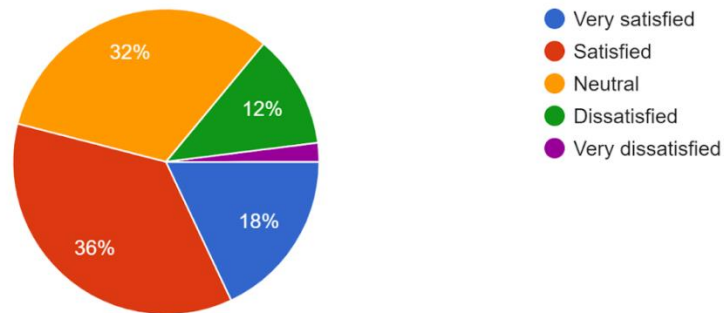


options	respondents	%
yes	13	26%
No	23	46%
maybe	14	28%
Total	50	100%

Interpretation:

According to the data, 26% responded Yes , 46% responded NO and 28% responded maybe in experiencing delays in initial assessment upon arrival.

8.

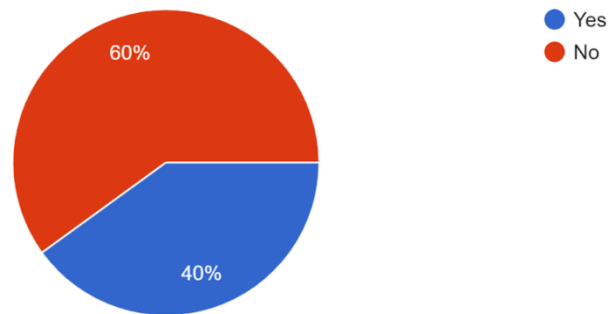


options	respondents	%
Very satisfied	9	18%
Satisfied	18	36%
Neutral	16	32%
Dissatisfied	6	12%
Very dissatisfied	1	2%
total	50	100%

Interpretation:

According to the data, 18% were very satisfied ,36% were satisfied, 32% neutral, 12% dissatisfied and 2% were very dissatisfied with the communication level of the hospital staff regarding delays.

9.

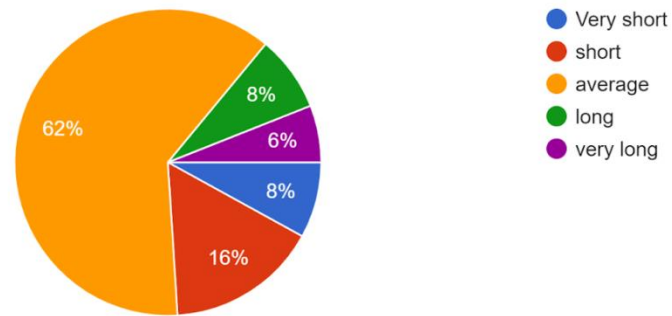


Options	respondents	%
Yes	20	40%
No	30	60%
total	50	100%

Interpretation:

According to the data, 40% yes and 60% responded if they were provided with any alternatives or options to reduce waiting time.

10.

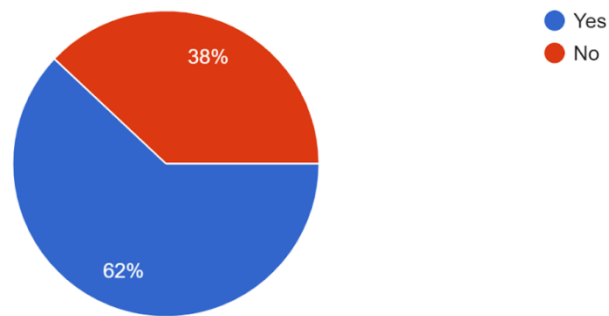


Options	respondents	%
Very short	4	8%
Short	8	16%
Average	31	62%
Long	4	8%
Very long	3	6%
Total	50	100%

Interpretation:

According to the data, 8% very short , 16% short , 62% average , 8% long , 6% very long in waiting time for consultation .

11.

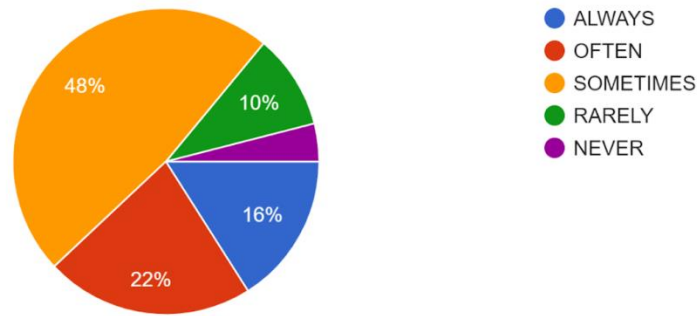


Options	respondents	%
Yes	31	62%
No	19	38%
Total	50	100%

Interpretations:

According to the data, 62% said yes and 38% responded no with the overall satisfaction in the hospital.

12.

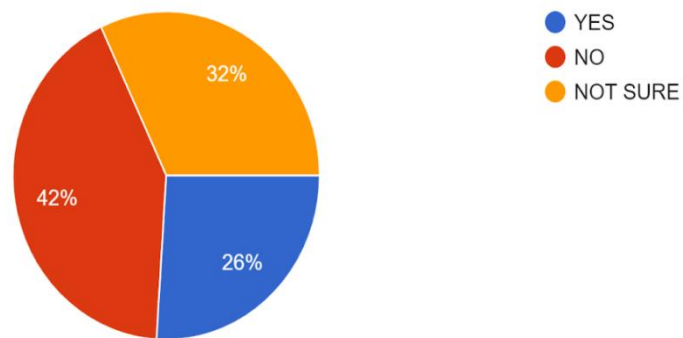


Options	Respondents	%
Always	8	16%
Often	11	22%
Sometimes	24	46%
Rarely	5	10%
Never	2	4%
Total	50	100%

Interpretation:

According to the data, 16% always , 22% often , 46% sometimes, 10% rarely and 4% never were the response for their experience with the hospital staff.

13.

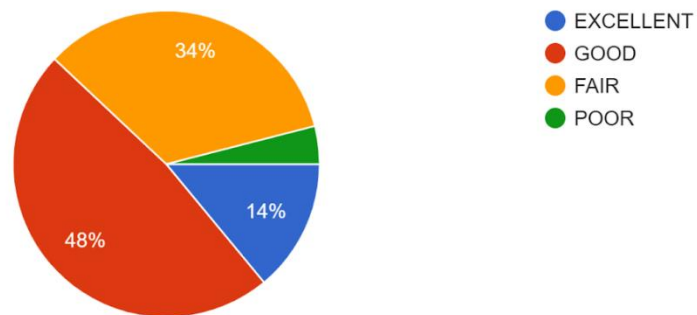


Options	Respondents	%
Yes	13	26%
No	21	42%
Not sure	16	32%
total	50	100%

Interpretation:

According to the data, 26% are yes , 42% are no and 32% are not sure about the inefficiencies or bottlenecks in patient flow.

14.

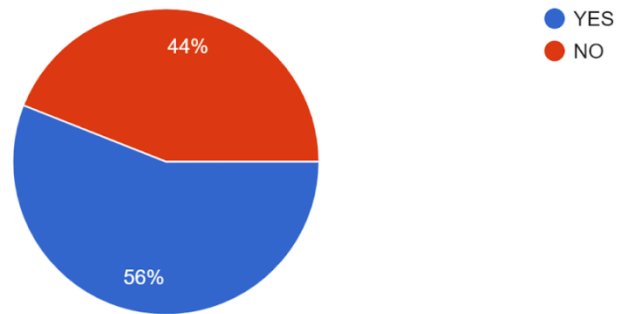


Options	respondents	%
Excellent	7	14%
Good	24	48%
Fair	17	34%
Poor	2	4%
Total	50	100%

Interpretation:

According to the data, 14% are excellent, 48% are good , 34% are fair and the rest 4 % were poor responded by the respondents.

15.

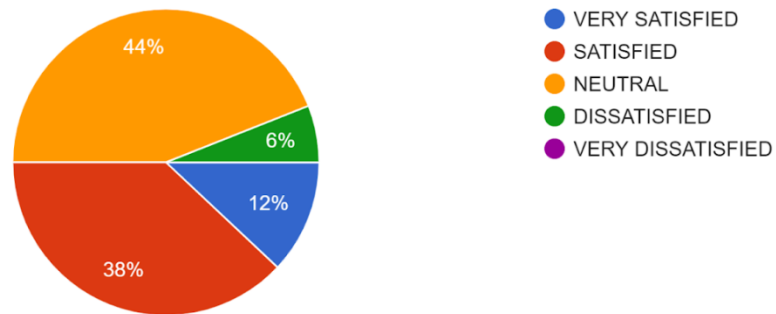


Options	respondents	%
Yes	28	56%
No	22	44%
total	50	100%

Interpretation:

According to the data collected, there were 56% yes and 44% responded to the initiatives taken by the hospital staff to reduce patient wait time.

16.

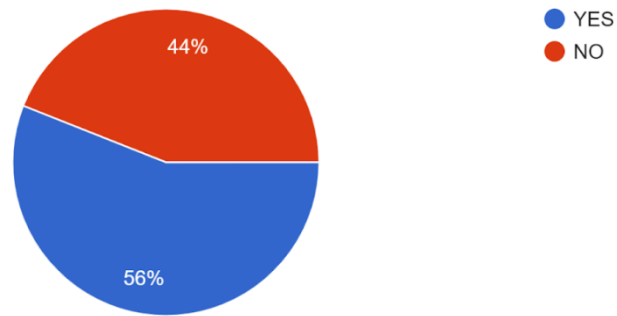


options	respondents	%
Very satisfied	6	12%
Satisfied	19	38%
Neutral	22	44%
Dissatisfied	3	6%
Very dissatisfied	0	Nil
Total	50	100%

Interpretation:

According to the data, 12% were very satisfied, 38% were satisfied , 44% were neutral , and 6 % were dissatisfied with the clarity of communication about estimated wait time.

17.

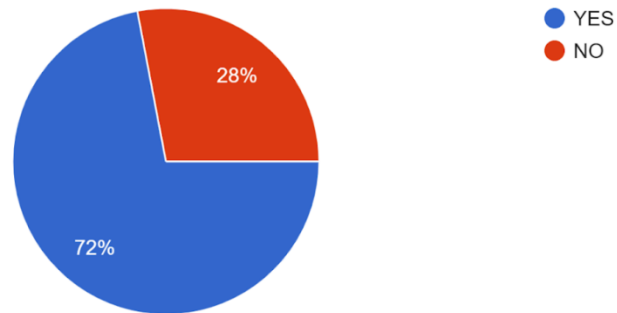


options	Respondents	%
Yes	28	56%
No	22	44%
total	50	100%

Interpretation:

According to the data , 56% yes and 44% no respondents experienced anxiety or discomfort due to waiting for consultation or procedure.

18.

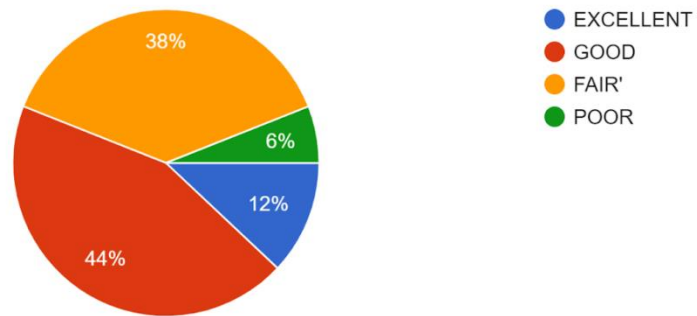


Options	respondents	%
Yes	36	72%
No	14	28%
total	50	100%

Interpretation:

According to the data, the respondents in requesting assistance or ask questions about the wait time, 72% of the response were yes and 28% of the response were no.

19.

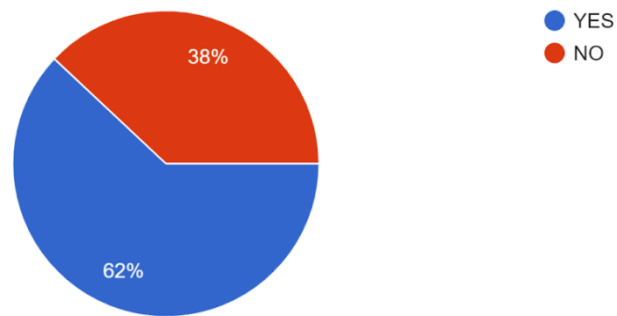


Options	respondents	%
Excellent	6	12%
Good	22	44%
Fair	19	38%
Poor	3	6%
Total	50	100%

Interpretation:

According to the data , 12% has excellent response, 44% good, 38% fair and 6% poor performance of the staff in addressing regarding any concerns or queries during waiting time.

20.

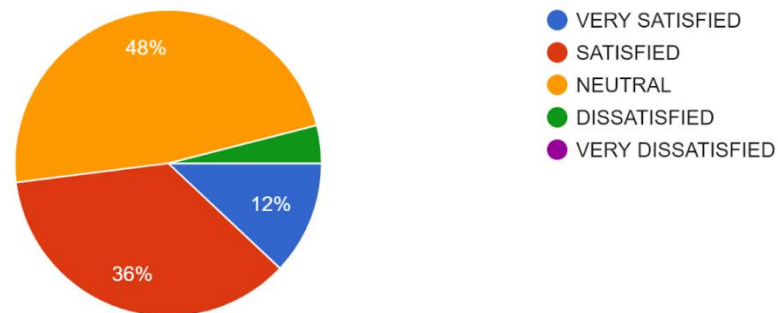


Options	respondents	%
Yes	31	62%
No	19	38%
total	50	100%

Interpretation:

According to the data, 62% yes and 38% no respondents was informed about the delays or changes occurred in advance to scheduled appointment.

21.

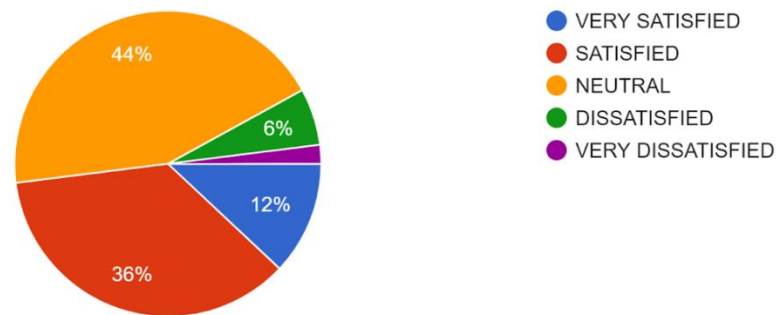


Options	respondents	%
Very satisfied	6	12%
Satisfied	18	36%
Neutral	24	48%
Dissatisfied	2	4%
Very dissatisfied	0	0%
Total	50	100%

Interpretation:

Out of the 50 respondents , 12% were very satisfied , 36% were satisfied, 48% were neutral and 4% was dissatisfied with the level of privacy afforded to them during their wait.

22.

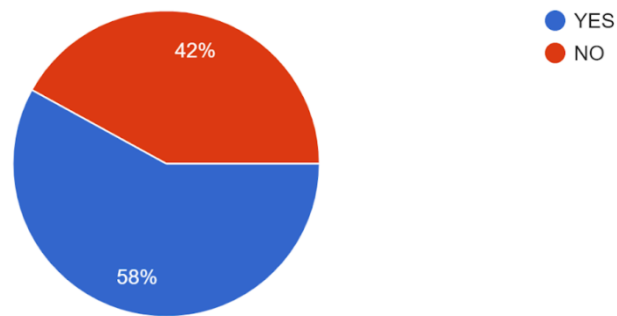


options	respondents	%
Very satisfied	6	12%
Satisfied	18	36%
Neutral	22	44%
Dissatisfied	3	6%
Very dissatisfied	1	2%
Total	50	100%

Interpretation:

According to the data, 12% were very satisfied , 36% were satisfied, 44% were neutral , 6% were dissatisfied and 2% were very dissatisfied with the performance of hospital staffs in their communication regarding the delays or changes in plan care.

23.

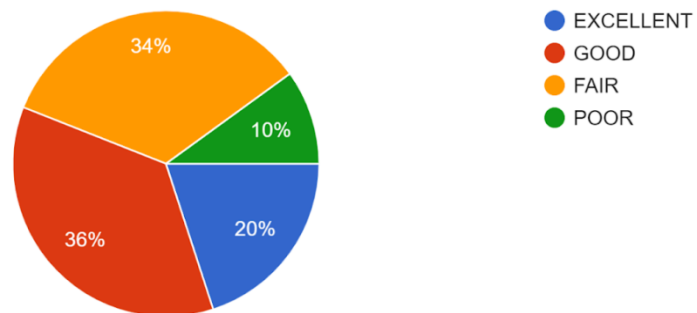


Options	respondents	%
Yes	29	58%
No	21	42%
Total	50	100%

Interpretation:

Out of the data collected, 58% responded YES and 42% responded NO regarding their experience in delay of receiving test results or diagnostic procedures during visit.

24.

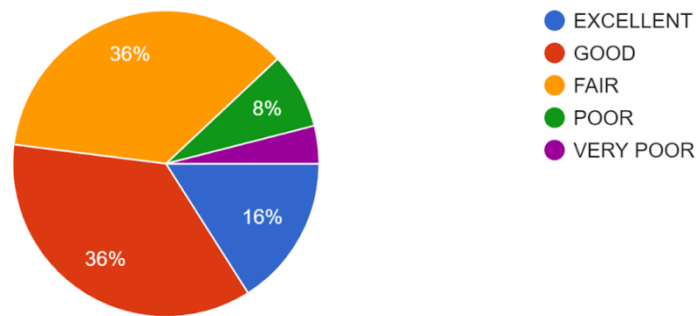


Options	Respondents	%
Excellent	10	20%
Good	18	36%
Fair	17	34%
Poor	5	10%
total	50	100%

Interpretation:

According to the data collected, 20% rated excellent, 36% as good , 34% fair and 10% poor response in addressing concern or complaints about waiting time in the hospital.

25.



options	respondents	%
excellent	8	16%
Good	18	36%
Fair	18	36%
Poor	4	8%
Very poor	2	4%
Total	50	100%

Interpretation:

According to the data, 16% responded excellent, 36% as good, 36% fair , 8% poor and about 4% very poor experience in patient waiting time at the hospital in overall.

CHAPTER 7
FINDINGS, SUGGESTIONS AND CONCLUSION

FINDINGS:

- ✓ In this survey, 28% are patients and 72% are patient's bystanders.
- ✓ 54% of male gender and 46% female gender responded to this survey.
- ✓ There are 58% of people below 25 years of age, 16% of between 25 to 34 years, 8% between 35 to 44 years, 10% between 45 to 54 years and 8% above 55 years of age.
- ✓ According to the data, 36% out of 50 respondents feel adequately informed about the expected wait time upon arrival at hospital.
- ✓ According to the data, 54% rates neutral for check-in process , 30% rates easy and the rest 16% as very easy and difficult.
- ✓ According to the data, 40% are satisfied with the environment in terms of comfort and amenities , 40% neutrally satisfied , 10% very satisfied and the rest 10% were very dissatisfied.
- ✓ According to the data, 48% of the respondents did not experience any delay in receiving initial assessment, but 26% found it difficult in delay.
- ✓ According to the data, 36% of the respondents were satisfied with the communication level from hospital staffs regarding delays. 32% had neutral experience, while 18% very satisfied and 12% had dissatisfied experience.
- ✓ Out of the 50 respondents, 62% had an average experience in the overall waiting time for consultation.
- ✓ Around 62% of the respondents had an impact in the overall satisfaction of hospital experience.
- ✓ According to the data, 56% of the respondents found discomfort/anxiety during waiting time in consultation.
- ✓ According to the data, 72% of the respondents were able to get assistance from the hospital staffs when needed
- ✓ In overall, 36% had a good experience with the waiting time, 36% fair performance, 16% with excellent performance and 12% had a poor experience.

SUGGESTIONS:

Reducing patient wait times in hospitals is critical for enhancing the overall patient experience and providing timely access to healthcare treatments.

✓ **Appointment scheduling and reminders:**

Set up an effective appointment scheduling system to control patient flow. Send appointment reminders by SMS, email, or automated calls to prevent no-shows and assure on-time arrivals.

✓ **Streamlined Check-In Process:**

Make the check-in process easier by employing self-service kiosks or online check-in alternatives. This shortens the time patients spend at the front desk, speeding up the registration procedure.

✓ **Digital Patient Record:**

Use electronic health records (EHR) to provide rapid access to patient information. This reduces the time spent searching for paper records while increasing overall efficiency.

✓ **Automated Queue Management Systems:**

Use a digital queue management system that allows patients to see their location in the wait and receive real-time notifications. This minimizes uncertainty and discomfort.

CONCLUSIONS:

In summary, managing patient wait times in hospitals is an essential part of providing treatment and has a big impact on how satisfied and happy patients are overall. Hospitals must always work to develop efficient techniques for improvement, given the impact that extended waiting times have on patient outcomes. In the end, healthcare providers' combined efforts to reduce wait times improve patient happiness and well-being more than operational effectiveness. Hospitals may achieve their goal of providing healthcare that is not only efficient but also considerate of the time and dignity of each patient seeking care by making patient waiting times a priority.

ANNEXURE

ANNEXURE 1

QUESTIONNAIRE

I, Shreya Aji John, student of Bharata Mata College, am conducting a study on “IMPACT OF PATIENT WAITING TIME” AT ASTER MEDCITY. Kindly take a few minutes to answer the questions given below:

1. Name
.....
2. Are you a patient or bystander?
 - Patient
 - Bystander
3. Gender:
 - Male
 - Female
4. Age:
 - below 25
 - 25 to 34
 - 35 to 44
 - 45 to 54
 - above 55
5. Did you feel adequately informed about the expected wait time upon arrival at the hospital?
 - yes
 - no
 - somewhat
6. How would you rate the ease of the check-in process upon arrival at the hospital?
 - very easy
 - easy
 - neutral
 - difficult
 - very difficult
7. How satisfied are you with the waiting room environment in terms of comfort and amenities?
 - very satisfied
 - satisfied
 - neutral
 - dissatisfied
 - very dissatisfied
8. Did you experience any delays in receiving your initial assessment or triage upon arrival?

- yes
- no
- not applicable

9. How satisfied are you with the level of communication from hospital staff regarding the reasons for any delays in your care?

- very satisfied
- satisfied
- neutral
- dissatisfied
- very dissatisfied

10. Were you provided with any alternatives or options to reduce your waiting time during your visit?

- yes
- no

11. How would you rate the overall waiting time for your consultation or procedure today?

- very short
- short
- average
- long
- very long

12. Did the waiting time impact your overall satisfaction with your hospital experience?

- yes
- no

13. How often did you feel that your time was respected by hospital staff during your visit?

- always
- often
- sometimes
- rarely
- never

14. Did you observe any inefficiencies or bottlenecks in the patient flow during your visit?

- yes
- no
- not sure

15. How would you rate the availability of seating/waiting areas during your visit?

- excellent
- good
- fair
- poor

16. During your visit, did you experience any initiatives taken by hospital staff to reduce patient wait times?

- yes
- no

17. How satisfied are you with the clarity of communication about your estimated wait time?

- very satisfied
- satisfied
- neutral
- dissatisfied
- very dissatisfied

18. Did you experience any anxiety or discomfort due to waiting for your consultation or procedure?

- yes
- no

19. Were you able to request assistance or ask questions about your wait time if needed?

- yes
- no

20. How would you rate the availability of staff to address your concerns or questions during your wait?

- excellent
- good
- fair
- poor

21. Were you informed about any delays or changes in your scheduled appointment time in advance?

- yes
- no

22. How satisfied are you with the level of privacy afforded to you during your wait?

- very satisfied
- satisfied
- neutral
- dissatisfied
- very dissatisfied

23. How satisfied are you with the communication from hospital staff regarding any delays or changes in your care plan?

- very satisfied
- satisfied
- neutral
- dissatisfied
- very dissatisfied

24. Did you experience any delays in receiving test results or additional diagnostic procedures during your visit?

- yes
- no
- not applicable

25. How would you rate the hospital's responsiveness to addressing any concerns or complaints about waiting times?

- excellent
- good
- fair
- poor

26. Overall, how would you rate your experience with patient waiting time at our hospital?

- excellent
- good
- fair
- poor
- very poor

ANNEXURE 2

BIBLIOGRAPHY

- 1) <https://scholar.google.com>
 - 2) <https://quillbot.com>
 - 3) <https://www.wikipedia.com>
 - 4) <https://www.asterhospitals.in>
-
1. Aburayya, A., Alshurideh, M., Albqaeen, A., Alawadhi, D., & Ayadeh, I. (2020). An investigation of factors affecting patients waiting time in primary health care centers: An assessment study in Dubai. *Management Science Letters*, 10(6), 1265-1276.
 2. Adindu, A., & Esu, E. (2012). WAITING FOR HEALTH CARE: CLIENTS' RESPONSE TO WAITING TIME AT THE OUTPATIENT DEPARTMENT OF A GENERAL HOSPITAL IN NIGERIA. *Continental Journal of Tropical Medicine*, 6(2), 16-21.
 3. Alarcon-Ruiz, C. A., Heredia, P., & Taype-Rondan, A. (2019). Association of waiting and consultation time with patient satisfaction: secondary-data analysis of a national survey in Peruvian ambulatory care facilities. *BMC health services research*, 19, 1-9.
 4. Al-Harajin, R. S., Al-Subaie, S. A., & Elzubair, A. G. (2019). The association between waiting time and patient satisfaction in outpatient clinics: Findings from a tertiary care hospital in Saudi Arabia. *Journal of family & community medicine*, 26(1), 17.
 5. Almomani, I., & Alsarheed, A. (2016). Enhancing outpatient clinics management software by reducing patients' waiting time. *Journal of infection and public health*, 9(6), 734-743.
 6. Alrasheedi, K. F., Al-Mohaithef, M., Edrees, H. H., & Chandramohan, S. (2019). The association between wait times and patient satisfaction: findings from primary health centers in the Kingdom of Saudi Arabia. *Health services research and managerial epidemiology*, 6, 2333392819861246
 7. Anderson, R. T., Camacho, F. T., & Balkrishnan, R. (2007). Willing to wait?: the influence of patient wait time on satisfaction with primary care. *BMC health services research*, 7, 1-5.
 8. Belayneh, M., Woldie, M., Berhanu, N., & Tamiru, M. (2017). The determinants of patient waiting time in the general outpatient department of Debre Markos and Felege Hiwot hospitals in Amhara regional state, North West, Ethiopia. *Glob J Med Public Heal*, 6(5), 2277-9604.
 9. Bhambere, S. (2017). The long wait for Health in India-A study of waiting time for patients in a tertiary care hospital in Western India. *International Journal of Basic and Applied Research*, 7(12), 108-111.
 10. Bleustein, C., Rothschild, D. B., Valen, A., Valatis, E., Schweitzer, L., & Jones, R. (2014). Wait times, patient satisfaction scores, and the perception of care. *The American journal of managed care*, 20(5), 393-400.

11. Brekke, K. R., Siciliani, L., & Straume, O. R. (2008). Competition and waiting times in hospital markets. *Journal of Public Economics*, 92(7), 1607-1628.
12. Chandra, D. (2015). Reducing waiting time of outdoor patients in hospitals using different types of models: a systematic survey. *International Journal of Advance Research and Innovation*, 3(1), 81-87.
13. Ir, M. D. (2011). Johari Dato MohdGhazali R, Hazilah Abd Manaf N, Hassan Asaari Abdullah A, Abu Bakar A, Salikin F, et al. Hospital waiting time: the forgotten premise of healthcare service delivery. *Int J Health Care Qual Assur*, 24(7), 506-22.
14. Ishijima, H., Eliakimu, E., & Mshana, J. M. (2016). The “5S” approach to improve a working environment can reduce waiting time: Findings from hospitals in Northern Tanzania. *The TQM Journal*, 28(4), 664-680.
15. Jabbari, A., Jafarian, M., Khorasani, E., Ghaffari, M., & Majlesi, M. (2011). Emergency department waiting time at Alzahra Hospital. *Health Information Management*, 8(4).
16. Kreitz, T. M., Winters, B. S., & Pedowitz, D. I. (2016). The influence of wait time on patient satisfaction in the orthopedic clinic. *Journal of patient experience*, 3(2), 39-42.
17. Lee, S., Gross, S. E., Pfaff, H., & Dresen, A. (2020). Waiting time, communication quality, and patient satisfaction: an analysis of moderating influences on the relationship between perceived waiting time and the satisfaction of breast cancer patients during their inpatient stay. *Patient education and counseling*, 103(4), 819-825.
18. Leiba, A., Weiss, Y., Carroll, J. S., Benedek, P., & Bar-dayan, Y. (2002). Waiting time is a major predictor of patient satisfaction in a primary military clinic. *Military medicine*, 167(10), 842-845.
19. Lewis, A. K., Harding, K. E., Snowdon, D. A., & Taylor, N. F. (2018). Reducing wait time from referral to first visit for community outpatient services may contribute to better health outcomes: a systematic review. *BMC health services research*, 18, 1-14.
20. McCarthy, K., McGee, H. M., & O'Boyle, C. A. (2000). Outpatient clinic waiting times and non-attendance as indicators of quality. *Psychology, health & medicine*, 5(3), 287-293.
21. Mehra, P. (2016). Outpatient clinic waiting time, provider communication styles and satisfaction with healthcare in India. *International journal of health care quality assurance*, 29(7), 759-777.
22. Miller, R., & Chalapati, N. (2015). Utilizing lean tools to improve value and reduce outpatient wait times in an Indian hospital. *Leadership in Health Services*, 28(1), 57-69.
23. Mohebbifar, R., Hasanpoor, E., Mohseni, M., Sokhanvar, M., Khosravizadeh, O., & Isfahani, H. M. (2014). Outpatient waiting time in health services and teaching hospitals: a case study in Iran. *Global journal of health science*, 6(1), 172.
24. Munavalli, J. R., Rao, S. V., Srinivasan, A., & van Merode, G. G. (2020). Integral patient scheduling in outpatient clinics under demand uncertainty to minimize patient waiting times. *Health Informatics Journal*, 26(1), 435-448.
25. Naaz, F., & Mohammed, I. (2019). A time motion study to evaluate the average waiting time in OPD with reference to patient satisfaction in the setting of state-level AYUSH Hospital (India). *Medical Journal of Islamic World Academy of Sciences*, 27(3), 71-76.
26. Nottingham, Q. J., Johnson, D. M., & Russell, R. S. (2018). The effect of waiting time on patient perceptions of care quality. *Quality Management Journal*, 25(1), 32-45.

27. Osundina, K. S., & Opeke, R. O. (2017). Patients' waiting time: Indices for measuring hospital effectiveness. *International Journal of Advanced Academic Research/ Social & Management Sciences*, 3(10), 2488-9849.
28. Patel, R., & Patel, H. R. (2017). A study on waiting time and out-patient satisfaction at Gujarat medical education research society hospital, Valsad, Gujarat, India. *Int J Community Med Public Health*, 4(3), 857-863.
29. Paul, B. C., Kumar, N., Kumar, A., Singh, I. B., & Neogy, S. K. (2021). Queuing-Model to Optimize Patient waiting time in Out Patient Department (OPD) of a Super-speciality public hospital in India. *Journal of Emerging Technologies and Innovative Research*, 8(11), 676-86.
30. Shahzadi, S., & Annayat, S. (2017). Factors associated patient waiting time at outpatient department in allied hospital Faisalabad. *Journal of Biology, Agriculture and Healthcare*, 7(17), 14-20.
31. Sharma, K. A., Yadav, A., Sridhar, C., Malhotra, N., Biji, S., & Kumari, K. (2020). Reducing the waiting time to initiation of infertility treatment at a tertiary care centre in India. *BMJ Open Quality*, 9(4).
32. Siciliani, L., Stanciole, A., & Jacobs, R. (2009). Do waiting times reduce hospital costs?. *Journal of Health Economics*, 28(4), 771-780.
33. Soremekun, O. A., Takayesu, J. K., & Bohan, S. J. (2011). Framework for analyzing wait times and other factors that impact patient satisfaction in the emergency department. *The Journal of emergency medicine*, 41(6), 686-692.
34. Sriram, S., & Noochpoung, R. (2018). Determinants of hospital waiting time for outpatient care in India: how demographic characteristics, hospital ownership, and ambulance arrival affect waiting time. *Int J Community Med Public Health*, 5(7), 2692.
35. Tabibi, S. J., Najafi, B., & Shoaie, S. (2009). Waiting time in the emergency department in selected hospitals of Iran University of Medical Sciences in 2007. *Pejouhesh dar Pezeshki*, 33(2).
36. Thompson, D. A., Yarnold, P. R., Williams, D. R., & Adams, S. L. (1996). Effects of actual waiting time, perceived waiting time, information delivery, and expressive quality on patient satisfaction in the emergency department. *Annals of emergency medicine*, 28(6), 657-665.
37. Tiwari, Y., Goel, S., & Singh, A. (2014). Arrival time pattern and waiting time distribution of patients in the emergency outpatient department of a tertiary level health care institution of North India. *Journal of emergencies, trauma, and shock*, 7(3), 160.
38. Tran, T. D., Van Nguyen, U., Nong, V. M., & Tran, B. X. (2017). Patient waiting time in the outpatient clinic at a central surgical hospital of Vietnam: Implications for resource allocation. *F1000Research*, 6.
39. Umar, I., Oche, M. O., & Umar, A. S. (2011). Patient waiting time in a tertiary health institution in Northern Nigeria. *Journal of Public Health and Epidemiology*, 3(2), 78-82.
40. Usman, S. O., Olowoyeye, E., Adegbamigbe, O. J., Olubayo, G. P., Ibijola, A. A., Tijani, A. B., ... & Ipinmoye, T. (2020). Patient waiting time: Gaps and determinants of patients waiting time in hospitals in our communities to receive quality services. *European Journal of Medical and Health Sciences*, 2(1).