Internship Training

at

Venkateshwar Hospital, Sector 18A, Dwarka

IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS

(18 Feb to 17 May 2019)

by

Col. Puneet Kumar Arora

Enroll No. PG /17 /043

Under the guidance of

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Asst Prof, IIHMR , Dwarka, New Delhi

Post Graduate Diploma in Hospital and Health Management

2017-19

International Institute of Health Management Research

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The certificate is awarded to

Col. Puneet Kumar Arora

in recognition of having successfully completed his Internship in the department of

OUT PATIENT DEPARTMENT (OPD)

and on successfully completing his Project on

IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS

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at

Venkateshwar Hospital

Sector 18A, Dwarka, New Delhi

He comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.

We wish him all the best for future endeavours.

Director Medical

Dr. Rajiv Malhotra
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Venkateshwar Hospital * Dwarka, Sec.-18A * New Delhi-75

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Col. Puneet Kumar Arora** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at **Venkateshwar Hospital, Sector 18 A, Dwarka, New Delhi** from **18 Feb to 17 May 2019.**

The Candidate has successfully carried out the study designated to him during Internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements. We wish him all success in all his future endeavors.

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Certificate of Approval

The following dissertation titled

"IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS"

at

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is hereby **approved** as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of Post Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
Dr. P. L Joshi	
Dr A. K. KHOKHAR	
Dr. Nishikant Bele	

Certificate from Dissertation Advisory Committee

This is to certify that **Col. Puneet Kumar Arora** , a graduate student of the Post- Graduate Diploma in Health and Hospital Management has worked under our guidance and supervision. He/ She is submitting this dissertation titled **"IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS"** at

Venkateshwar Hospital, Sector 18 A, Dwarka, New Delhi

in partial fulfillment of the requirements for the award of the Post- Graduate Diploma in Health and Hospital Management.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled

IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS

Submitted by **Col. Puneet Kumar Arora**

Enrollment No. **PG /17 / 043**

under the supervision of **Dr. Pankaj Talreja, Asst Professor IIHMR, New Delhi** for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **18 Feb to 17 May 19** embodies my original work and has not formed the basis for the award of any degree, diploma associateship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Col. Puneet Kumar Arora

FEEDBACK FORM

Name of the Student:	**Col. Puneet Kumar Arora**
Dissertation Organisation:	**Venkateshwar Hospital , Sector 18A, Dwarka**
Area of Dissertation:	**IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL: AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS**
Attendance:	**Adequate**
Objectives achieved:	**Yes**
Deliverables:	**Adequate and in depth analysis of various critical parameters related to OPD TAT management, supported by logical & implementable inputs.**
Strengths:	**A very committed, sincere, diligent, cooperative & positive natured individual with strong drive and zeal for mutual learning.**
Suggestions for Improvement:	**Nil**

Director Medical

Venkateshwar Hospital

Dr. Rajiv Malhotra
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Venkateshwar Hospital * Dwarka, Sec.-18A * New Delhi-75

Date: 29 **May 2019**

Place: **Dwarka, New Delhi**

ABSTRACT

Background : The very first exposure at a hospital's OPD, often largely influences the patient's long term opinion towards its efficacy and quality of services being rendered. It is essential to ensure that the OPD services always aim for creating an **everlasting impact** on its patients irrespective of their **class and stature**. Reduction & effective management of uncontrolled OPD waiting times by ensuring and instituting steps that would ultimately result in affected patients receiving the right care at the right time is thus mandated.

Objectives of Study : To observe & determine the flow of patients in various OPDs of a Multispecialty Hospital through a **Time motion Study**, to quantify the mean waiting time and identify the factors & root problem areas, bottlenecks those are likely responsible for higher waiting time in OPDs followed by few logical suggestions to optimize the same, through a deliberate analysis (on the **SPSS platform**) of OPD Turn Around Time(TAT) as captured by the Hospital HIS & to compare it with the captured active data followed by a **patient survey** in form of a structured questionnaire with a singular view to gather, analyse their candid inputs wrt quality of services(QoS) being rendered at the OPDs.

METHODOLOGY: A prospective & retrospective study through an active observation **(Time motion study)** conducted during **Mar 19** & HIS captured OPD data for a period covering **Jan to Mar 2019** and a detailed review of literature was undertaken. Systematic sampling technique was carried out by **Simple random sampling**. The first patient visiting the registration counter was taken as starting point and thereafter next patient was randomly selected who came for registration to the OPD after an interval of 2 to 3 minutes.

SAMPLE SIZE : 400 OPD patients observed randomly). Patient Survey Questionnaire cum feedback on a volunteer basis was obtained from **60 OPD patients randomly.**

Results : The overall mean TAT for hospital HIS data(Jan – Mar 19) is **36.1 mins**, wherein total TAT only includes the doctors time and nurse TAT, while as compared the mean TAT if calculated in similar fashion for the observational data(Mar 19)comes out be as **34 mins,** thus with an acceptable minor deviation of just **2 mins.** About **56 % patients** in OPD have a overall waiting TAT of **under 30 mins,** while **28 % OPD patients** have a TAT **between 31 mins to 60 mins**, **13%** have a TAT between **61 to 120 mins while only 3% have a TAT between 121 to 180 mins.**

Conclusion: Patients, usually perceive long OPD waiting times as **avoidable barriers** towards obtaining desired basic quality health care services. Hence OPD TAT is required to be **closely monitored** by the hospital management in order to sustain their qualitative edge.

Key Words : Everlasting impact, Patient Survey, OPD TAT, Time & Motion study, HIS data, SPSS platform, Simple random sampling, Quality of service(Qos), avoidable barriers & monitored.

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1. I would like to place on my record my deepest sense of gratitude and appreciation for the valuable guidance, inputs, steering insight, constructive comments and the constant encouragement and motivation provided by my mentor **Dr Pankaj Talreja**, **Asst Prof IIHMR, Delhi**. The successful completion of this Dissertation cum Internship report would also not have been possible without the whole hearted support of **Dr. Sanjiv Kumar Diector IIHMR, Delhi**, and **Dr. A K Khokhar, Prof IIHMR, Delhi** for having facilitated a great and meaningful opportunity for me to undergo my Internship at **Venkateswar Hospital**. Thereby, providing me a valuable exposure to some exceptional and a few critical & complex issues related to the **Waiting time management in OPD** of a Multi speciality tertiary Hospital.

2. The constant professional guidance of my guide and mentor coupled with the full hearted support of IIHMR faculty especially by **Dr. Vinay Tripathi** , **Mrs. Divya Aggarwal** and my colleagues has indeed rendered my Internship as a highly enriching and learning experience.

3. I would also like to express my profound gratitude and heartfelt thanks to **Dr. Y P Bhatia, Dr. Rajiv Malhotra, Mrs. Gunjan Sinha, Mr. Sanjay Saxena, Mrs. Sushma Singh, Ms Ankita, Ms Nidhi, Ms Laxmi , Ms Rajender, Mr. Saurabh Batra, Mr. Jainender , Mr. Manish** and all the **OPD front office staff**, who all have played a key role in facilitating, supporting ,sharing valuable OPD data and most of all for giving me their valuable time and constantly inspiring me , guiding me and making available all the resources and related material available to me as and when required by me. Their warmth and positive attitude has touched my heart and I shall remain in debited to all, for the successful completion of my Dissertation cum Internship report.

Col. Puneet Kumar Arora

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ACRONYMS/ ABBREVIATIONS

OPD	OUT PATIENT DEPARTMENT
DEPT	DEPARTMENT
DISTR	DISTRIBUTION
SOPs	STANDARD OPERATING PROCEDURES
HR	HUMAN RESOURCE
OTs	OPERATION THEATRES
IOM	INSTITUTE OF MEDICINE
MOH	MINISTRY OF HEALTH
QoS	QUALITY OF SERVICE
ICU	INTENSIVE CARE UNIT
TAT	TURN AROUND TIME
TECH	TECHNOLOGY
CQI	CONTINUOUS QUALITY IMPROVEMENT
CI	CONFIDENCE INTERVAL
HIS	HOSPITAL INFORMATION SYSTEM
EWS	ECONOMICALLY WEAKER SECTION
SPSS	STAISTICAL PACKAGE FOR SOCIAL SCIENCES
NABH	NATIONAL ACCREDITION BOARD FOR HOSPITALS
NABL	NATIONAL ACCREDITION BOARD FOR TESTING & CALIBIRATION LABORATORIES
%	PERCENTAGE

Chapter – 1

Chapter – 1

INTRODUCTION

1. OPD Waiting time can be simply expressed as the total time taken by a patient right from his entry to OPD to the time till he exits the OPD. The various stages of his movement within the OPD and time spent at each of these serve points, actually adds up to the total Turn around Time(TAT) for the desired OPD services and in turn, these serve points actually become the likely bottlenecks in the smooth patient flow. These vulnerable points need to be thus closely monitored by the hospital management almost on a daily basis, especially for departments which generally have a much higher patient footfall as compared to others. However, over a period of time owing to the mundane kind of job of a OPD Supervisor, he/she may take things lightly or become casual in approach, in that case the impact on quality of services at the OPD could be rather disastrous. Here comes the inevitable requirement of the involvement of higher echelons of the hospital operations, management and as also the HR and administration. These are the people whose concrete decisions and timely interventions could prevent a fiasco to occur in the hospital. The decision makers also in turn need to take on board the most responsible and experienced representatives from each of the affected departments, in order to synchronise their valuable inputs at the ground level, as this would finally ensure greater acceptability by all the stakeholders subsequently, especially during the implementation stage of proposed changes in the existing system. The other crucial aspect is smooth handling of the **"Change Management"** , the resistance to change is today probably, one of the biggest challenges being faced by the implementing agencies. The rigid mindsets especially of the older and senior lot need to be gradually neutralized by undertaking some innovative ways and constant encouragement and mild training particularly towards handling of IT assets and as also towards the sophisticated medical equipment, with cutting edge technology being procured at large scale by most of the hospitals. The real dynamics and complexities of today's health care system have to be closely observed, understood and analysed over a period of time before actually taking a conclusive decision of desired change in the system. The main aim of researchers today should singularly focus towards the realistic management of long Waiting times, identification and assessment of various bottlenecks in the patient flow at OPD of hospital .The solutions have to be realistic, pragmatic, long lasting, widely acceptable, cost effective, manageable and most of all achievable

2. OPD waiting time has two major ingredients, one constitutes the time right from when a patient enters the OPD till he receives the intended services. The second is the wait time is more deliberate and step oriented i.e arising from the moment he joins a queue, registration/form filling/billing, transit time to respective OPD, waiting time to see a doctor and

finally consultation time spent with the doctor. It is in fact this second part of the waiting time, which directly has an impact on a patient's overall satisfaction levels and his future reverting

back to the hospital concerned for the repeated services.

3. Hence a hospital's main strategy should just evolve around taking all possible evasive steps through deliberate observation, identification and in depth analysis of the root problems. The patient feedback mechanism should be strengthened and encouraged by all persons working at the front end. Communication gaps need to be removed between the patients and the hospital staff, who remains in direct touch with the patients. The SOPs, basic department wise operational guidelines, check lists and validation cum audit policies should be in place. The existing infrastructural , HR related and administrative voids need to be addressed on top priority.

4. The routine activities at the OPD should be stream lined to include crowd management at the queue, billing/registration activities need to be speeded up with full exploitation of the technology available today, followed by easing out transit facilities (ramps/lifts) to the desired OPD service area and finally the token system management for easing out timely meeting with thedoctor.Waiting times for elective care have been considered a serious problem in many heal th care systems since it acts as a barriers to efficient patient flows.

5. There is strong requirement of organizing frequent mock drills, orientation and soft skills training for all the staff involved in the OPDs to eradicate the communication gaps existing and thus resulting in the overall patient satisfaction levels.

6. Time saved by a patient in waiting for the intended health care service is a resource gained. There would be lesser complaints and overall grievance levels can be low. Data created from the analysis could be by hospital to address gaps in human resource(HR) , logistics, infrastructures and other procedures .

7. The most innovative way to control / reduce the overall waiting time is through exploiting e- registration of patients, payment for services in advance and generation of appointment slots in advance which than need to be religiously followed and honoured by the hospitals'. The costs overhead of the hospitals have also been reduced by using these systems. A long and complicated registration or work process with unnecessary duplication of tests can prolong waiting time in clinics. Consultation length often varies from one hospital to another

and is determined by both patient's and doctor's characteristics.

Chapter - 2

ORGANISATION PROFILE : VENKATESHWAR HOSPITAL

VENKATESHWAR HOSPITAL
.....Divinity in Healthcare
The Leading Multi Super-Speciality Hospital

NABH ACCREDITED
Certificate No. : MC-2523

1. **ABOUT HOSPITAL**

(a) Located in New Delhi, Venkateshwar Hospital was established by Venkateshwara Group in 2016.

(b) It is the first hospital in Dwarka, which is furnished with State of the Art world-class infrastructure.

(c) It has collaboration with top medical Insurance providers and has made provisions to provide cashless treatment for Insurance patients.

(d) The 24*7 services provided are Emergency services, Imaging Services, Pharmacy Services, Laboratory Services, In Patients Services and Blood Bank Services.

2. **TEAM AND SPECIALITIES**

(a) The hospital serves patients on more than 32 specialties.

(b) It has Department of International Service with the aim to provide best services to International patients.

(c) The hospital has a team of highly skilled professionals delivering uncompromised medical services to patients, with highest quality of care.

ORGANISATION PROFILE : VENKATESHWAR HOSPITAL

3. At Venkateshwar Hospital, state-of-the-art Technology and dedicated Medical Practitioners have been brought together under one roof for giving ethical medical care. Equipped with the ultra modern Equipments and Information Technology, all Practitioners work together as a team to provide the best possible treatment to their patients.

ORGANISATION PROFILE

4. The internal services department at Venkateshwar Hospital is open for 24 hours and 7 days a week. Patients who come to India in search of pocket friendly and effective medical treatment can rely on Venkateshwar Hospital's reliable services. The hospital realises the fact that every patient here requires different course of treatment plan and the medical professionals here personally provide top notch consultation/guidance. The prime belief lies in complete patient satisfaction by providing the best personalized and customizable services throughout the treatment journey of the patient.

5. **INFRASTRUCTURE**

(a) The hospital is equipped with the best infrastructure and cutting-edge technology

(b) It has 325 beds, 100 ICU beds and 10 Modular Operation Theaters.

6. **VISION**

To position ourselves in the lead role on the global healthcare map.

7. **MISSION**

To achieve global excellence in healthcare with evidence based ethical clinical practices by the team of highly skilled professionals by using cutting edge technology .

8. **Cutting Edge Technology** Hospital is fully equipped with cutting edge and most latest, sophisticated and high end diagnostic / medical equipments. Venkateshwar Hospital is a complete and wholesome multispecialty centre for quality medical care. The hospital ranks among the top service providers of high end specialties. Venkateshwar Hospital deals in some of the most major medical procedures like – Kidney transplant & Liver Transplant.

9. **Core Values**

10. **FACILITIES**

(a) **COMFORT DURING STAY**

TV in rooms, Private rooms, Free Wifi ,Phone in Room, Mobility accessible rooms

Family accommodation, Laundry ,Safe in

(b) **MONEY MATTERS**

Health Insurance coordination ,Medical travel insurance, Foreign currency exchange, ATM , Credit Card, Debit Card & Net Banking

(c) **FOOD**

Diet on Request , Food Court, International Cuisine.

(d) **TREATMENT RELATED**

Medical records transfer ,Online doctor consultation, Rehabilitation, Pharmacy

Document legalization, Post operative follow up. Ambulances (incl Air)

11. **Specialities Available** :

- *Anesthesiology*
- *Cardiac Anesthesiology*
- *Cardiac Surgery*
- *Cardiology – Non-Invasive, Invasive & Interventional*
- *Clinical Psychology*
- *Critical Care*
- *Dentistry*
- *Dermatology and Aesthetics*
- *Diabetes & Endocrinology*
- *Emergency*
- *ENT including Cochlear Implantation*
- *Fertility including IVF*
- *Gastroenterology including Endoscopy*
- *Gastrointestinal, Hepato-Pancreato-Biliary, Minimal Access & Bariatric Surgery*
- General Surgery & Laparoscopic surgery
- *General Medicine*
- *Gynecology*
- *Obstetrics including High Risk*
- *Medical Oncology*
- *Radiation Oncology*
- *Surgical Oncology*
- *Nephrology including Dialysis*
- *Kidney Transplant*
- *Urology*
- *Neurology*
- *Pediatric Neurology*
- *Neurosurgery*
- *Neonatology*
- *Pediatrics*
- *Nuclear Medicine*
- *Ophthalmology*
- *Orthopedics Surgery including Joint Replacement*
- *Pain Management*
- *Plastic, Reconstructive & Cosmetic Surgery*
- *Respiratory Medicine including Sleep Medicine*
- *Rheumatology*
- *Physiotherapy & Rehabilitation*
- *Dietetics & Nutrition*
- Bone Marrow Transplant

12. ***Diagnostic Services***

- ***Cardiac Lab***
  - *ECG*
  - *2D Echo*
  - *Holter Monitoring*
  - *Tread Mill Testing*
  - *Stress Echo*

- ***Imaging***
  - *Bone Densitometry*
  - *CT Scan*
  - *Mammography*
  - *MRI*
  - *Ultrasonography*
  - *X-Ray & Fluoroscopy*
  - *Interventional Radiology*
  - *OPG*

- ***Nuclear Imaging***
  - *PET - CT*
  - *Gamma Camera/Spect*
  - *Radioiodine – Low Dose Therapy*

- ***Neurology Lab***
  - *EEG*
  - *EMG*
  - *NCV*
  - *Evoked Potential*
  - *RNS*

- ***ENT Lab***
  - *OAE/BERA/ASSR (For Congenital Deafness)*
  - *Audiometry/Special Tests/Tympanometry of Hearing*
  - *Speech Assessment*
  - *Nasal & Laryngeal Endoscopy/Fiber optic*
  - *Vertigo Assessment*
  - *Voice Analysis/Stroboscopy*

- ***Respiratory Lab***

- *Spirometry-Pre-&- Post (PBD)*
- *Diffusion Studies (DLCO)*
- *6 MWT (6 min. walk test)*
- *Polysomnography (Sleep Study)*
- *Nocturnal Oximetry*
- *CPAP/BiPAP Titration*
- *Allergy Testing (Skin Prick Test)*
- *FOB (Fiber optic Bronchoscopy)*
  - *BAL*
  - *TBNA*
  - *EBB*
  - *TBLB*
- *EBUS & TBNA*
- *Medical Thoracoscopy*
- *Pleurocentasis*
- *Pigtail Catheter Drainage*
- *Intercostal Tube Drainage*

- ***Laboratory***

- *Clinical Biochemistry*
- *Microbiology & Infectious Disease Serology*
- *Haematology*
- *Clinical Pathology*
- *Histo Pathology*
- *Cyto Pathology*
- *Flow Cytometry*
- *Cytogenetics*
- *Molecular Testing*

Allied Services

- *Ambulance (24x7)*
- *Blood Bank (24x7)*
- *Pharmacy (24x7)*
- *CSSD*

Services Not Available

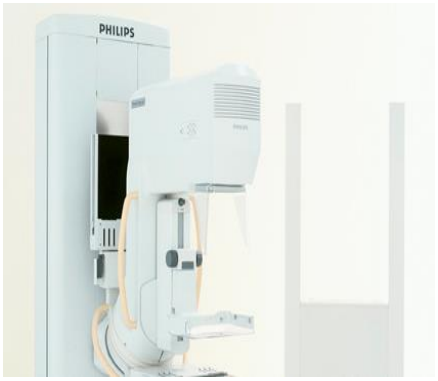
- *Burns Unit*
- *Psychiatry Inpatient*

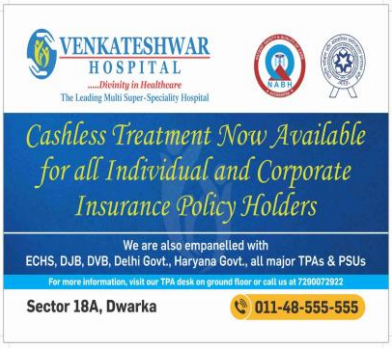
13. INTERNATIONAL PATIENT DEPARTMENT

With the aim to provide best personalized services to International patients, Venkateshwar Hospital has also introduced the Department of International Service. This department aim is to support international patients 24×7. In collaboration with top medical insurance providers, the hospital has made provision of cashless treatment for insurance patients. The Department of International Services at the Venkateshwar Hospital is a service that provides patients seeking medical treatment in India with a single point of contact for accessing the highest quality care. Hospital understands that every international patient has different needs and expectations, and its team is there to ensure personalised guidance through every aspect of treatment. Their dedicated staff can assist in connecting patients with one of the distinguished physicians, supplying and securing cost estimates and coordinating appointments and admissions that meet patient's travel dates. The team of in-house Interpreters trained in multiple languages assist them throughout their visit to the Hospital.

International Patient Services offers personalised services to overseas patients including query handling, identifying physicians in advance according to the requirements of the patient, coordinating appointments scheduling & Surgery, VISA and FRRO Assistance, Airport pick-up and drop facility, Currency Exchange facilitation, organizing accommodation for the attendants and patient's families within the vicinity of the Hospital or in nearby Guest Houses or Hotels, taking care of the cuisine of the patient's choice, Travel, Tour & Ticketing Assistance, and Post Discharge follow-up ensuring Comfort and well being of the patient is their top most priority.

16. **SNAP SHOTS OF HOSPITAL'S SERVICES / FACILITIES**





Chapter – 3

REVIEW OF LITERATURE

3.1 Introduction

According to (Bergenmar. et al., 2006), Waiting time is expressed as an deliberate evaluation of the standard of service actually imparted against the individual's perceptions. Patients spend a large amount of time in hospitals waiting for health care to be delivered by doctors and other affiliated para medical staff. Delayed provisioning of the intended services has a very adverse impact on the overall quality of care including time delays associated with diagnosis and final intervention given (Kenagy et al., 1999), it also adds to un avoidable cost burden on the patients and affiliated health system (Mesfin et al., 2010). The aspirations of the affected party thus can't be overlooked.

The Institute of Medicine (IOM) recommends that, at least 90% of patients should be seen within 30 mins of their scheduled appointment time (O'malley et al., 1983). This is, practically not possible to achieve, since on ground a patients ends up spending around 120 to 240 minutes at the OPD to avail the desired services. (Ofilli et al., 2005. The satisfaction levels of patients is directly related to their experience at OPD wrt waiting times (Nabbuye-Sekandi et al., 2011). Many researchers today are singularly focusing on discovering ways and achievable techniques to control and further the reduce the overall waiting times at OPDs in particular. (Jessica Jitta, 2008, Nabbuye-Sekandi et al., 2011) more so since waiting and requisite care provisioning times are usually regarded as key indicators of standard of service being provisioned by the health care providers (MOH 2004, Nabbuye-Sekandi et al., 2011).

An analysis and research by a scholar wrt Patient satisfaction at Health care Services being provided in in Uganda in 2008 (Jessica et al., 2008a) established that patients generally wait for much longer times on their own at the public utilities, before they are able to see the doctor. This was much higher than the acceptable time limit of 60 minutes. (Ministry of Health., 2004). Hence there is an inevitable requirement to undertake a in depth analysis on factors responsible for the enhanced waiting time for the patients visiting the general OPD.

3.2 Impact of Waiting time on Quality of services(QoS) & Sustainability of Competitive edge

Waiting time is a critical determinant of level of patient satisfaction achieved, since it snowballs into avoidable increase in the Out of Pocket expenditure of affiliated patients and has a negative outcome on efficiency and profiency of the care institute. (Haussmann, 1970). There is a real battle to be won against all odds for achieving highest degree of professional and timely care with the restricted resources (Hall et al., 2001).

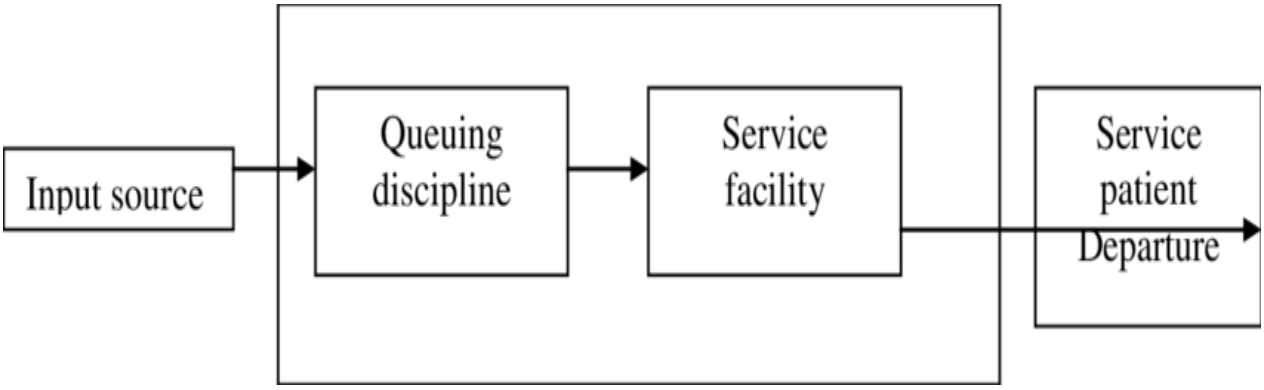
3.3 Theoretical background of waiting time in healthcare

In the past years, healthcare providers and affiliated systems in place have undergone plethora of up gradation wrt queuing processes, where patients arrive and wait to get the desired services as per their perceptions and then depart (Fomundam and Hermann, 2007).

3.4.1 Basics of Queuing Theory

The elementary model of the queuing system can be segregated into input and output queuing systems (Hillier and Lieberman, 2005). The basic queuing model is known to be as the Single–server single queue model as illustrated in figure 1. Single–server model has a single server and only a line of patients (Krasewski and Ritzman, 1998). Here affected patients from that single line are likely to be catered for their medical needs through a singular server facility .

Figure 1 A High-Level View of a Basic Queuing Process



Source: (Obamiro, 2010)

3.4.2 Queue System

Queues are generally unlimited or limited (Hillier and Lieberman 2001). An unlimited queue holds an infinite number of patients, which approach the queue. Unless specified otherwise, the accepted queuing model is assumed to be one holding an unlimited numbers.

3.4.3 Queue Discipline Management

The queue discipline is pointing at the total number of persons standing in the queue. (Hillier and Lieberman, 2001). In almost all health care agencies, if a prior appointment model is in place, the queue model is either first-in-first-out or a set of well defined and regulated methods. The model can different priorities set for variety of patients classes and structures.

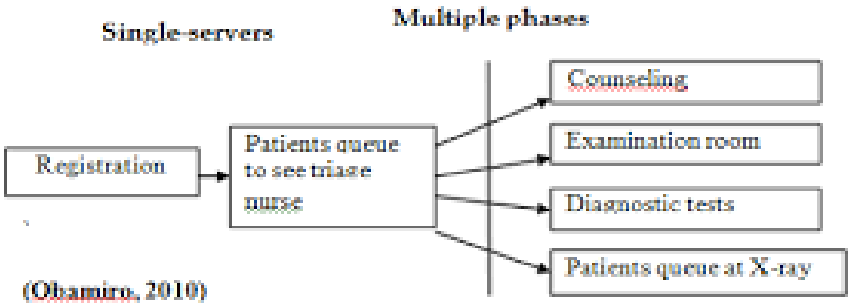
3.4.4 Service Mechanism

Mosek and Wilson (2001), system has explained that what are the ways in which a patient is need to be looked after and served in a health care setting. In a single server system each patient is taken care of by exactly one server, even if there are multiple servers in place. Mostly , care provisioning times are erratic and they are never static.

3.4.5 Single-server, Multiple-phases System

Here in this model, there will be a single queue but clients get more than one kind of facility before actually exiting the queuing model as depicted in figure 2. At the OPD, patients firstly arrive at the registration counter , get the basic formalities completed and then again stand in the queue to observe a para medical staff for additional support, before visiting the doctor.

Figure 2: Queuing discipline showing a single-server and multiple phase System



(Obamiro, 2010)

3.5 Factors associated with waiting time a health facility

3.5.1 Patient flow Model

Bottlenecks in the smooth patient system can result in substantial increment in overall waiting time and can result in an adverse and unexpected outcome for health delivery systems in place (Vos et al., 2007). When patient flow is managed well, it is mostly reflected by the shorter wait times at billing , registration, investigations, pharmacy and final discharge process (Belson, 2010).

3.5.2 Operational efficiency model

After a health care provider has a clear knowledge about a patient flow model, these systems can than easily be replicated to achieve better and acceptable care delivery processes. (Côté, 2000). Thus an effective patient flow model may be a great challenge to achieve to enhance the overall professional efficacy of the OPD. (Kunders, 2004).

3.6 Emergence of bottlenecks in Outpatient departments

As per Wanyenze et al. (2010) a number of complex and dynamic issues are likely to affect the final desired proficiency. So thus problem factors need to be analysed at the earliest and eradicated for enhancing the Quality of services.

3.7 Problem statement

Higher OPD waiting time result in alarming level of dissatisfaction amongst mostly all the patients visiting the OPD services and can thus adversely affect name and reputation of the health care provider. Patients can even leave without getting proper care. (Omaswa, 1997).

The biggest impact of long waiting times is that it enhances the number of patients who would not like to visit the said health care facility again in their life times (Stock et al., 1994, Fernandes et al., 1997). A study also established that among patients who left without being seen by a doctor, 40% actually required emergent medical care, and around 10% were subsequently admitted within next few days (Baker et al., 1991) and 55 % of them looked out for better options else where (Rowe et al., 2006).

Chapter – 4

RESEARCH DESIGN & METHODOLOGY

4.1 . Rationale of the Study

Being the first point of contact with a patient the general OPD serves as the window to any health care service provided to the community. The care in the OPD is indicative of the general quality of services(QOS) of the hospital and is reflected by the patients' satisfaction. This study can be an effective means of measuring/evaluating the quality of OPD service of one of the major national referral hospital or any Tertiary multi specialty private hospital from the patient point of view.

With the current effort to streamline the smooth functioning of OPD services at Venkateshwar hospital, especially in context of OPD consultation TAT/ Waiting time. The current study intends to analyse and identify points of delay and provide hospital management/policy makers with logical suggestions and options for scaling up and improving quality of services being offered at the Outpatient department(OPD) through a deliberate review of various processes in the hospital system. This study aims to generate time sensitive and hospital specific operational data that can be used by administration to improve patient flow and overall quality of health service delivery especially where the patients seem to be not satisfied on the services at OPD.

A clear understanding of the factors affiliated with average waiting time at the hospital could help in deciding which all interventions will have the desired impact towards betterment of the patient flow and patients' experience/ impression about the hospital. Thus, controlling/reducing the average waiting times would help to achieve a decreased congestion in the hospital and simultaneously potentially increase the patient satisfaction .

4.2 Neccesity of the Study

(a) Socio economic & technological evolution.

(b) Enhanced expectations of OPD patients/visitors.

(c) To understand the complex & dynamic requirements of modern day health care services.

(d) To focus on a patient centric approach.

(e) To lay due stress on accountability, cost effectiveness, sustainability through **Continuous quality improvement (CQI).**

(f) Hospital performance assessment / audits are mandatory today as per NABH/NABL guidelines

(g) To be able to view & analyse snapshot of performances at departmental level

(j) To understand and establish the importance of monitoring & surveillance of Health care services in hospital.

(k) For ensuring Staff orientation & synchronization towards organizational Vision, Mission and goals.

(l) To establish necessity of ensuring responsive governance, which generally follows a Top- down approach.

(m) To achieve enhanced patient trust / satisfaction & retention.

(n) To maintain & retain the competitive edge.

(o) To attract & enhance the International patients base.

4.3 Broad Objectives including few supporting activities

(i) To observe & determine the flow of patients and average waiting times in various OPDs of a Multispecialty Hospital through a **Time motion Study(active observation)**.

(ii) To quantify the waiting time and identify the factors & root problem areas/bottlenecks those are likely responsible for higher waiting time in OPDs.

(iii) To recommend appropriate suggestions to optimize the waiting time in the OPD.

(iv) To carry out deliberate analysis (on the **SPSS platform**) of OPD consultation Turn around Time(TAT) as captured by the Hospital HIS for a period covering Jan – Mar 19 & compare it with the study data.

(iv) To carry out a **patient survey** in form of a structured questionnaire with a view to gather, analyse their candid inputs /suggestions wrt quality of services existing at the OPD.

(v) To facilitate meaningful graphical display/view of desired analysis wrt hospital OPD services through creation of a live & effective dashboard.

(vi) To build a realistic & operational model of performance (through detailed analysis on the SPSS platform of the OPD Time motion study and the hospital OPD consultation TAT captured through their HIS.

(vii) To facilitate quicker decision making by the hospital management based on realistic & logical analysis.

(viii) To be better prepared for external audits / validation at all times.

4.4. Research questions

(a) How long do patients wait on an average to receive care at the Hospital ?

(b) Where along the continuum of care of assessment do patients experience delays?

(c) What are the possible factors that may lead to excessive patient waiting times?

(d) What do patients feel about the existing standard of OPD services in the hospital?

4.5. Main objective

To quantify the waiting time and identify the factors associated with waiting time for services being offered at the various outpatient departments at the hospital in order to come up with an evidence based analysis of ascertaining the realistic overall average waiting time and as also the mean waiting time(TAT) at various departments of the OPD. The study aims to conduct a cross-sectional survey to measure the actual patient waiting time and identify out some of the factors that contribute to the additional time patients spend in the Hosp OPD, in order to update them with some reliable information on the quality of services delivery.

4.6. Specific Objectives

(i) Observe, measure and analyse the overall average patient waiting time at the OPD wrt to both the primary(observational) and secondary (HIS captured)data on SPSS platform.

(ii) Measure and analyse the department wise average patient waiting time at the OPDs wrt to both the primary(observational) and secondary (HIS captured)data on SPSS platform.

(iii) To carry out descriptive analysis , cross tab analysis & one sample T Test on SPSS.

4.7 Study Design

Observational & descriptive study of following aspects :

(i) Observation, measurement and analysis of OPD consultation TAT of critical department/services through simple random sampling of a cross section of OPD patients on different days.

(ii) Prospective & retrospective study of various critical OPDs for a period covering Jan to Mar 2019, involving review of literature, Primary data collection(only for the month of Mar 19) & Secondary data(OPD Consultation TAT) as captured from the Hospital HIS(Jan to Mar 19).

(iii) To build a realistic & operational model of performance (through detailed analysis of captured data on SPSS application version 16.0).

(iv) A pre approved and specifically designed patient Survey questionnaire (15 questions) mostly with closed ended questions except last option for feedback/Suggestions related to standard of OPD services being provided in the Hospital was randomly collected from the willing OPD patients after having a deliberate interaction with them.

(v) A single paired **T test on the SPSS platform** will be performed at **95% Confidence interval** between Mean TAT as captured by the Hospital HIS with that of as captured physically in the primary data to establish the Significance and to determine the logical deviation between the two. A detailed analysis of both Primary(for Mar 19 only) and Secondary OPD data (for a period ranging between Jan to Mar 19) was carried out on the Statistical package for Social Sciences (SPSS) to be able to extract some meaningful observations.

4.8 Methodology & Study Design

The OPD of the Venkateshwar Hospital was selected as a Study site. **400 Target samples** were randomly drawn from the cross section of visiting OPD patients for availing services of various specialties at the Hospital over the entire month of **Mar 19 (i.e 01 Mar to 31 Mar)**. The selected sample flow was closely observed right from time spent in queue, time for form filling, time for registration/billing followed by approx transit time to their respective OPDs, time taken by nurses for recording vital parameters, waiting time to see the doctor and finally time spent with the doctor as the consultation time. The patients meeting the inclusion criteria were only followed upto the last stage for ascertaining their total Waiting time in the concerned OPD. A sample format for collection of above Primary data is also attached as **Annexure I**.

A detailed analysis of both Primary(for month of Mar 19) and Secondary OPD data (for a period ranging between Jan to Mar 19) was carried out on the Statistical package for Social Sciences (SPSS) to be able to extract some meaningful observations, Descriptive Statistics(incl mean, ns & max/min values etc.), OPD waiting analysis (based on time range), Cross Tab analysis (incl Gender distribution, Specialty/Doctor wise OPD load, monthly OPD load based on both Gender and speciality type, Day / Patient category(Panel/ Cash/PSU) wise OPD load and comparison/ deviation between mean Turn around Times (TATs) of primary and secondary data(validated through Single pair T test). Waiting time was expressed in four time blocks of minutes.

In addition, with a view to have a subjective and candid feedback from the willing patients visiting the various OPDs on different days was also collected in form of a Patient Survey Questionnaire for a target population of **60 patients during the same period** as mentioned above. The data so collected was analysed and has been summarized in form of Patient Observations/suggestions and attached as **Annexure II** to this report.

4.9 Sample Size & Sampling Technique

(i) Time Motion(Observational Study) : **400 OPD patients randomly** (as per NABH **guidelines for a monthly OPD load of 20000 patients)**

(ii) Patient Survey Questionnaire / feedback : **60 OPD patients surveyed randomly**

(iii) Deliberate analysis of the hospital acquired HIS data wrt OPD consultation TAT for a period covering **Jan to Mar 2019**.

4.9.1 Ethical Consideration

The patients were cautioned, well informed about the purpose of Study and their willingness was obtained before interacting with them for the pre designed / pre approved (by Hosp Mgt) Survey questionnaire and they were encouraged to give their candid/free opinions wrt the standard of OPD services being provided in the hosp and their suggestions for any improvement in the services were solicited and their signatures were finally obtained on the same. An Ethical certificate has also been obtained from the Hosp and same has been attached as **Annexure III**.

4.9.2 Collection tools

(i) There are three major data collection methods/tools that were used in this study. The first tool is the time and motion that measures times using a stop watch for each section of service delivery. This tool was used to track patient flow from the time they enter various OPDs, through various sections until the time they depart from the doctors' cabin.

(ii) The second tool is the interviewer administered structured Patient Survey questionnaire conducted for **60 patients randomly**. This tool captures demographic variation among patients, their perceptions wrt waiting times observed at various stages, their previous encounters with others health services and of quality services they received at the OPD, their quantification wrt existing standard of OPD services in the hosp in form of a subjective and candid feedback/ suggestions. This information can always be linked using the patient study number as a unique identifier to identify and assess the factors associated with patient waiting time.

(iii) The third tool was study and deliberate analysis of the Secondary data(OPD consultation TAT) as captured by the Hosp HIS covering the period from **01 Jan 19 to 31 Mar 19** on the SPSS platform for undertaking various type of in depth analysis of critical factors having a direct impact on the OPD waiting time and establishing any correlations between dependant variables, with a view to ascertain existing bottlenecks in the existing processes and finally to review /improve the quality of services being delivered at the OPD of the hospital.

4.9.3 Inclusion Criteria

(i) An OPD visiting patient who is walking fit and not suffering visibly from a serious ailment.

(ii) A patient who is above 18 years of age and visibly in a good mood to interact.

(iii) A patient who after having been informed about the purpose of the study is willing to participate.

(iv) A patient who is actually waiting to see a doctor in the OPD.

4.9.4 Exclusion Criteria

(i) Patients who are very Old and need assistance for their movement.

(ii) Patients who could not complete their Survey questionnaire.

(iii) Patients who were not willing to participate in the process.

(iv) Attendants / Persons accompanying the patients.

(v) Patients just visiting for a diagnostic test / Collection of reports

(vi) Patients below 18 years of age.

(vii) Patients belonging to the EWS category.

(viii) Patients reporting at OPD Counters before 10.00 AM

(ix) For ease of handling the vast OPD data covering around 54000 cases initially. It was decided to extract only the meaningful and relevant data restricting overall OPD TATs to **less than equal to 180 mins** only.

4.9.5 Limitations of the Study

(i) Not all doctors have adopted the patient data punching through existing HIS module, thus resulting in few OPD doctors' TAT not being captured at all, hence affecting overall TAT.

(ii) Few patients after being registered don't turn up on the same day or if doctor is not available for long they turn up the next day for consultation thus inflating the OPD TAT.

(iii) HIS module does not fully cater for the doctor's consultation time and as also no average OPD TAT being evaluated department wise hence un reliable overall TAT.

Chapter – 5

RESULTS AND ANALYSIS

This chapter presents results on actual patient waiting time and factors that are associated with the overall time patients spend in the OPD of the hosp where ibid study has been carried out.

This study involved patient survey of **400 Samples** at random following the Simple random technique from the cross section of patients visiting the various OPDs on different days by strictly adhering to the inclusion and exclusion criteria. In addition a patient Survey questionnaire was conducted for **60 patients randomly**. This tool captures demographic variation among patients, their perceptions wrt waiting times observed at various stages, their previous encounters with others health services and of quality services they received at the OPD, their quantification wrt existing standard of OPD services in the hosp in form of a subjective and candid feedback/ suggestions.

5.1 Study Variables

(i) **Independent Variables(Primary Data)**

(a) Ser No.

(b) Transit time

(c) Date

(ii) **Independent Variables(Secondary Data)**

(a) Name of Patient

(b) Booking Date & Time

(c) Appointment Date & Time

(d) TAT In

(e) Nurse Date & Time

(iii) **Dependent Variables(Primary Data)**

(a) Day of the Week (Mon / Tue etc.)

(b) Patient Category (Panel / PSU etc.)

(c) Gender

(d) Registration type (Old/New)

(e) OPD Type (Ortho, Gynae etc.)

(f) Patient Time In

(g) Time in Queue

(h) Time for Form filling

(j) Time for Registration / Billing

(k) Time taken by Nurse for recording Vitals of a Patient

(l) Waiting time at OPD to see a doctor

(m) Consultation time with the doctor

(n) Total Waiting time (Ser h + j + k + l + m)

(o) Total Waiting time as captured by Hosp HIS (Ser k + m)

(iii) **Dependent Variables(Secondary Data)**

(a) UHID (Unique ID of patient)

(b) Time taken by Nurse for recording Vitals of a Patient (Nurse TAT)

(c) Gender Code

(d) Doctor seen Date & Time

(e) Waiting time at OPD to see a doctor (Doc TAT)

(f) Total OPD Consultation TAT (Ser b + e)

(g) Total TAT Range Code (upto 30 mins , 31 – 60 mins, 61 – 90 mins…)

(h) OPD Type Range code (1- INT MED , 2 – CARDIO…)

(j) Doctor codes (1 – Dr. Akshay B , 2 – Dr. Aman Vij…)

(k) Doctors Specialty wise code (3,11,22,27,28 - ORTHO dept ..)

(l) Month Code (1 – Jan , 2 – Feb)

(m) Department wise range (ENT , ENT Unit1 – 4)

5.2.1 MEAN OPD TAT :PRIMARY DATA

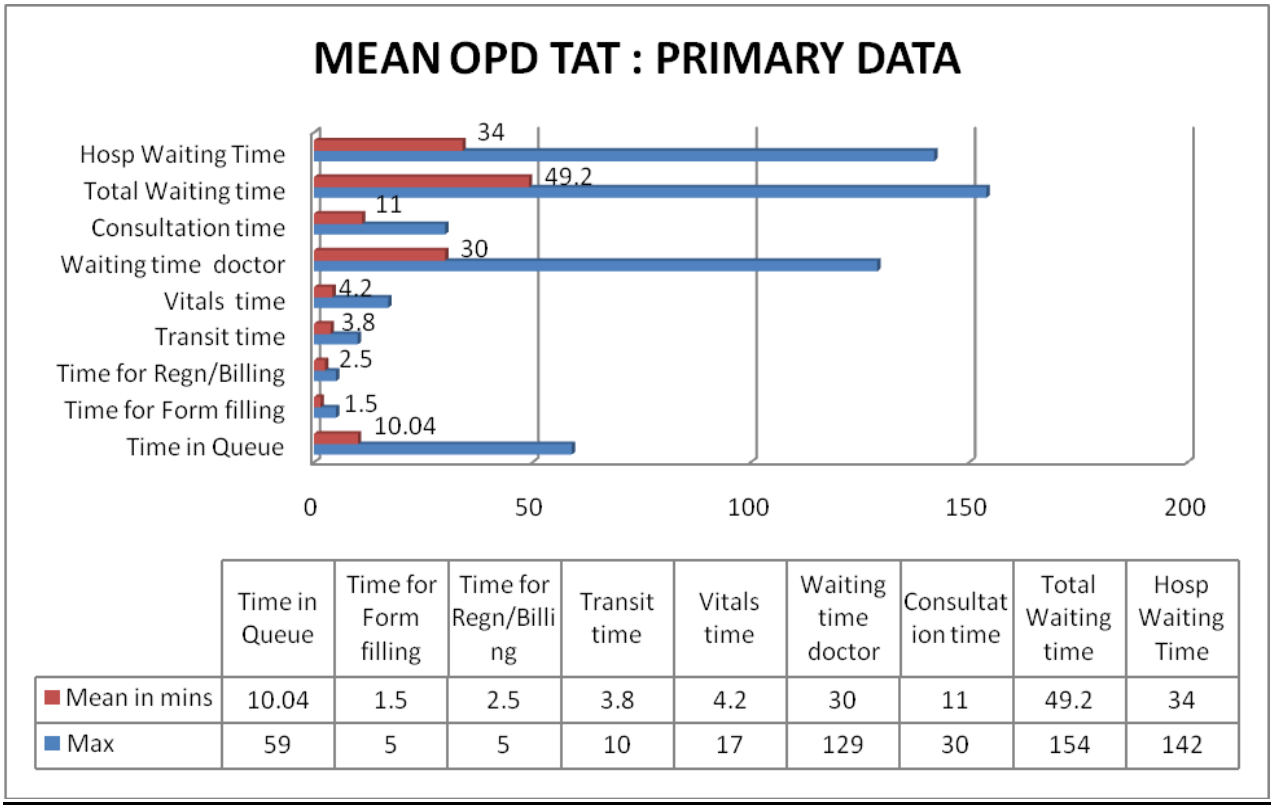
Mean TAT Primary Data

Parameters	Max	Mean in mins
Time in Queue	59	10.04
Time for Form filling	5	1.5
Time for Regn/Billing	5	2.5
Transit time	10	3.8
Vitals time	17	4.1
Waiting time doctor	129	30.0
Consultation time	30	11.0
Total Waiting time	154	49.24
Hosp Waiting Time	142	34

5.2.2 MEAN OPD TAT : SECONDARY DATA

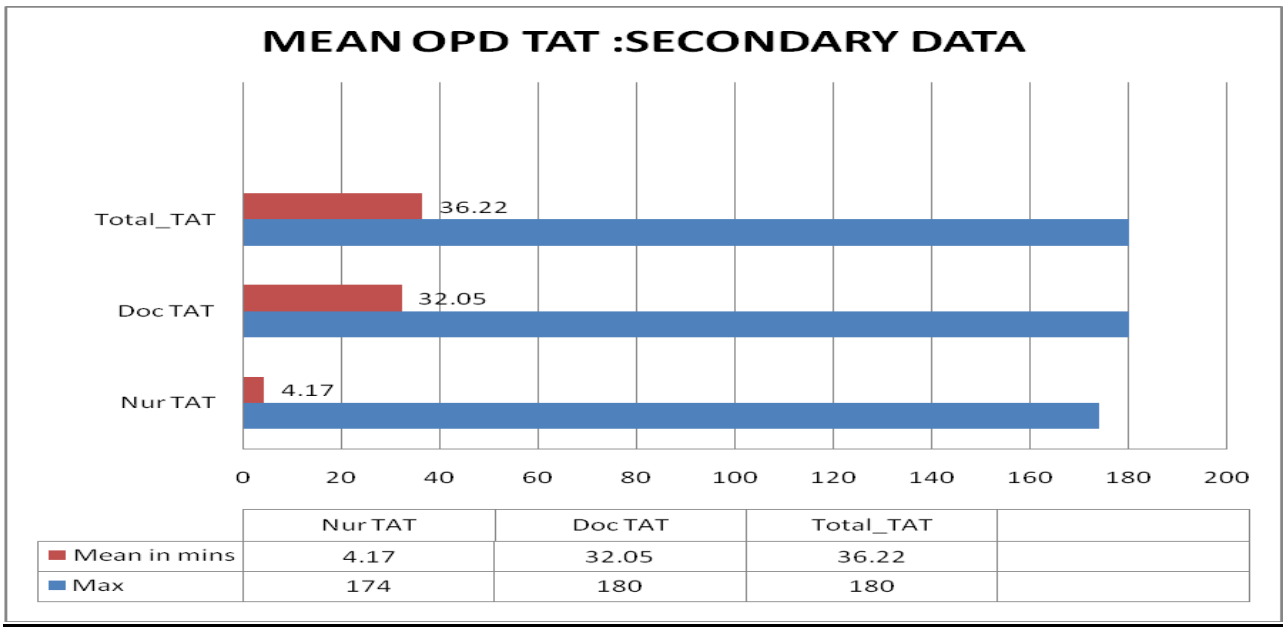
Parameters	Max	Mean in mins
Nur TAT	174	4.17
Doc TAT	180	32.05
Total_TAT	180	36.22

5.2.1 MEAN & MAX OPD TAT (WAITING TIME): PRIMARY DATA (400 CASES)



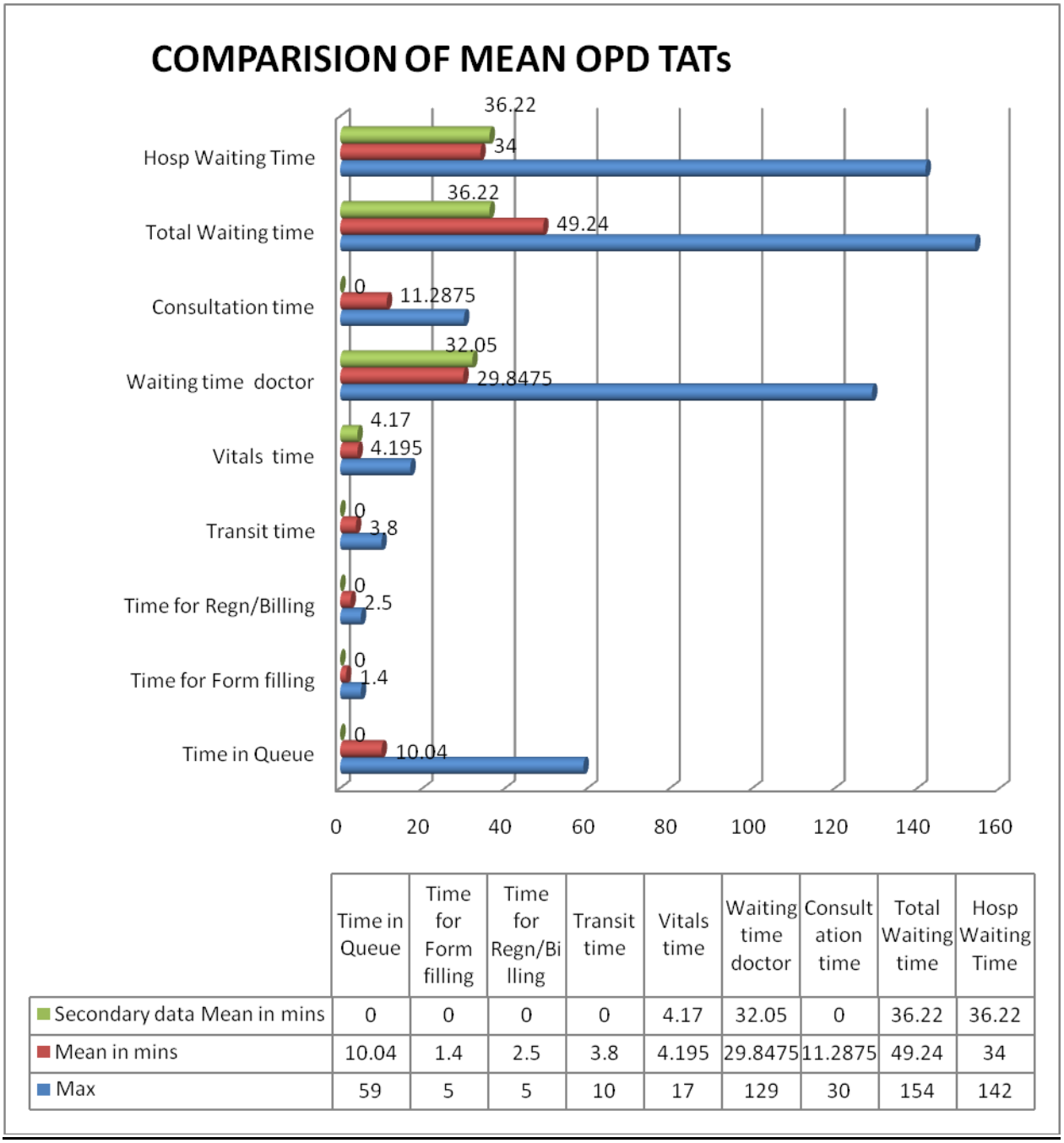
	Time in Queue	Time for Form filling	Time for Regn/Billing	Transit time	Vitals time	Waiting time doctor	Consultation time	Total Waiting time	Hosp Waiting Time
Mean in mins	10.04	1.5	2.5	3.8	4.2	30	11	49.2	34
Max	59	5	5	10	17	129	30	154	142

5.2.2 MEAN & MAX OPD TAT (WAITING TIME): HIS CAPTURED DATA (17207 CASES)



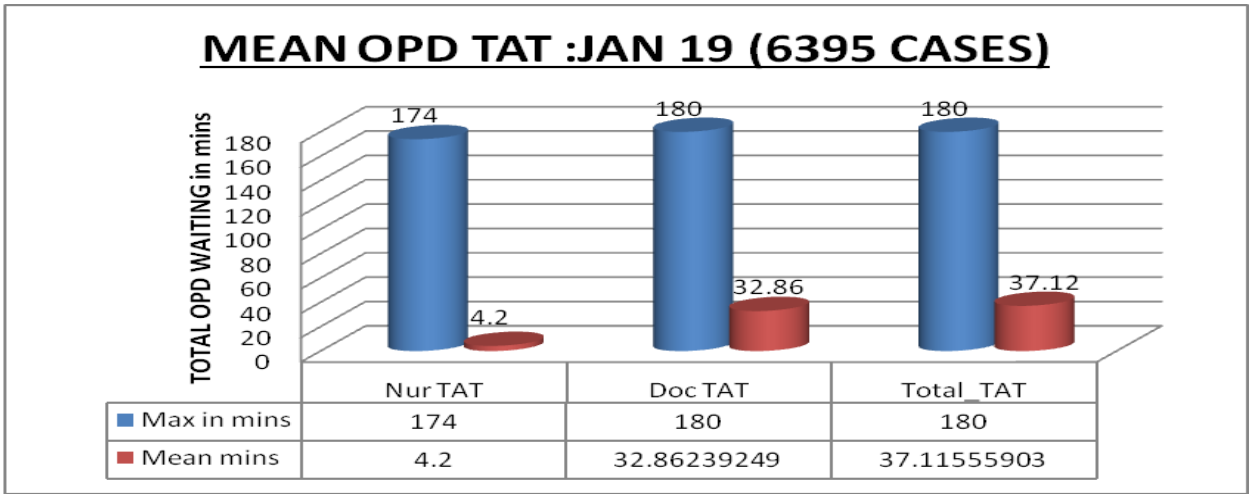
	Nur TAT	Doc TAT	Total_TAT	
Mean in mins	4.17	32.05	36.22	
Max	174	180	180	

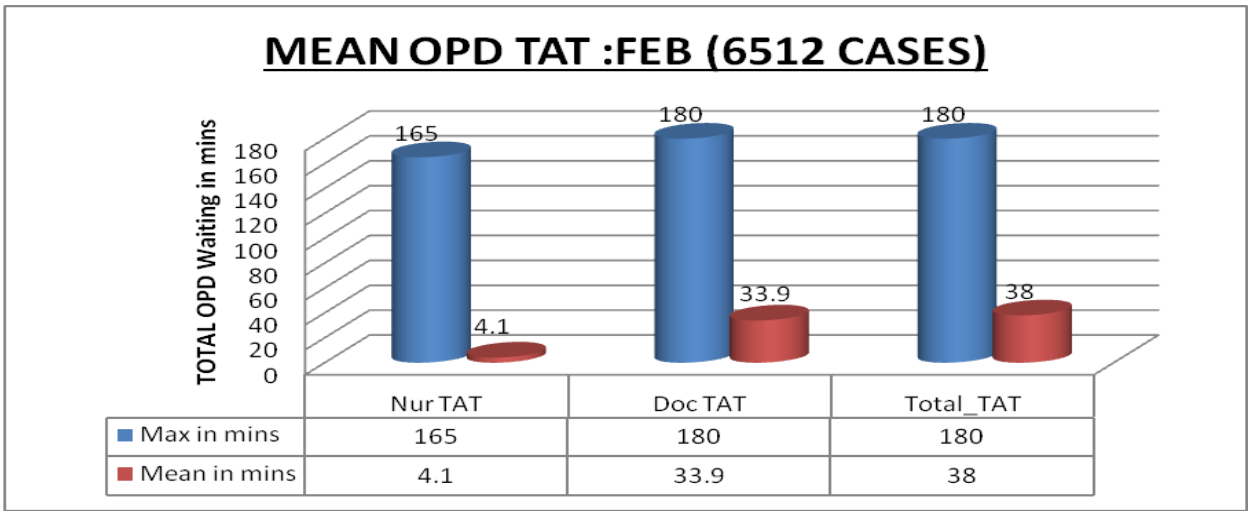
5.2.3 COMPARISION OF MEAN OPD TATs : PRIMARY & SECONDARY DATA(HIS)

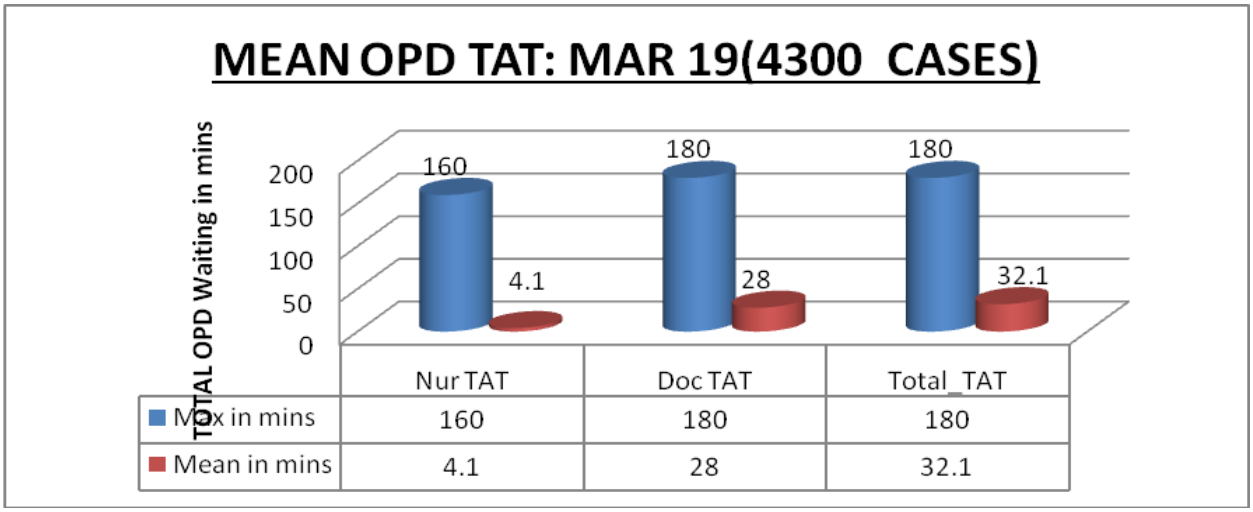


	Time in Queue	Time for Form filling	Time for Regn/Billing	Transit time	Vitals time	Waiting time doctor	Consultation time	Total Waiting time	Hosp Waiting Time
Secondary data Mean in mins	0	0	0	0	4.17	32.05	0	36.22	36.22
Mean in mins	10.04	1.4	2.5	3.8	4.195	29.8475	11.2875	49.24	34
Max	59	5	5	10	17	129	30	154	142

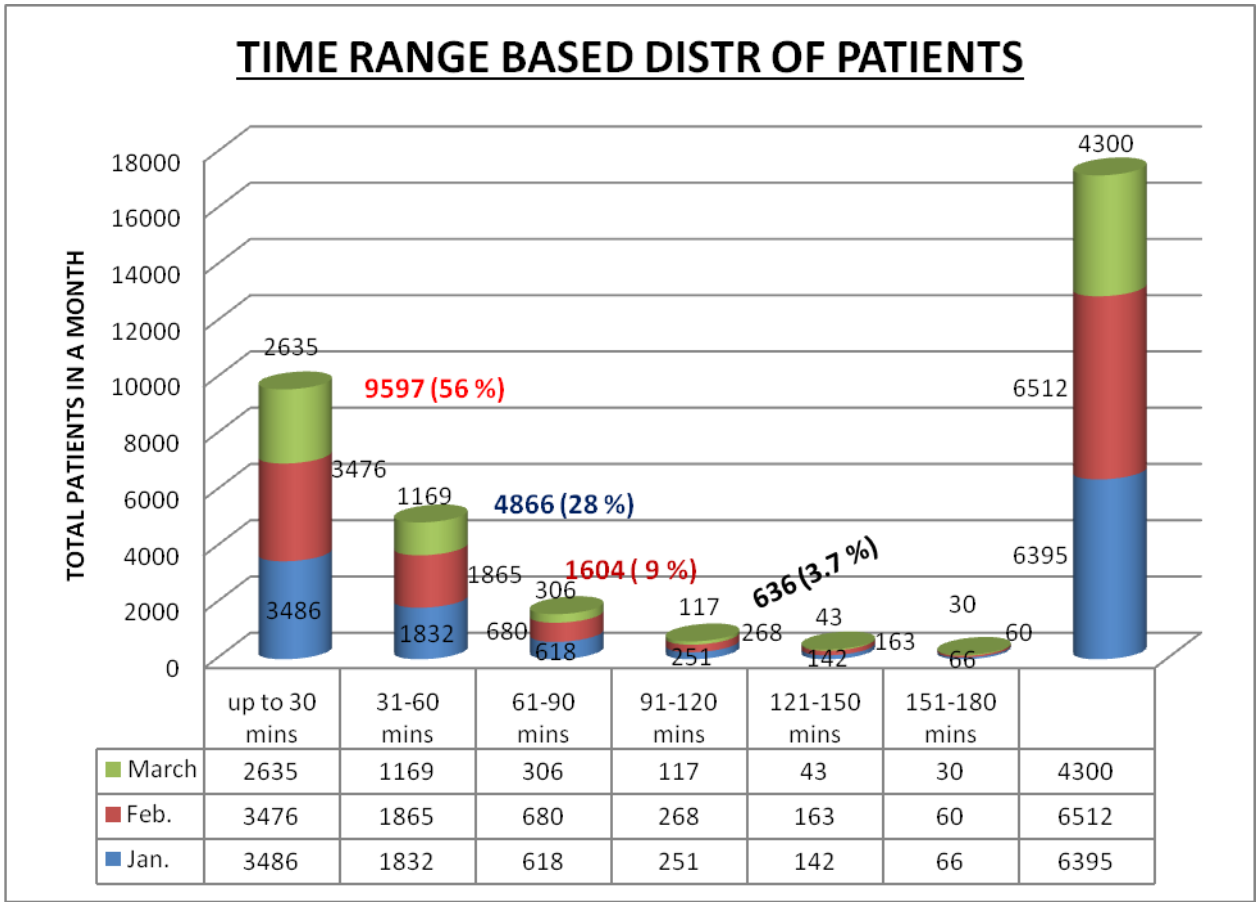
5.2.4 MEAN MONTHLY OPD TAT : HIS DATA







5.2.5 TIME RANGE BASED DISTRIBUTION OF PATIENTS IN A MONTH



TIME RANGE BASED DISTRIBUTION OF PATIENTS IN A MONTH

		Jan.	Feb.	March	Total
Total_TATRange	up to 30 mins	3486	3476	2635	9597
	31-60 mins	1832	1865	1169	4866
	61-90 mins	618	680	306	1604
	91-120 mins	251	268	117	636
	121-150 mins	142	163	43	348
	151-180 mins	66	60	30	156
Total		6395	6512	4300	17207

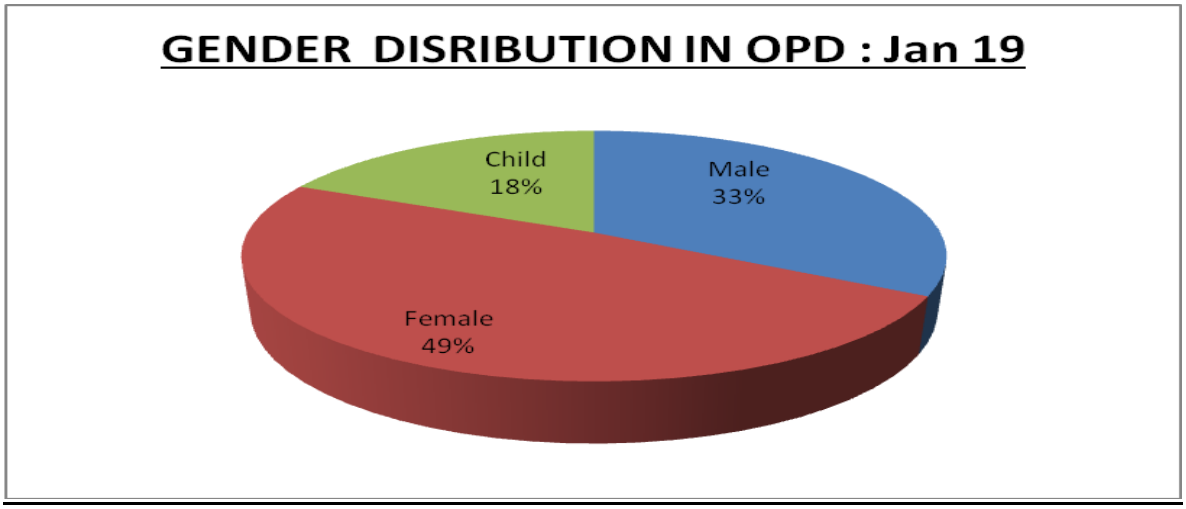
5.2.6 TIME RANGE BASED OPD DISTR DEPICTING PERCENTAGES(TAT & MONTH WISE)

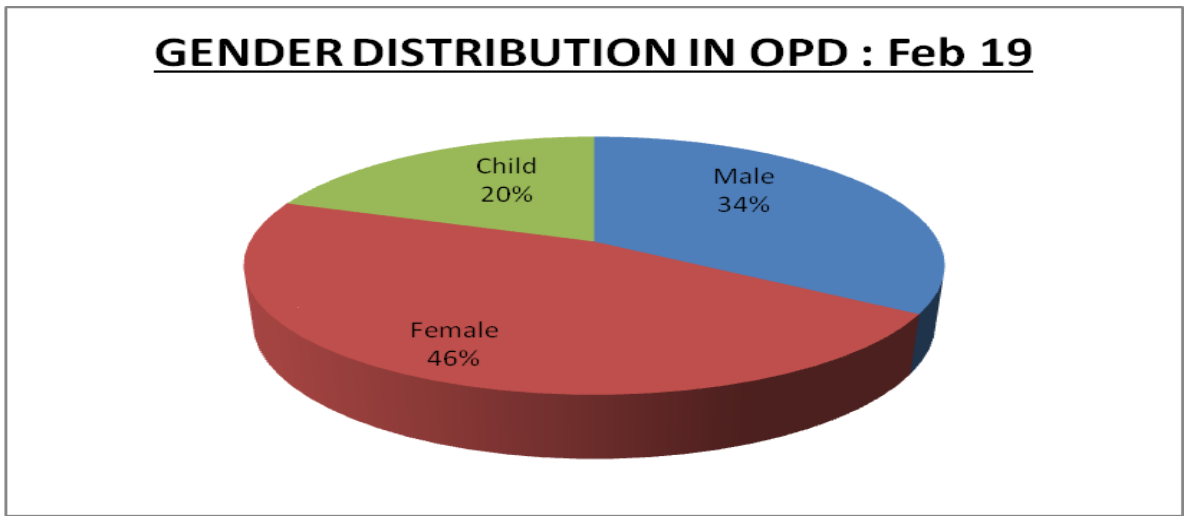
Parameter	TAT Time Rg	Measurement Unit	Month	Month	Month	Total
			Jan.	Feb.	March	
Total_TATRange	up to 30 mins	Count	3486	3476	2635	9597
		% within Month_code	**54.5**	**53.4**	**61.3**	**56.0**
	31-60 mins	Count	1832	1865	1169	4866
		% within Month_code	**28.6**	**28.6**	**27.2**	**28.0**
	61-90 mins	Count	618	680	306	1604
		% within Month_code	**9.6**	**10.4**	**7.1**	**9.3**
	91-120 mins	Count	251	268	117	636
		% within Month_code	**3.9**	**4.1**	**2.7**	**3.7**
	121-150 mins	Count	142	163	43	348
		% within Month_code	**2.2**	**2.5**	**1**	**2**
	151-180 mins	Count	66	60	30	156
		% within Month_code	**1**	**0.9**	**0.8**	**1**
Total		Count	**6395**	**6512**	**4300**	**17207**

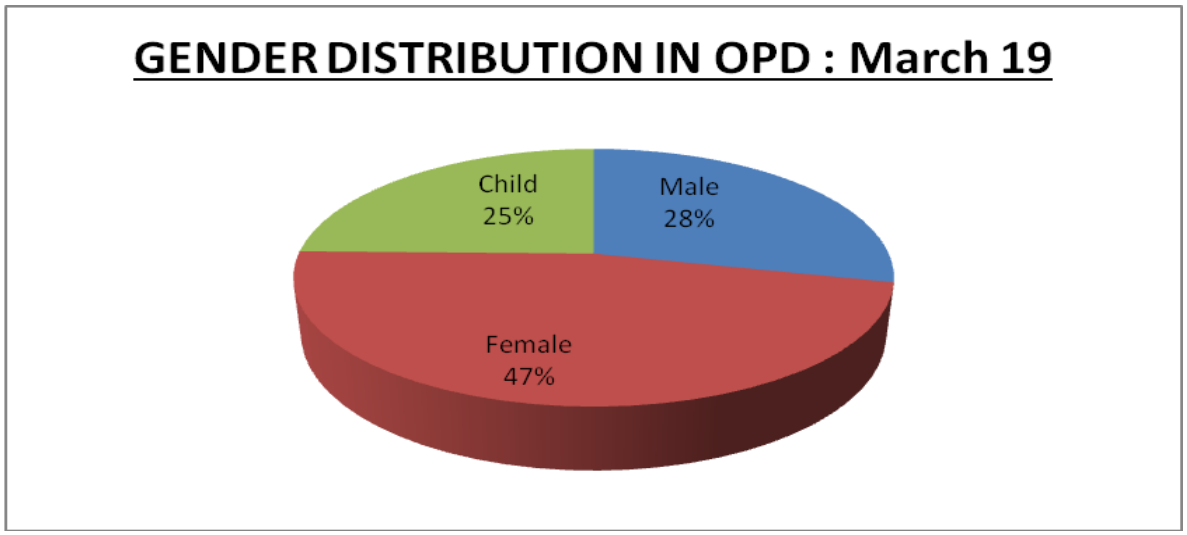
5.2.7 TIME RANGE BASED DEPARTMENT WISE OPD DISTR WITH PERCENTAGES

TAT Range	Measurement Range	ENT	GEN SURG	INT MED	OBS &GYN	ORTHO	Paediat
up to 30 mins	Count	1057	1081	1052	1169	749	2426
	% within DEPARTMENT	**52.4**	**61.7**	**52.2**	**39.2**	**66.1**	**69.6**
31-60 mins	Count	605	506	522	1037	260	847
	% within DEPARTMENT	**30.0**	**28.9**	**25.9**	**34.8**	**22.9**	**24.3**
61-90 mins	Count	244	113	172	476	82	149
	% within DEPARTMENT	**12.1**	**6.4**	**8.5**	**15.9**	**7.2**	**4.2**
91-120 mins	Count	71	21	117	207	22	40
	% within DEPARTMENT	**3.5**	**1.3**	**5.9**	**6.9**	**1.9**	**1.2**
121-150 mins	Count	25	14	126	68	14	15
	% within DEPARTMENT	**1.3**	**0.9**	**6.3**	**2.3**	**1.3**	**0.5**
151-180 mins	Count	13	15	23	26	6	4
	% within DEPARTMENT	**0.7**	**0.8**	**1.2**	**0.9**	**0.6**	**0.2**
	Count	2015	1750	2012	2983	1133	3481

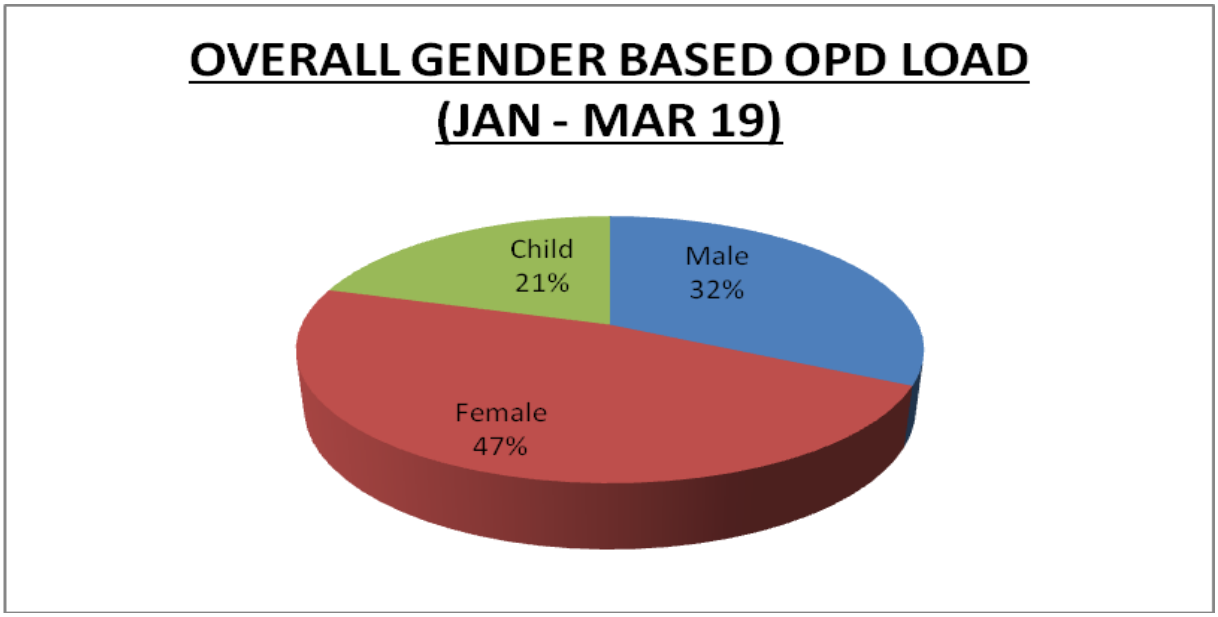
5.2.8 GENDER BASED OPD LOAD MONTH WISE







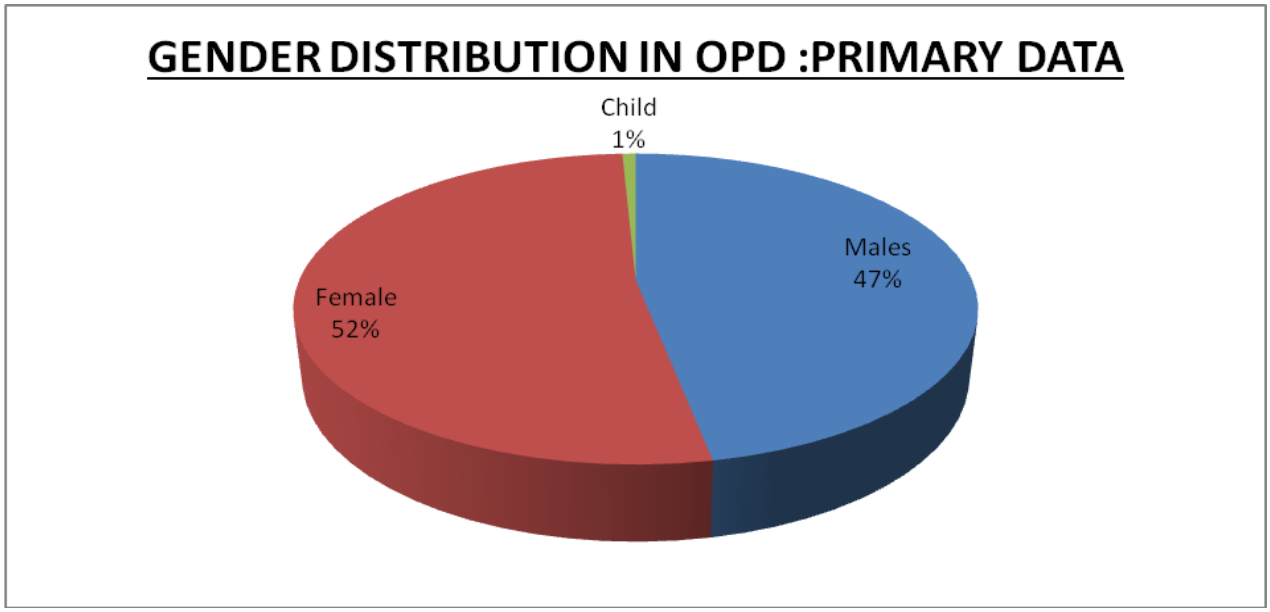
5.2.9 OVERALL GENDER BASED OPD LOAD (JAN 19 – MAR 19)



OVERALL GENDER BASED OPD LOAD (JAN 19 – MAR 19)

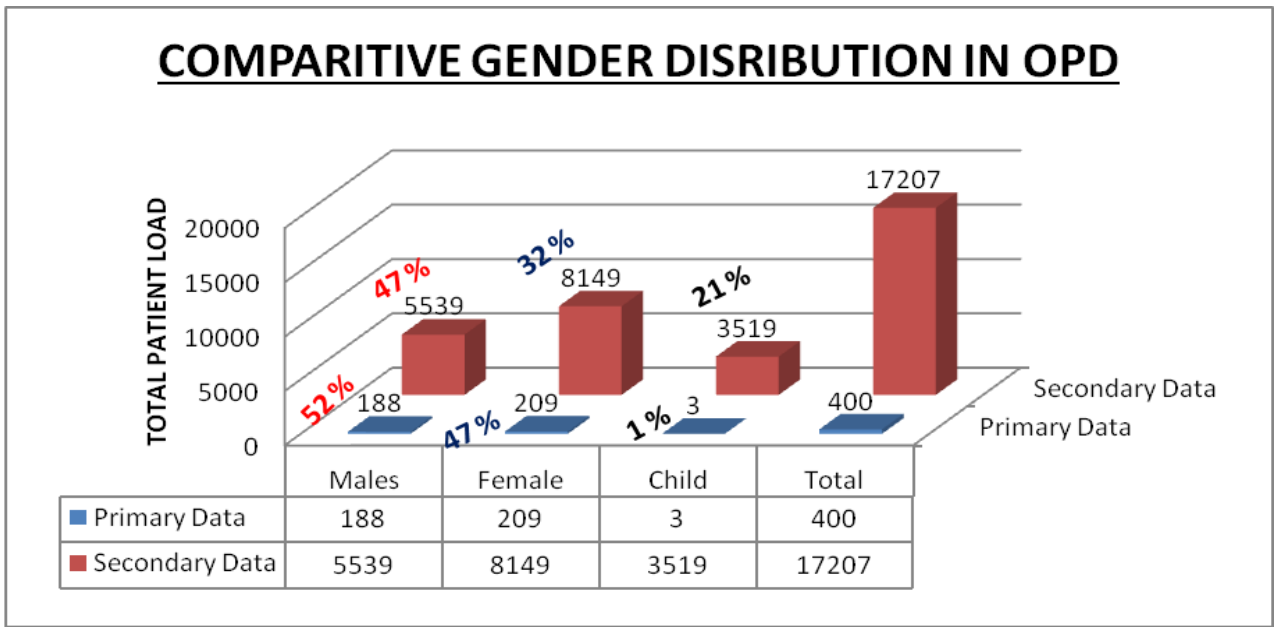
Gender	Jan 19	Feb 19	March 19	Total
Male	2109	2202	1228	5539
Female	3115	3024	2010	8149
Child	1171	1286	1062	3519
	6395	**6512**	**4300**	**17207**

5.3.1 GENDER DISTRIBUTION IN OPD : PRIMARY DATA



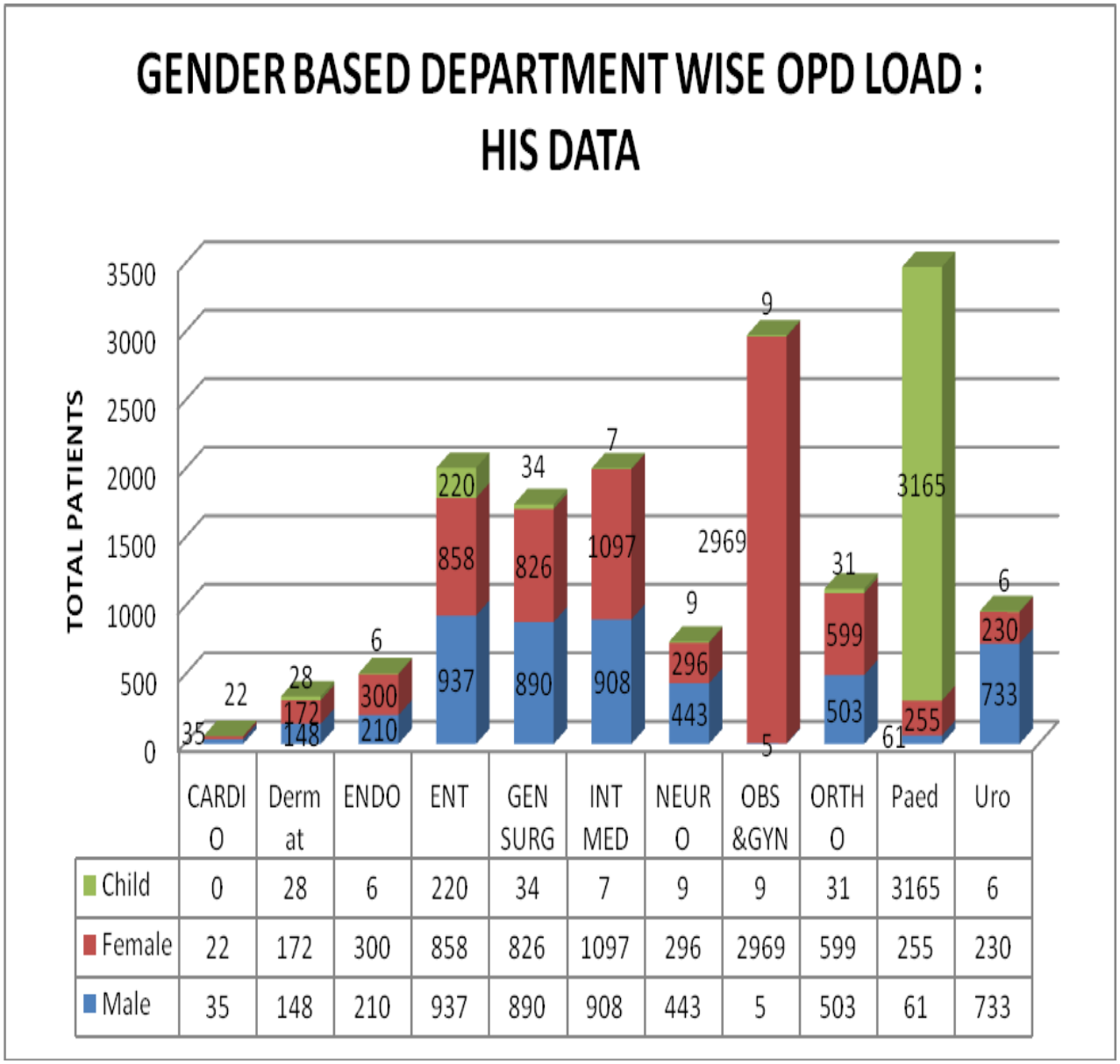
Gender Distribution : Primary Data

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Males	188	47	47	47
Female	209	52.2	52.2	99.2
Child	3	0.8	0.8	100
Total	400	100	100	



5.3.2 GENDER BASED DEPARTMENT WISE OPD LOAD

Gender	CARDIO	Dermat	ENDO	ENT	GEN SURG	INT MED	NEURO	OBS &GYN	ORTHO	Paed	Uro	Total
Male	35	148	210	937	890	908	443	5	503	61	733	5539
Female	22	172	300	858	826	1097	296	2969	599	255	230	8149
Child	0	28	6	220	34	7	9	9	31	3165	6	3519
	57	**348**	**516**	**2015**	**1750**	**2012**	**748**	**2983**	**1133**	**3481**	**969**	**17207**



5.3.3 MEAN OPD TAT FOR VARIOUS DEPARTMENTS

MEAN TAT FOR INT MED OPD

	N	Maximum	Mean
Nur TAT	2012	54	0.1
Doc TAT	2012	180	41.53
Total_TAT	2012	180	41.63
Valid N (listwise)	2012		

MEAN TAT FOR CARDIO OPD

	N	Maximum	Mean
Nur TAT	57	152	29.05
Doc TAT	57	159	13.86
Total_TAT	57	159	42.91
Valid N (listwise)	57		

MEAN TAT FOR ENDO OPD

	N	Maximum	Mean
Nur TAT	516	119	8.21
Doc TAT	516	152	23.96
Total_TAT	516	159	32.16
Valid N (listwise)	516		

MEAN TAT FOR NEURO OPD

	N	Maximum	Mean
Nur TAT	748	132	2.29
Doc TAT	748	175	39.31
Total_TAT	748	175	41.6
Valid N (listwise)	748		

MEAN TAT FOR OBS & GYNAE OPD

	N	Maximum	Mean
Nur TAT	2983	174	10.91
Doc TAT	2983	177	34.89
Total_TAT	2983	177	45.79
Valid N (listwise)	2983		

MEAN TAT FOR ORTHO OPD

	N	Maximum	Mean
Nur TAT	1133	0	0
Doc TAT	1133	174	29.82
Total_TAT	1133	174	29.82
Valid N (listwise)	1133		

MEAN TAT FOR UROLOGY OPD

	N	Maximum	Mean
Nur TAT	684	0	0
Doc TAT	684	176	38.76
Total_TAT	684	176	38.76
Valid N (listwise)	684		

MEAN TAT FOR PULMO OPD

	N	Maximum	Mean
Nur TAT	230	80	5.97
Doc TAT	230	132	31.3
Total_TAT	230	170	37.27
Valid N (listwise)	230		

5.3.3 MEAN OPD TAT FOR VARIOUS DEPARTMENTS

MEAN TAT FOR DERMAT OPD

	N	Maximum	Mean
Nur TAT	348	0	0
Doc TAT	348	177	33.2
Total_TAT	348	177	33.2
Valid N (listwise)	348		

MEAN TAT FOR ENT OPD

	N	Maximum	Mean
Nur TAT	2015	165	3.74
Doc TAT	2015	178	33.08
Total_TAT	2015	178	36.82
Valid N (listwise)	2015		

MEAN TAT FOR GEN SURG OPD

	N	Maximum	Mean
Nur TAT	1750	0	0
Doc TAT	1750	180	30.33
Total_TAT	1750	180	30.33
Valid N (listwise)	1750		

MEAN TAT FOR GASTRO OPD

	N	Maximum	Mean
Nur TAT	723	0	0
Doc TAT	723	180	31.53
Total_TAT	723	180	31.53
Valid N (listwise)	723		

MEAN TAT FOR ONCO OPD

	N	Maximum	Mean
Nur TAT	111	46	2.69
Doc TAT	111	164	31.15
Total_TAT	111	164	33.85
Valid N (listwise)	111		

MEAN TAT FOR PAEDIT OPD

	N	Maximum	Mean
Nur TAT	3481	137	6.37
Doc TAT	3481	154	20.38
Total_TAT	3481	173	26.75
Valid N (listwise)	3481		

MEAN TAT FOR PHYSIO OPD

	N	Maximum	Mean
Nur TAT	130	0	0
Doc TAT	130	180	51.46
Total_TAT	130	180	51.46
Valid N (listwise)	130		

5.3.4 GENDER BASED SPECIALITY WISE DOCTOR'S OPD LOAD(JAN – MAR 19)

Dept wise range			Gender			Total
OPD_TYPE		Dr. Code	Male	Female	Child	
INT MED	Speciality_wise_Doc	2	475	603	2	1080
		8	3	4	0	7
		19	427	481	5	913
	Total		905	1088	7	2000
CARDIO	Speciality_wise_Doc	20	23	17		40
		25	12	5		17
	Total		35	22		57
DERMAT	Speciality_wise_Doc	33	62	109	10	181
		39	86	63	18	167
	Total		148	172	28	348
ENT	Speciality_wise_Doc	42	432	370	95	897
		43	392	371	109	872
	Total		824	741	204	1769
ENDO	Speciality_wise_Doc	14	210	300	6	516
	Total		210	300	6	516
NEURO	Speciality_wise_Doc	23	25	43	2	70
		32	386	229	7	622
		34	32	24	0	56
	Total		443	296	9	748
GEN SURG	Speciality_wise_Doc	9	499	450	14	963
		29	391	376	20	787
	Total		890	826	34	1750
GASTRO	Speciality_wise_Doc	4	23	24	0	47
		7	8	1	0	9
		24	411	254	2	667
	Total		442	279	2	723
OBS & GYNAE	Speciality_wise_Doc	15	0	427	1	428
		21	1	545	3	549
		25	0	1	0	1
		26	1	301	0	302
		31	1	360	1	362
		37	1	394	1	396
		38	1	931	2	934
	Total		5	2959	8	2972

OPD_TYPE		Dr. Code	Male	Female	Child	Total
ORTHOPEDICS	Speciality_wise_Doc	3	2	2	1	5
		11	38	53	3	94
		22	52	61	6	119
		27	150	205	7	362
		28	261	278	14	553
	Total		503	599	31	1133
ONCO	Speciality_wise_Doc	6	43	67		110
	Total		43	67		110
PAEDIAT	Speciality_wise_Doc	10	9	35	594	638
		16	16	79	722	817
		17	4	16	250	270
		30	27	93	1238	1358
		40	5	32	361	398
	Total		61	255	3165	3481
UROLOGY	Speciality_wise_Doc	18	336	92	2	430
		36	186	66	2	254
	Total		522	158	4	684
PULMO	Speciality_wise_Doc	1	0	1		1
		5	10	11		21
		13	107	101		208
	Total		117	113		230
PHYSIO	Speciality_wise_Doc	12	28	19	0	47
		35	35	46	2	83
	Total		63	65	2	130

5.3.5 GENDER BASED SPECIALITY WISE DOCTOR'S OPD LOAD PERCENTAGES (JAN – MAR 19)

	Gender	Measure	32 Neuro	34
Gender	Male	Count	1	89
		% within Doctors Deptt	0.3	45.9
	Female	Count	301	100
		% within Doctors Deptt	99.7	51.5
	Child	Count	0	5
		% within Doctors Deptt	0	2.6
Total		Count	302	194
		% within Doctors Deptt	100	100

5.3.6 MEAN TAT FOR VARIOUS OPDs OR PRIMARY DATA (400 CASES)

MEAN TAT FOR INT MED OPD

	N	Maximum	Mean
Time in Queue	73	56	8.07
Time for Form filling	73	5	1.58
Time for Regn/Billing	73	4	2.34
Vitals time	73	17	5.3
Waiting time doctor	73	129	33.36
Consultation time	73	30	8.59
Total Waiting time	73	154	51.04

MEAN TAT FOR CARDIO

	N	Maximum	Mean
Time in Queue	49	48	12.1
Time for Form filling	49	3	1.45
Time for Regn/Billing	49	3	2.53
Vitals time	49	14	5.61
Waiting time doctor	49	56	34.04
Consultation time	49	17	12.59
Total Waiting time	49	86	56.22
Time in Queue			

5.3.6 MEAN TAT FOR VARIOUS OPDs OR PRIMARY DATA (400 CASES)

MEAN TAT FOR DERMAT OPD

	N	Maximum	Mean
Time in Queue	7	30	8.86
Time for Form filling	6	3	1.5
Time for Regn/Billing	7	3	3
Vitals time	7	0	0
Waiting time doctor	7	57	45.43
Consultation time	7	15	10.43
Total Waiting time	7	76	60.57

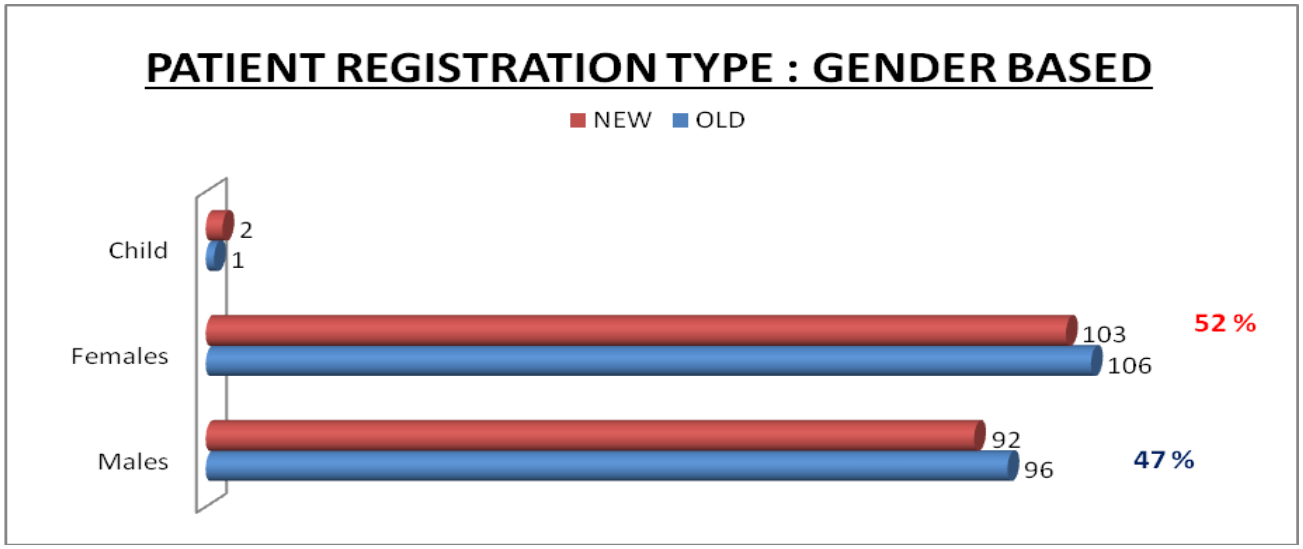
MEAN TAT FOR ENT OPD

	N	Maximum	Mean
Time in Queue	16	56	23.38
Time for Form filling	16	3	1.81
Time for Regn/Billing	16	3	2.56
Vitals time	16	9	3.56
Waiting time doctor	16	65	30.88
Consultation time	16	13	9.25
Total Waiting time	16	81	48.06

5.3.7 PEAK TIME RANGE OPD LOAD GENDER BASED(PRIMARY DATA : (400 CASES)

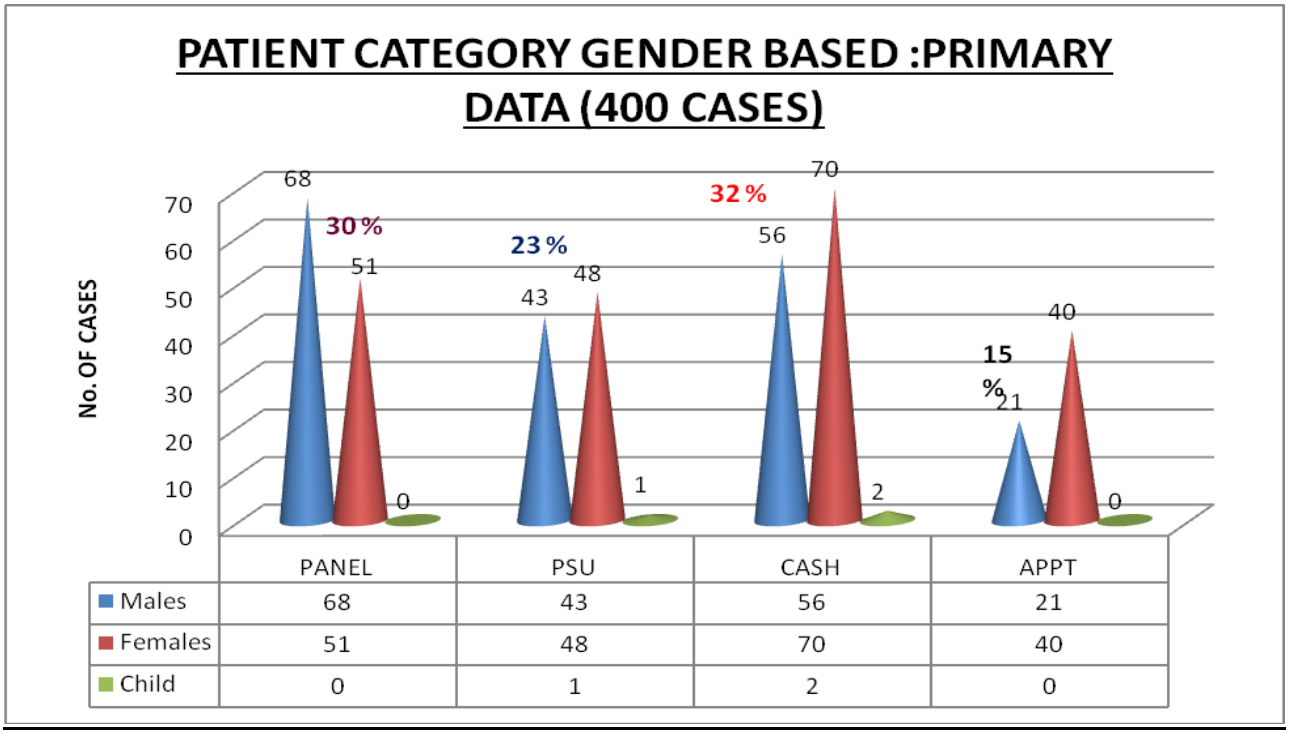
	Time slots	Measure	Males	Females	Child	Total
Time_range	1000 -1100 H	Count	19	8	0	27
		% within Time_range	70.4	29.6	0	100
	1101 -1200 H	Count	39	42	0	81
		% within Time_range	48.1	51.9	0	100
	1201 -1300 H	Count	46	41	0	87
		% within Time_range	52.9	47.1	0	100
	1301 -1400 H	Count	33	37	0	70
		% within Time_range	47.1	52.9	0	100
	1401 -1500 H	Count	21	20	0	41
		% within Time_range	51.2	48.8	0	100
	1501 - 1700 H	Count	14	32	3	49
		% within Time_range	28.6	65.3	6.1	100
	1701 -1900 H	Count	16	28	0	44
		% within Time_range	36.4	63.6	0	100
	1901 -2100 H	Count	0	1	0	1
		% within Time_range	0	100	0	100
Total		Count	188	209	3	400

5.3.8 PATIENT REGISTRATION TYPE GENDER BASED (PRIMARY DATA)



Regn_Type	Males	Females	Child	Total
OLD	96	106	1	203
NEW	92	103	2	197
	188	209	3	400

5.3.9 PATIENT CATEGORY TYPE DISRIBUTION GENDER BASED : PRIMARY DATA (400 CASES)



5.3.9 A DEPT WISE REGN TYPE & GENDER BASED DISTR : PRIMARY DATA (400 CASES)

Department				Gender			Total
				Males	Females	Child	
INT MED	Case Type	OLD	Count	17	17		34
			% within Case Type	50.00%	50.00%		100.00%
		NEW	Count	22	17		39
			% within Case Type	56.40%	43.60%		100.00%
	Total		Count	39	34		73
			% within Case Type	53.40%	46.60%		100.00%
CARDIO	Case Type	OLD	Count	15	9		24
			% within Case Type	62.50%	37.50%		100.00%
		NEW	Count	14	11		25
			% within Case Type	56.00%	44.00%		100.00%
	Total		Count	29	20		49
			% within Case Type	59.20%	40.80%		100.00%
DERMAT	Case Type	OLD	Count	2	1		3
			% within Case Type	66.70%	33.30%		100.00%
		NEW	Count	3	1		4
			% within Case Type	75.00%	25.00%		100.00%
	Total		Count	5	2		7
			% within Case Type	71.40%	28.60%		100.00%

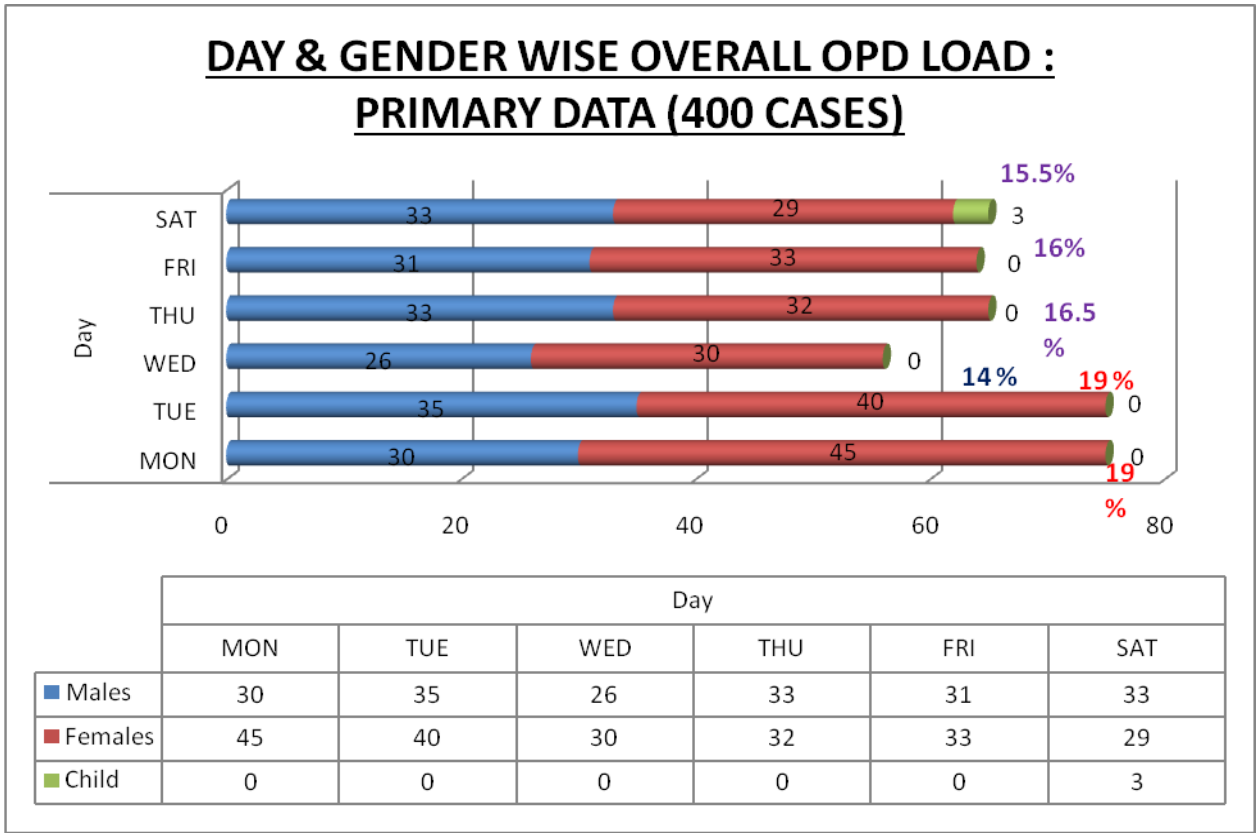
5.3.9 A DEPT WISE, REGN TYPE & GENDER BASED DISTR : PRIMARY DATA (400 CASES)

GEN SURG	Case Type	OLD	Count	8	7		15
			% within Case Type	53.30%	46.70%		100.00%
		NEW	Count	1	5		6
			% within Case Type	16.70%	83.30%		100.00%
	Total		Count	9	12		21
			% within Case Type	42.90%	57.10%		100.00%
GYNAE	Case Type	OLD	Count		23		23
			% within Case Type		100.00%		100.00%
		NEW	Count		12		12
			% within Case Type		100.00%		100.00%
	Total		Count		35		35
			% within Case Type		100.00%		100.00%
ORTHOPED	Case Type	OLD	Count	10	8		18
			% within Case Type	55.60%	44.40%		100.00%
		NEW	Count	10	13		23
			% within Case Type	43.50%	56.50%		100.00%
	Total		Count	20	21		41
			% within Case Type	48.80%	51.20%		100.00%

5.3.9.B DEPT WISE, CATEGORY TYPE & GENDER BASED DISTR : PRIMARY DATA (400 CASES)

Department				Gender			Total
				Males	Females	Child	
INT MED	Category	PANEL	Count	10	5		15
			% within Category	66.70%	33.30%		100.00%
		PSU	Count	10	7		17
			% within Category	58.80%	41.20%		100.00%
		CASH	Count	9	11		20
			% within Category	45.00%	55.00%		100.00%
		APPT	Count	10	11		21
			% within Category	47.60%	52.40%		100.00%
	Total		Count	39	34		73
			% within Category	53.40%	46.60%		100.00%
CARDIO	Category	PANEL	Count	13	6		19
			% within Category	68.40%	31.60%		100.00%
		PSU	Count	7	7		14
			% within Category	50.00%	50.00%		100.00%
		CASH	Count	8	6		14
			% within Category	57.10%	42.90%		100.00%
		APPT	Count	1	1		2
			% within Category	50.00%	50.00%		100.00%
			% within Gender	3.40%	5.00%		4.10%
	Total		Count	29	20		49
			% within Category	59.20%	40.80%		100.00%

5.4 DAY & GENDER BASED OVERALL OPD LOAD : PRIMARY DATA (400 CASES)



	Day					
	MON	TUE	WED	THU	FRI	SAT
Males	30	35	26	33	31	33
Females	45	40	30	32	33	29
Child	0	0	0	0	0	3

5.4.1 COMPARISION BETWEEN MEAN TATs OF PRIMARY & SECONDARY DATA THROUGH T TEST (ONE SAMPLE)

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Total Waiting time	400	49.24	21.137	1.057

One-Sample Test

	Test Value = 36					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Total Waiting time	12.528	399	0.00	13.24	11.16	15.32

5.4.2 TIME RANGE ,DEPARTMENT WISE & GENDER BASED DISTRIBUTION: PRIMARY DATA

Department				Gender			Total
				Males	Females	Child	
INT MED	Waiting_Time_range	upto 30 mins	Count	8	8		16
			% within Waiting_Time_range	50.00%	50.00%		100.00%
		31-60 mins	Count	24	19		43
			% within Waiting_Time_range	55.80%	44.20%		100.00%
		61 - 90 mins	Count	3	4		7
			% within Waiting_Time_range	42.90%	57.10%		100.00%
		91 - 120 mins	Count	0	1		1
			% within Waiting_Time_range	0.00%	100.00%		100.00%
		121 - 150mins	Count	4	1		5
			% within Waiting_Time_range	80.00%	20.00%		100.00%
		151 _180 mins	Count	0	1		1
			% within Waiting_Time_range	0.00%	100.00%		100.00%
	Total		Count	39	34		73
			% within Waiting_Time_range	53.40%	46.60%		100.00%

5.4.2 TIME RANGE ,DEPARTMENT WISE & GENDER BASED DISTRIBUTION: PRIMARY DATA

GYNAE	Waiting_Time_range	31-60 mins	Count	M	7		7
			% within Gender		20.00%		20.00%
		61 - 90 mins	Count		22		22
			% within Gender		62.90%		62.90%
		91 - 120 mins	Count		6		6
			% within Gender		17.10%		17.10%
	Total		Count		35		35
			% within Gender		100.00%		100.00%
ORTHOPED	Waiting_Time_range	upto 30 mins	Count	12	7		19
			% within Waiting_Time_range	63.20%	36.80%		100.00%
			% within Gender	60.00%	33.30%		46.30%
		31-60 mins	Count	8	13		21
			% within Waiting_Time_range	38.10%	61.90%		100.00%
			% within Gender	40.00%	61.90%		51.20%
		61 - 90 mins	Count	0	1		1
			% within Gender	0.00%	4.80%		2.40%
	Total		Count	20	21		41
			% within Waiting_Time_range	48.80%	51.20%		100.00%

5.4.3 TIME RANGE ,DEPARTMENT WISE DISTRIBUTION OF OPD LOAD : PRIMARY DATA

Time Rg	Measure	INT MED	CARDIO	ENDO	NEPHRO	GYNAE	ORTHO
upto 30 mins	Count	16	0	4	2	0	19
	% within Department	**21.9**	**0**	**15.4**	**7.4**	**0**	**46.3**
31-60 mins	Count	43	37	16	15	7	21
	% within Department	**58.9**	**75.5**	**61.5**	**55.6**	**20**	**51.3**
61 - 90 mins	Count	7	12	6	6	22	1
	% within Department	**9.6**	**24.5**	**23.1**	**22.2**	**62.9**	**2.4**
91 - 120 mins	Count	1	0	0	4	6	0
	% within Department	**1.4**	**0**	**0**	**14.8**	**17.1**	**0**
121 - 150mins	Count	5	0	0	0	0	0
	% within Department	**6.8**	**0**	**0**	**0**	**0**	**0**
151 _180 mins	Count	1	0	0	0	0	0
	% within Department	**1.4**	**0**	**0**	**0**	**0**	**0**
	Count	73	49	26	27	35	41

CHAPTER -6

DISCUSSION

This study was undertaken to generate logical and descriptive analysis based information that will further improve the efficiency & efficacy of operations and quality of service delivery at the OPD of a Multi specialty Tertiary Care Hospital in Dwarka. The Study established that majority of its patients spend most of their time waiting for the doctor to receive services (mostly owing to communication gaps as regards to Doctors' non availability and for what other reasons). Most delays were seen at the Queues (for empanelled patients mostly), followed by time spent for various diagnostics tests and corresponding reports collection and follow up on the same. The patient flow was found to be rather smooth at the Pharmacy. The study also found that higher delay was mainly due to the huge number of patients arriving on Saturdays, Mondays and on Public holidays. The other major issues resulting in increased Waiting time at the OPDs are enumerated below:

`(i) Long waiting time in queue especially for panel patients.

(ii) Patient Token System not installed at OPDs.

(iii) Absence of a dedicated Help desk counter especially for empanelled patients to address their basic/ documents related queries.

(iv) No separate/ special queue for very old aged (above 75 years), physically challenged persons, pregnant ladies or mentally challenged persons.

(v) Appointment patients are not being given their due priority.

(vi) Communication gap between front desk / Nursing staff and the patients mostly wrt sharing of information regarding doctors non availability & for how long and also as regards to upkeep of a transparent Queue system.

(vii) Absence of more dedicated Signage for basic amenities & OPD services.

(viii) Lack of sufficient parking inside and un controlled parking outside the Hospital premises .

(ix) Crowd / Queue management needs to be further streamlined.

(x) No priority with doctors for follow up/consulting on reports/diagnosis alone.

6.1 Overall patient waiting time This Study found that the overall mean Waiting time (Jan-Mar 19) as evaluated from Hosp(HIS) data is **36.22 minutes**(covering only Nurse TAT & Doctors' TAT) as compared to mean OPD TAT of **49.2 minutes** (covering time for Form filling, billing , registration , Nurse TAT, time to see the doctor & consultation time) evaluated wrt Primary data collected for 400 cases at random from a cross section of patients visiting OPD services. While if same is calculated as per Hosps' norms than mean OPD TAT comes out to be as **34 mins**, thus with a minor deviation of around **02 mins,** as compared to actual overall deviation of **13 mins**, but this is owing to inclusion of additional parameters(Time for registration, billing and doctors consultation time) while calculating the Total OPD TAT.

6.1.1 OPD TAT (in percentage) of patients during various Time range during the day

About **56 % patients** in OPD have a overall waiting TAT of **under 30 mins,** while **28 % OPD patients** have a TAT **between 31 mins to 60 mins**, **13%** have a TAT between **61 to 120 mins while only 3% have a TAT between 121 to 180 mins (i.e the max limit taken as a benchmark)**

6.1.2 TIME RANGE BASED DEPARTMENT WISE OPD DISTR WITH PERCENTAGES

In **Orthopedics & Pediatrics dept** around **60%** patients are seen by the doctor **within 30 mins**, while in **Obs & Gynae dept** about **50%** patients are seen by the doctor between **61 to 90 mins.**

6.1.3 GENDER BASED DISRIBUTION AT OPD

There is about **47 % Females** , **32 % Males** and **21 % Children** load on OPD.

6.1.4 REGISTRATION TYPE BASE LOAD ON OPD

About **51 % are Old(previously registered)** type and **49 % newly registered** patients in the OPD.

6.1.5 PATIENT CATEGORY BASED LOAD ON OPD

About **53 % are Panel patients**, **32 % are Cash/Walk in patients** and **15 % are Appointment type**.

6.1.6 DAY WISE OPD LOAD IN OPD

There is about **55 % load** on OPDs on **Sat , Mon & Tue alone**.

6.1.7 SUGGESTED DASHBOARD FOR DEEPER ANALYSIS OF VARIOUS OPD FACTORS

In order to fulfill one of the requirements of the Objectives of the Study, a suggested **Dashboard** has been prepared and placed as **Table 7.2 , Pg 58 of Chapter – 7** of this report.

6.1.8 HOSPITAL REGISTRATION FORM, PATIENT FEEDBACK FORM & MONTHLY OPD LOAD

To closely understand the hospitals' existing system & processes, samples of all these parameters related to the OPD have been attached as **Annexure IV to VI** respectively.

6.2 SUMMARY OF ANALYSIS OF PATIENT SURVEY QUESTIONARRIE (60 PATIENTS)

(i) **98 %** felt the requirement for Token system based display including average wait time information at each of the OPDs.

(ii) **97 %** patients are highly satisfied with Quality of doctors/Specialists.

(iii) **65** % face parking problem inside/outside the Hosp premises & desire smooth handling /streamlining of the same.

(iv) **25 %** feel that there is a requirement of reviewing the OPD consultation charges, especially for the Walk In/ Cash patients.

(v) **75%** feel that there is a kind of communication gap between the front desk staff/ Para medical staff and the patients wrt information regarding doctors' absence/timely availability.

(vi) **65 %** feel that the front desk staff/Nurses require some kind of Soft skills training wrt handling crowd and to deal with different people visiting the Hosp to avail OPD services.

(vii) **70 %** feel that there is a requirement of additional display boards/ Signage for basic orientation wrt available amenities in the Hosp.

(viii) **25 %** feel that there should be a separate/special queue for very old aged(above 75 years), Physically challenged persons, Pregnant ladies or mentally challenged persons.

(ix) **40 %** feel the requirement of a dedicated Help desk counter especially for empanelled patients to address their basic/ documents related queries.

(x) **50 %** feel there is a need to establish separate counter for diagnostic reports collection.

(xi) **30 %** feel that the Appointment patients are being treated as normal patients, with no priority and no adherence to booked slots by them.

(xii) **20 %** feel the requirement of additional doctors/staff especially in INT MED, Nephrology, Endo and Oncology departments.

(xiii) **10 %** feel that the Hosp Pharmacy should offer some kind of discounts to OPD patients .

6.3 PATIENT SURVEY QUESTIONNAIRE

In order to have a closer look at the candid inputs submitted by the OPD patients during their visit to the hospital , copies of around **Five(05)** such shortlisted cases has been attached as **Annexure VII to XI** respectively, while balance patient Survey forms have been filed separately for any future reference.

CHAPTER – 7

CONCLUSION & RECOMMENDATIONS

Conclusion

A detailed observational and retrospective study was carried out in a Multi specialty Tertiary Care Hospital in Dwarka between **18 Feb 19 to 17 May 19 (90 days)** to determine and analyse the average time spent by the patients in the OPD and to be able to identify the root factors leading to high waiting time and as also to assess the patients experience/ satisfaction levels regarding the Out Patient services being provided by the hospital and finally to suggest few relevant recommendations based on above trend analysis on the SPSS platform, with a view to achieve further reduction in average OPD consultation TAT.

The Study established that majority of its patients spend most of their time waiting for the doctor to receive services (mostly owing to communication gaps as regards to Doctors' non availability and for what time & reasons). Most delays were seen at the Queues (for empanelled patients mostly), followed by time spent for various diagnostics tests and corresponding reports collection . The patient flow was found to be smooth at the Pharmacy. The study also found that higher delay was mainly due to the huge number of patients arriving on Sat / Mon/ Tue or on public holidays.

7.1 RECOMMENDATIONS / SUGGESTIONS FOR ENHANCING QoS AT HOSP OPDs

(i) Queue less system at registration / billing counters incl for diagnostics.

(ii) e-Form filling/registration online or through tabs while in queue.

(iii) Additional support staff & counters for crowd mgt on Mon/Sat/Peak days.

(iv) Separate counters for handling diagnostics reports / billing.

(v) Special priority queue for sr citizens/ Specially abled/pregnant ladies.

(vi) Dedicated counter/desk for handling basic queries/ documentation for panel patients.

(vii) Website to host more relevant/latest info/ rules for panel patients.

(viii) Separate Entry & Exit of patients to be ensured incl for IPD visitors.

(ix) Dedicated additional Signage for basic amenities & OPD services for all.

(xi) Emergency, OPD & IPD / ICU wards' washrooms to be more frequently maintained.

(xiii) Due priority with doctors be given for OPD patients waiting to consult on reports.

(xiv) Communication/ info gap wrt patient queue mgt & doctor's absence be removed by staff, by keeping the waiting patients fully informed & aware of the latest developments.

(xv) Appt system to be reviewed and streamlined.

(xvi) Average waiting time for each OPD/doctor to be displayed.

(xvii) Call centre to be more pro active to handle all types of queries.

(xviii) Frequent Soft skills training be organized for front desk Staff & nurses/ other Staff

(xix) Few OPD s viz Neuro / Nephro to be made available in morning hours for Panel patients

(xx) TV/ Display system not adequately functioning and newspapers / magazines in OPD waiting areas & Calibration of critical & frequently used Med instruments be carried out .

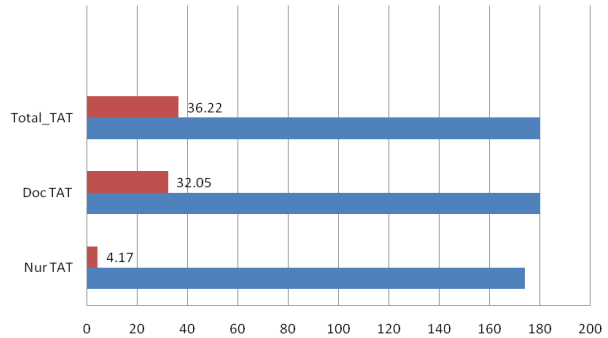
(xxi) Registrationn / billing can start earlier for post lunch OPDs.

(xxiii) Due priority is required in all OPDs for International patients and emergency patients.

(xxiv) Due transparency & accountability be ensured at every stage of patient handling in the OPDs to enhance their satisfaction & regular follow up/ Feedback mechanism be exploited fully.

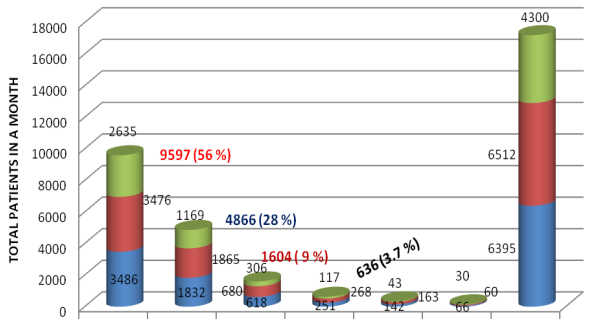
7.2 RECOMMENDED DASHBOARD FOR ENHANCING QUALITY CONTROL & SURVEILLANCE

MEAN OPD TAT :SECONDARY DATA



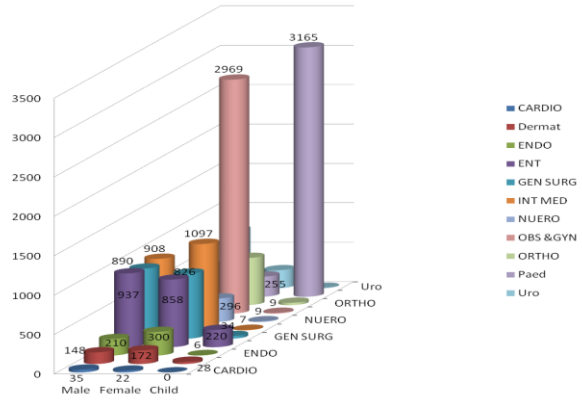
	Nur TAT	Doc TAT	Total_TAT	
Mean in mins	4.17	32.05	36.22	
Max	174	180	180	

TIME RANGE BASED DISTR OF PATIENTS

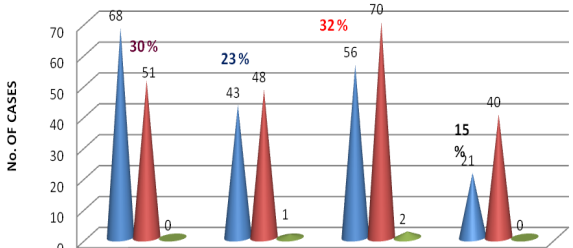


	up to 30 mins	31-60 mins	61-90 mins	91-120 mins	121-150 mins	151-180 mins	
March	2635	1169	306	117	43	30	4300
Feb.	3476	1865	680	268	163	60	6512
Jan.	3486	1832	618	251	142	66	6395

GENDER BASED DEPARTMENT WISE DEPENDANCY AT OPDs

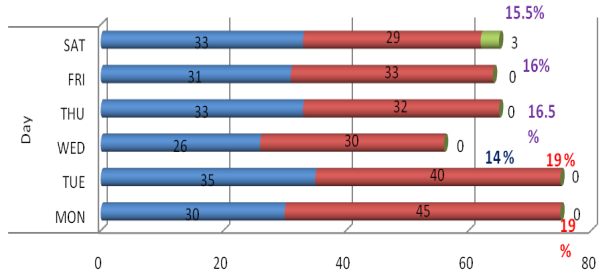


PATIENT CATEGORY GENDER BASED :PRIMARY DATA (400 CASES)



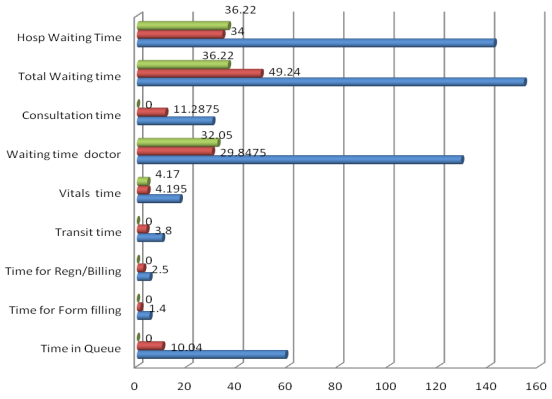
	PANEL	PSU	CASH	APPT
Males	68	43	56	21
Females	51	48	70	40
Child	0	1	2	0

DAY & GENDER WISE OVERALL OPD LOAD : PRIMARY DATA (400 CASES)



	Day					
	MON	TUE	WED	THU	FRI	SAT
Males	30	35	26	33	31	33
Females	45	40	30	32	33	29
Child	0	0	0	0	0	3

COMPARISION OF MEAN OPD TATs



	Time in Queue	Time for Form filling	Time for Regn/Billing	Transit time	Vitals time	Waiting time doctor	Consultation time	Total Waiting time	Hosp Waiting Time
Secondary data Mean in mins	0	0	0	0	4.17	32.05	0	36.22	36.22
Mean in mins	10.04	1.4	2.5	3.8	4.195	29.8475	11.2875	49.24	34
Max	59	5	5	10	17	129	30	154	142

Annexure - I

PRIMARY DATA COLLECTION CHECKLIST/FORMAT FOR OPD TAT EVUALATION

Ser No.	Date	Day	Type of Pt	Gender	Regn Type	OPD Type	Time In	TIQ	TFF	TFR/B	Tst Tm	TFV	WTFD	TFC	TWT

Legend:

1. Type of patient – Panel / PSU/Cash/ Appt
2. Regn Type - Old / New
3. TIQ - Time in Queue
4. TFF- Time for form filling
5. TFB- T
6. TFV – Time for Vitals
7. Tst Tm – Transit time
7. WTFD – Waiting time for doctor
8. TFC –Time for Consultation
9. TWT – Total Waiting time

Annexure - II

OPD Waiting Time : Patient Survey / Feedback

UHID No.- ---------- Date----------Time in----------

OPD---------- Doctor Name----------

1. Name- ----------

2. Age- ----------3. Sex- ----------4. Category : Appt / Walk in / Panel----------/PSU--------/Others-----

5. Old / New Registration ----------6. Residential Locality- ----------

7. How did you come to know about this hospital /OPD services ?

From Referring Doctor Friends/Relatives Newspaper/Ads/Brochures Others ----------

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No

9. If yes, how was the appointment taken?

By Website By Phone Call Others Not Applicable

10. How satisfied are you with the way your appointment was taken/phone call handled?

Highly Satisfied Satisfied Average Not Satisfied Not Applicable

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average Below Average Very Poor

12. How much time did it take you to complete registration/billing after arrival including time in queue?

< 5mins < 10mins 11-20mins 21-30mins 31-45mins 45-60mins >1hour

13. How much time did it take you to meet your doctor after your registration?

<15mins 15-30mins 30mins-1hour >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) ----------

15. Any other suggestions for improvement in the OPD Services----------

Consent/Signature of the Patient

Annexure - III

ETHICAL CERTIFICATE : FOR CONDUCT OF A RANDOM PATIENT SURVEY AT A HOSPITAL

ETHICAL CLEARANCE : INFORMED CONSENT FOR PATIENT FEEDBACK COLLECTION (OPD SERVICES) AT VENKATESHWAR HOSPITAL, SECTOR 18 A DWARKA NEW DELHI -78

In our earnest pursuit to continuously improve and upgrade the OPD services and overall quality of care in the Hospital, we have instituted a three dimensional approach which includes functioning of a dedicated Quality control department, creation of requisite high standard physical infrastructure/ facilities to enhance patient satisfaction and an interactive, robust and reliable patient feedback mechanism to feel the real pulse with a singular aim to review/adapt our existing processes in order to achieve **Continuous Quality improvement (CQI)**.

Keeping in Sync with our above statement and with a view to further deliberately analyse the impact of current OPD services on Quality control standards & patient satisfaction levels, we have **"No objection"** to formulation of a dedicated OPD Patient Survey /questionnaire based feedback form(as proposed) and as also to the affiliated physical interaction with OPD patients visting the hospital during Mar 2019 on a random basis **(after obtaining their informed & volunteer consent)** by **Col. Puneet Kumar Arora from IIHMR, Delhi,** towards fulfillment of his internship/ dissertation report on **" IMPACT OF OPD WAITING & CONSULTATION TURN AROUND TIMES (TATs) TOWARDS SUSTAINABILITY OF QUALITATIVE EDGE BY A MULTI SPECIALITY HOSPITAL : AN OBSERVATIONAL & RETROSPECTIVE STUDY & ANALYSIS"**

We the undersigned thus hereby give our mutual consent to the above **Intern**, in terms of a **Ethical clearance** from our Hospital for collection of the relevant Primary data(in form of a OPD Patient Survey /questionnaire based feedback form), which shall also be liable for further scrutiny at our end post its completion, compilation and as also before its publication in the Final report.

Authorised Signatories

1. ---------- Dr. Rajiv Malhotra
Director - Medical
Venkateshwar Hospital
Sector-18A, Dwarka

2. ---------- Sanjay Saxena
General Manager-Human Resources
Venkateshwar Hospital
Sector-18A, Dwarka, New Delhi-110075

Statement by the Intern

I confirm that all the participants would be given a fair opportunity to ask questions about my intended Study topic and that the said Feed back form based questions would only be asked from willing and volunteer participants and their signatures on the answers rendered by them would also be willingly undertaken by me correctly and to the best of my ability .I also hereby confirm that the participants would not be coerced into giving their desired inputs or consent.

Signature of Intern.....
Date: ---01-Mar-19

Name of Intern : Col. Puneet Kumar Arora, IIHMR, PG /17/043 Final year Hospital batch

Annexure - IV

HOSPITAL REGISTRATION FORM

VENKATESHWAR HOSPITAL
.....Divinity in Healthcare
The Leading Multi Super-Speciality Hospital
Accredited by NABH & NABL

UHID/यूएचआईडी :_____

Date / दिनांक :_____

Registration Form / पंजीकरण प्रपत्र

(To be filled in Capital Letters preferably by the patient)
(कृपया साफ अक्षरों में भरें)

1. Name / नाम : _____ _____ _____
(First Name / प्रथम नाम) (Middle Name / मध्य नाम) (Last Name / अंतिम नाम)

2. Father's / Spouse Name/ पिता पति/पत्नी का नाम :_____

3. Age/आयु : _____ Date of Birth/जन्म तिथि :_____ Sex/लिंग : M☐ F☐ पुरूष☐ स्त्री☐

4. Marital Status : ☐ Single ☐ Married Occupation/व्यवसाय_____
वैवाहिक स्थिति अविवाहित विवाहित

5. Nationality/राष्ट्रीयता :_____ Passport No./पासपोर्ट नं०_____
(For Individuals of Foreign Origin / NRI / विदेशी व एनआरआई व्यक्तियों के लिए)

6. Present Address/स्थाई पता :_____

State/राज्य:_____Pin Code/पिन कोड:_____Country/राष्ट्र :_____

Email id/ईमेल:_____

Phone No/फोन नं०:(Res./घर)_____(Off./कार्यालय)_____(Mob./मोबाईल)_____

7. Person to notify in case of emergency : Name:_____
(आपातकालीन स्थिति में सूचित करने के लिए व्यक्ति का नाम)

Relationship/सम्बंध:_____Phone/फोन:_____ (Mob./मोबाईल)_____

8. Patient referred by-Dr. :_____
(डॉ का नाम जिसके द्वारा रोगी भेजा गया)

9. Patient brought by :_____Relationship, if any_____
(नाम जिसके द्वारा रोगी भरती कराया गया) (संबंध यदि हो)

10. I heard about Venkateshwar Hospital from/मुझे वेंकटेश्वर हॉस्पिटल के बारे में निम्न सूत्रों से पता चला।
☐ Friends & Family दोस्त तथा परिवार से ☐ Doctor डॉक्टर से ☐ Digital Advertisement विज्ञापन से ☐ Other अन्य

Signature of F.O.E
हस्ताक्षर एफ.ओ.ई.

Signature of Patient / Attendant (मरीज एवं रिश्तेदार का हस्ताक्षर)
(Please Mention the relationship with patient)
कृपया रोगी से संबंध का विवरण दें

www.venkateshwarhospitals.com

Annexure - V

HOSPITAL OPD FEEDBACK FORM

OUT PATIENT DEPARTMENT FEEDBACK FORM

Thank you for having faith in us. Your continuing suggestions & support will help to make our hospital a better organization. Kindly spare few minutes to share your valuable feedback:

Name of Patient: _____ Contact No.: _____

Date of Visit: _____ Email ID: _____

Consultant's Name: _____ UHID No./OP No.: _____

YOUR EXPERIENCE	Very good	Good	Average	Poor
• Ease of getting an appointment	☐	☐	☐	☐
• Cleanliness and ambience of the hospital	☐	☐	☐	☐
• Waiting time for Registration & Billing process	☐	☐	☐	☐
• Waiting time to see the Doctor	☐	☐	☐	☐
• Waiting time for investigation and procedures	☐	☐	☐	☐
• Were the reports ready at committed time	☐	☐	☐	☐
• Nursing Staff	☐	☐	☐	☐
• Phlebotomist (Blood sample collection)	☐	☐	☐	☐
• Radiology Technician	☐	☐	☐	☐
• Pharmacy	☐	☐	☐	☐
• Cafeteria	☐	☐	☐	☐

Please rate the overall likelihood on a scale of 1 to 10 (10 being excellent and 1 being poor)

1 2 3 4 5 6 7 8 9 10

Will you consider this hospital as your regular source of healthcare? Yes ☐ No ☐

How did you first hear about the hospital?

Self ☐ **Friends/Family** ☐ **Website** ☐ **Family Physician** ☐

Flyer ☐ **Newspaper** ☐ **Location** ☐

Comments & Suggestions:

_____

_____

_____

_____

HELP US TO RECOGNISE ANY OF OUR STAFF WHO SERVED YOU EXCEPTIONALLY WELL BY PROVIDING THE NAME.

Annexure -VI

HOSPITALS' MONTHLY OPD LOAD SUMMARY (JAN – MAR 19)

Ser No.	Month	First Visit Cases	Follow up Cases	Free Visit Cases	Refund/Cancel	Total OPD Cases
1	JAN	18367	67	1784	373	19845
2	FEB	18421	516	1873	374	20436
3	MAR	21136	75	2325	485	23051
TOTAL		**57924**	**658**	**5982**	**1232**	**63332**

Annexure -VII

PATIENT SURVEY / FEEDBACK

OPD Waiting Time : Patient Survey / Feedback

UHID No.- 18008 9960 Date- 18 Mar/19

1. Name- Mrs. Rajwanti Sharma Dr. M K Duera (Endo) 1441 h

INT MED.

2. Age- 55 3. Sex- F 4. Category : Appt / Walk in / Panel- CGHS /PSU--------/Others-----

5. Old / New Registration - old 6. Residential Locality- JANAKPURI

7. How did you come to know about this hospital /OPD services ?

From Referring Doctor Friends/Relatives ✓ Newspaper/Ads/Brochures Others

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No

9. If yes, how was the appointment taken? – NA —

By Website By Phone Call Others Not Applicable

10. How satisfied are you with the way your appointment was taken/phone call handled?

Highly Satisfied Satisfied Average Not Satisfied Not Applicable NA —

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average ✓ Below Average Very Poor

12. How much time did it take you to complete registration/billing after arrival including time in queue ?

< 5mins < 10mins 11-20mins 21-30mins 31-45mins 45-60mins ✓ >1hour

13. How much time did it take you to meet your doctor after your arrival? Regn

<15mins 15-30mins 30mins-1hour ✓ >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) ---- 4 ----

15. Any other suggestions for improvement in the OPD Services

– Lack of information wrt waiting time

– Info regarding Doctors availability

– Call center not secure / picking up / establishing contact

– No info regarding Panel days avlb of doctors / timings

– Panel (referring agency) not aware of Spl to be referred to ?

18/3/19

Annexure -VIII

PATIENT SURVEY / FEEDBACK

OPD Waiting Time : Patient Survey / Feedback

UHID No.- 190/31474 Date- 23/03 Time in- 1703

OPD- INT MEDICINE Doctor Name- Dr Ashish Khattar

1. Name- Mrs. Laxmi Devi
2. Age- 59 3. Sex- F 4. Category : Appt / Walk in / Panel- ONGC /PSU--------/Others-----
5. Old / New Registration - Old 6. Residential Locality- Sec 11 Dwarka
7. How did you come to know about this hospital /OPD services ?

From Referring Doctor · Friends/Relatives Newspaper/Ads/Brochures Others - Panel/Vicinity

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No
9. If yes, how was the appointment taken?

By Website By Phone Call Others Not Applicable

10. How satisfied are you with the way your appointment was taken/phone call handled?

Highly Satisfied Satisfied Average Not Satisfied Not Applicable

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average Below Average Very Poor

12. How much time did it take you to complete registration/billing after arrival including time in queue?

< 5mins < 10mins 11-20mins 21-30mins 31-45mins 45-60mins >1hour

13. How much time did it take you to meet your doctor after your registration?

<15mins 15-30mins 30mins-1hour >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) ---- 5 ----
15. Any other suggestions for improvement in the OPD Services---

Nurses behaviour needs a review - more proactive - display system [illegible] - Doctor's room [illegible] token system is required. - Water cooler [illegible] [illegible]

Ashwani Tiwari 23/3/2017

Annexure - IX

PATIENT SURVEY / FEEDBACK

OPD Waiting Time : Patient Survey / Feedback

UHID No.- 18011282З Date- 28/03/19 Time in- 1348h

OPD- Nephro Doctor Name- Dr R I Verma

1. Name- SANJU Rajshukla

2. Age- 36 3. Sex- M 4. Category : Appt / Walk in / Panel- CGHS /PSU--------/Others-----

5. Old / New Registration - Old 6. Residential Locality- Vasant Vihar.

7. How did you come to know about this hospital /OPD services ?

From Referring Doctor · Friends/Relatives Newspaper/Ads/Brochures Others Panel.

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No

9. If yes, how was the appointment taken?

By Website By Phone Call Others Not Applicable NA

10. How satisfied are you with the way your appointment was taken/phone call handled?

Highly Satisfied Satisfied Average Not Satisfied Not Applicable NA.

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average Below Average Very Poor

12. How much time did it take you to complete registration/billing after arrival including time in queue?

< 5mins < 10mins 11-20mins 21-30mins 31-45mins 45-60mins >1hour

13. How much time did it take you to meet your doctor after your registration?

<15mins 15-30mins 30mins-1hour >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) 4

15. Any other suggestions for improvement in the OPD Services

Good / experienced doctors.
– Token/ display system required like bada hospital.
– Information to be given display average waiting time for doctor.
– Any changes in doctor/ referral required to be informed in advance especially for new patients.
– Queuing counter Panel.

[signature] 28/03.

Annexure - X

PATIENT SURVEY / FEEDBACK

Priority 8

OPD Waiting Time : Patient Survey / Feedback

UHID No.- 19012571l Date- 26/03 Time in- 1949h

OPD- Med Oncology Doctor Name- Dr S K Gupta

1. Name- Mrs. Rajwanti
2. Age- 69 3. Sex- F 4. Category : Appt / Walk in / Panel---------/PSU--------/Others---- EWS
5. Old / New Registration - Old 6. Residential Locality- [illegible] Vihar ([illegible])
7. How did you come to know about this hospital /OPD services ?

From Referring Doctor ✓ Friends/Relatives Newspaper/Ads/Brochures Others BPL EWS [illegible]

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No
9. If yes, how was the appointment taken? NA

By Website By Phone Call Others Not Applicable

10. How satisfied are you with the way your appointment was taken/phone call handled? NA

Highly Satisfied Satisfied Average Not Satisfied Not Applicable

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average ✓ Below Average Very Poor

12. What is the waiting time for billing/Regn ?

>5mins >10mins 11-[illegible] 20-30 mts 30-45mins 45-60mins >1hour ✓

13. How much time did it take you to meet your doctor after your registration?

<15mins 15-30mins 30mins-1hour ✓ >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) ---- 3 ----

15. Any other suggestions for improvement in the OPD Services----

- EWS patients not treated well, behaviour
- Queue line / crowd mgt - security staff required
- More counter/ billing required.
- Token slip for EWS pts, Ltd token capable of being seen be issued token in a day.
- More counter/facility reqd for greater satisfaction.

[signature]

26/03

Annexure - XI

PATIENT SURVEY / FEEDBACK

OPD Waiting Time : Patient Survey / Feedback

UHID No.- 170035298 Date- 26/03 Time in- 1540

OPD- ENT Doctor Name- Dr Vivek Sinha

1. Name- Mrs. Ruhi Sultana Islam

2. Age- 45 3. Sex- F 4. Category : Appt / Walk in / Panel----------/PSU--------/Others-----

5. Old / New Registration - old 6. Residential Locality- Sect 18B Dwarka

7. How did you come to know about this hospital /OPD services ?

From Referring Doctor Friends/Relatives Newspaper/Ads/Brochures Others Vicinity

Doctors experienced

8. Did you take an appointment or make an enquiry about the OPD/Doctor's availability? Yes No

9. If yes, how was the appointment taken?

By Website By Phone Call Others Not Applicable

10. How satisfied are you with the way your appointment was taken/phone call handled?

Highly Satisfied Satisfied Average Not Satisfied Not Applicable

11. How would you rate the reception staff's guidance and information regarding your queries on arrival in the OPD?

Excellent Above Average Average Below Average Very Poor

12. What is the waiting time for billing/Regn?

>5mins >10mins 11-20mins 20-30 mins 31-45mins 45-60mins >1hour

13. How much time did it take you to meet your doctor after your registration?

<15mins 15-30mins 30mins-1hour >1hour

14. How would you rate the overall amenities/ services of the hospital OPD? 1 2 3 4 5 (1 being the lowest and 5 being the highest rating) 4

15. Any other suggestions for improvement in the OPD Services-

- Parking is a problem area - hospital parking
- Average waiting time for consult (and) should be improve
- Display system not taken is felt required
- No discount in Pharmacy so people generally from outside - PRESP/ credit

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