

# **A Study of Customers' Perception of Efficiency and Effectiveness of Waiting Line Management in Private Hospitals in Pune City**

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## **ABSTRACT –**

Waiting is ubiquitous. It's even more painful in the case of essential services like healthcare. This study focuses on the issue of waiting lines in private hospitals. The study attempts to understand the reasons behind waiting lines and the impact of it. Furthermore, the study attempts to analyse the expectations and perceptions of customers (patients) about the healthcare OPD services.

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**KEYWORDS**-Customer expectation, customer perception, effectiveness, efficiency, waiting line management, healthcare

## **1. INTRODUCTION**

Services as a product is very distinct. It lacks intangibility and can be only experienced through feel. It is perishable and thus can be provided on the spot with no possibility of storage for provision for future. It is inseparable. The production and consumption of services is simultaneous. It is heterogeneous and thus the handling and experience may vary between customers and can be different for the same customer.

Healthcare Industry is engaged with provision of essential services. It is meant for public utility and entrusted with the benchmark of nobility. Though, it is categorised into public, private and voluntary organisations, the goal of public service is primary. But over the years, people have formed images and thus expectations from Government and Private Hospitals differently.

Though the masses have several issues concerning functioning and performance of the health care, this study focuses on delays in provision of services to the patients (who are interchangeably referred as customers). Timeliness is one of the important criteria of quality of services. It is more crucial in case of healthcare services as the delay can cost a life as well apart from anxiety, pain, stress, and increase in severity of disease etc.

### **1.1 INDUSTRY OVERVIEW**

Healthcare industry is a one of the largest sector of our economy. It's growing at the same pace as software and pharmaceutical industries. The sector is credited with employment provision to 4 million people along with allied industries.

Healthcare industry comprises of providers of diagnostic, preventive, remedial and therapeutic services. The composition of healthcare in India also includes manufacturers of medical equipment and medicine. Health insurance providers are also the part of this industry. Further, the sector is seen categorised as government owned, private sector and voluntary organisations.

The future prospects of the industry are quite promising.

According to IBEF, Indian healthcare market can grow three-fold to ₹8.6 trillion (US\$ 133.44 billion) by 2022. The growth in the sector can be attributed to many reasons, prime being its competitive advantage. Indian healthcare enjoys competitive advantage because of highly skilled and professional doctors and cost effectiveness. Cost effectiveness has led to increase demand for medical services from people across globe. Thus medical tourism is on surge. Apart from this government initiative like Ayushman Bharat, Pradhan Mantri Jan Arogya Yojana, and Indradhanush etc. shows government's efforts towards development of this sector. To further emphasise its efforts Government of India aims to increase healthcare spending to three percent of the Gross Domestic Product (GDP) by 2022.

## **1.2 STATEMENT OF THE PROBLEM**

The focal point of the study revolves around finding out the causes of delays leading to waits faces by patients in provision of health care services. The study also attempts to analyse the physical and psychological cost associated with the waits and borne by the patients.

Further, the study also looks at this problem as question of trade-off between cost of resources and demand for them. That can also be inferred as to find out the effectiveness and efficiency of the hospitals used to reduce the waiting lines in the hospital.

## **1.3 OBJECTIVES**

1. To analyse the components of queue management
2. To study the reasons for waits in OPDs of a private hospital.
3. To understand the concept of physical and psychological costs of waiting to the customers and analyse it in the case of healthcare industry
4. To study the provisions made by hospitals for waiting line management, its effectiveness and its impact on satisfaction level of patients.
5. To find patients' preference between government hospitals and private hospitals.

## **1.4 SCOPE**

The study intends to examine waiting line management at Noble Hospital Pune. Main parameters of the study are number of patients, appointment systems, queue handling, facilities provided to the patients, psychology related to waiting and customers' preference of health care services from private hospital.

The study was completed in the outpatient department of Noble Hospital.

The data collection was done through primary methods of questionnaire, interview and observation with patients as respondents. The secondary data was collected through journals, websites, research papers and books.

## **1.5 HYPOTHESIS**

**H<sub>0</sub>:** Patients' perception related to waiting line management matches with the expectations about it.

**H<sub>1</sub>:** Patients' perception related to waiting line management doesn't match with the expectations about it.

**H<sub>0</sub>:** Patients perceive government hospitals and private sector hospitals equally efficient in waiting line management. Thus, the preference is same.

**H<sub>1</sub>:** Patients do not perceive government hospitals and private sector hospitals equally efficient in waiting line management. Thus, the preference is not same.

(A) Private Sector hospitals are more efficient in waiting line management than Government hospitals. Thus, private sector hospitals are preferred over government hospitals.

(B) Government hospitals are more efficient in waiting line management than Private Sector hospitals. Thus, government hospitals are preferred over private sector hospitals.

## **1.6 SIGNIFICANCE**

It is said that a good research should hold relevance to the problems of the society. This study attempts to address a pressing issue which is pain point for everyone. Delays in provision of services are not only a bother but can assume critical consequences in case of healthcare. When analysed from service providers' point of view: it's a trade-off between demand for resources and the cost to be incurred. If not planned properly, it may lead to loss of patients (customers).

As far as patients are concerned criticality of required services build up certain expectations. The gap between perception and expectation creates dissatisfaction, annoyance, bad word of mouth etc.

Hence the study holds practical relevance in understanding the causes of delays and its consequences. Also, coming up with practical solutions adds to the significance.

## **1.7 LIMITATIONS**

The study suffers from several limitations like small sample size, subjective bias of researchers and respondents, lack of cooperation from respondents and limited time frame of research.

## **2. THEORETICAL BACKGROUND**

### **2.1 DEFINITIONS**

- **Services**-The American Marketing Association define “service as activities benefits and satisfaction which are offered for sale are provided in connection with the sale of goods.”
- **Hospitals** –an institution providing medical and surgical treatment and nursing care for sick or injured people.
- **Private Hospital**- According to Medical Dictionary for the Health Professions and Nursing © Farlex 2012
  - “1. A hospital similar to a group hospital except that it is controlled by a single practitioner or by the practitioner and the associates in his or her office.
  - 2. A hospital operated for profit.”
- **Waiting Line Management** –According to Leseure, M. “Waiting line management deals with understanding and modeling queues, and with taking managerial actions to reduce waiting time for customers.”
- **Waiting Lines**-Based on WordNet 3.0, Farlex clipart collection- “it’s a line of people or vehicles waiting for something”.
- **Customers Perception** -The formal definition of customer perception according to Business Dictionary is, “A marketing concept that encompasses a customer’s impression, awareness and/or consciousness about a company or its offerings.”
- **Customer Satisfaction**- **Philip Kotler** defines “customer satisfaction as a 'person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectations'.”
- **Customer Preference**- Deepa Guleria, Dr. Yashwant Singh Parmar (IJMRR) Consumer preferences are defined as the “subjective (individual) tastes, as measured by utility, of

various bundles of goods. They permit the consumer to rank these bundles of goods according to the levels of utility they give the consumer.”

## **2.2 CHARACTERISTICS of SERVICES**

- i. **Intangibility-** Services lack the property of touch and sight. They can be only felt. The repercussion of this is felt by both the customers and service providers. The customer in the absence of tangibility finds it difficult to trust quality, worth and suitability of the product. The service provider on the other hand struggles to prove the quality of his service product. This can be resolved through service providers investing well in promotions, infrastructure and customer service. Also, the prices should be fixed carefully.
- ii. **Inseparability-** In case of services the production and consumption takes place simultaneously. This also infers the presence of producer and consumer together thereby giving rise to customers’ judgement about the service in real- time. The service providers have to be utmost careful with planning and execution of their production otherwise this would lead to loss of customers.
- iii. **In- storability-** Services are perishable. The demand and supply are not time and space spaced out. This leads to fluctuation in prices as per the peak and slack demands.
- iv. **Inconsistency-** Services lack standardisation. The outcomes may vary because of human factor. This leads to negotiation in prices and doubt over the quality. This can be resolved primarily through automation and training of personnel and customers.

**2.3 Demand Management and Waiting Lines Management-** To comprehend the issue of waiting lines it’s important to understand following concepts-

**2.3.1. Capacity constraints-** every service firm needs to be aware of the functional capacity in terms of time, labour, equipment and facilities. It should know the extent to which they can utilise it and the shortage of it. This approach would help them to think of workable solutions to meet the demand.

**2.3.2. Demand patterns-** The trends of demand situation faced by a firm will be useful to reduce uncertainty in forecasting and hence effective planning. A service firm may face irregular demand; demand below, up to and or above optimum level.

**2.3.3. Strategies for matching capacity and demand-** When a firm has knowledge of its demand pattern and capacity constraints, it can fruitfully use the information to develop strategies to match demand and supply. The battery of strategies can be placed under either demand shifting or capacity flexing. The former relates to attempt shifting of demand from peak demand to slack demand period and latter relates to stretch, and adjust the capacity as per demand situation.

**2.3.4. Demand shifting strategies** – If demand is low use heavy promotion, revamping service offer, offering discounts, longer hours of operation etc. If demand is high strategies like communication of busy operation hours, incentives for shifting to non- peak period, charge high price etc.

**2.3.5. Capacity flexing strategies-**If demand is too high the firm may resort to cross train employees, hire part-time employees, overtime, rent or share facilities, outsourcing etc. If the demand is too low the firm can use the period for renovation, allowing vacations to personnel and may take actions of lay off.

**2.3.6. Waiting line strategies-** It's quite possible that in spite of all efforts there's waiting in the system. The most common strategies adopted by firms to reduce queue length and waiting duration includes following-

- i. **Operational logic-** The firm should study the bottlenecks in the system. It's important to cut- off avoidable steps to improve processing and delivery times.
- ii. **Reservation-** To reduce uncertainty and manage demand more efficiently the firms can set up a reservation system.
- iii. **Differentiation among customers** based on criteria like urgency of need, importance of customers, processing time etc.
- iv. **Making waiting fun and tolerable-** Provision of facilities like television, magazines, waiting areas etc. to make it less bother to the students.

## **2.4 CUSTOMER SATISFACTION IN SERVICES**

Marketing sees customers as pivotal point of all decisions. The customer is undisputed king of the market. He is the decider of quality.

Services being intangible are experiences based. The customers' satisfaction depends on two important parameters expected quality and perceived quality. The former relates to expectations from a service product developed by customers on the basis of past experiences,

need, word of mouth communications and promotions and latter relates to the experience felt after consumption of services.

If we denote Expected Service = ES and Perceived Service= PS

ES < PS=Delight (Super satisfaction)

ES = PS= Satisfaction

ES > PS= Dissatisfaction

In case of services, Parasuraman and Zeithaml suggested several dimensions critical to customers' evaluation of service quality. A version of these criteria is RATER that stands for Reliability, Assurance, Tangibility, Empathy and Responsive. RATER basically deals with dependability, fulfilling promises, physical evidences, being in customers' shoes and promptness in service delivery.

SERVQUAL is the instrument to examine and analyse service quality.

## **2.5 EFFECTIVENESS AND EFFICIENCY OF A SERVICE PRODUCT**

The customer of a service expects the service provider to ensure there are full-bodied streamlined systems and processes in place that are dedicated to deliver right quality, safe and reliable services.

Efficiency of services relate to delivering services to its customers in the most cost-effective manner without compromising on relative quality of the service.

The firms should analyse effectiveness through mystery shopping, follow-up survey, social media monitoring, documentation analysis etc.

## **3. REVIEW OF LITERATURE-**

**3.1 The Impact of Waiting in Line on Consumers.** Chebat, Jean-Charles & Filiatrault, Pierre. (1993)-the study was conducted to find out the impact of emotions on attribution process and if emotions and attribution impact the perceived service quality in a bank.

It was found out that service quality is evaluated by customers based on the experience after its delivered and the process of delivery. It also establishes the impact of quality not only on the receivers but also on the consumers who are observing it. Consumers mood affect the interpersonal aspect of the touch points. Attribution also shows positive impact on service quality.

**3.2 Analysis of Delays Due to Waiting Lines in Healthcare Delivery for Sustainability** by Prema Mahalaya and Dr.B. B Deshmukh

The study was carried out to find out the waiting line problems in small hospitals and the methodology adopted by these hospitals to resolve the issue. It also focuses on the



challenges faced in queue handling. The study found out that waiting lines are a serious issue in even small hospitals thus requiring proper management to tackle the issue. These hospitals try to cut down queues by employing assistant doctor for the senior doctor and early discharge of non-critical patients. Some of the challenges faced in waiting line management by these hospitals are irregular patient flow, time stretch in certain cases and cost of additional resources.

**3.3 Operational Strategies for On Demand Personal Shopper Services by Alp Arslan Niels Agartzt and Mathias Klapp**

The study focuses on a personal shopper services to customers request thus creating a sequential decision problem. The findings of the study bring out three insights:

1. Personal shoppers are more useful in terms of saving time.
2. The approach helps to save considerable time by consolidating the shopper list.
3. It also leads to better shopping by splitting request according to different stores.

Thus, the study finds an innovative way of handling the waits and delays faced by shoppers.

**3.4 Queuing Theory: A Case Study to Improve the Quality Services of a Restaurant by Lakhan Patidar, Trilok Singh Bisoniya, Aditya Abhishek, Pulak Kamar Ray**

It's a case study on application of queuing theory in a restaurant name as Bapu Ki Kutiya. The authors found out that the two most important decision variables involved in managing orders are arrival rate and service rate. The restaurant experiences half the utilization rate on week days as compared to weekends. Considering this fact restaurant should calculate arrival rate, service rate, utilization rate, waiting time in queue and the probability of balking and plan for improvements in the system.

**3.5 Impact of OPD Waiting Time on Patient Satisfaction- Dr (Brig) Anil Pandit, Er Lalit Varma, Dr. Amruta. P.-** The study was carried out with the major objectives of finding out average time spent by the patients in OPD, reasons for delays during the patients' visit and patients' satisfaction with the services. Some of the major causes identified in the study were- doctors' unavailability due to unpunctuality, doctors' going on round, improper scheduling, unavailability of residents for procedures waiting time for consultation and waiting time for billing. Some of the suggestions made by this study includes displays of information regarding doctors' timings and availability, using online platforms for appointment, making laboratory reports available at the laboratory counter and ensuring doctors availability during the OPD timings.



**3.6 The Impact of Waiting Time on Patient Outcomes: Evidence from Early Intervention in Psychosis Services in England-** Reichert and Jacobs

The study was conducted on EIP Services (England) with the objective of understanding the relationship between waiting times and patient outcomes. The study typically deals with early intervention in Psychosis and studies the patient outcomes after twelve months. The study hints at worsening of patients' condition along with other reasons especially because of waiting. The study reveals more days of in-patient care and more health experts are linked with poor follow-up outcomes. Longer the waiting time more worsening of the patients' conditions on different sub-dimensions namely- behaviour, impairment, symptoms and social.

**4. PROFILE OF THE ORGANISATION**

Noble Hospital was established in the year 2005 under the leadership of Dr Dileep Mane serving as Managing Director. The vision of Noble Hospital is to achieve standards of excellence which become a benchmark of healthcare practice

Noble Hospital is the First South East Pune's NABH Accredited Hospital. It is the youngest Green OT Hospital. It is a 320 Bedded Multispecialty tertiary Hospital with all facilities under one roof. Noble Hospital Annex has 50 bedded dedicated Oncology Ward, 10 bedded ultra-modern ICU with HEPA filters and laminar flow supported by a 27 bedded Nephrology Unit and additional 4 Operation Theatres.

The hospital is proud to have a team of world class doctors and surgeons well supported by trained nursing staff dedicated to serve patients in wide range specialties such as Medicine, Gynaecology and sports medicines. The hospital has fully equipped super specialty units such as Cardiac and Critical care, Brain and Spine Surgery, Robotic, Nephrology and Kidney Transplant, Diabetes and Obesity, Oncology, IVF and Robotic Joint Replacement, Anorectal Surgery, Intra-gastric Balloon Placement, Bariatric Surgery, Angioplasty, Anti-Aging Treatment, Appendectomy, Epilepsy Surgery, Hip Replacement, Prostatectomy, Pace Maker Implantation etc.

Further the hospital is privileged to have a Clinical Research Team and an all-inclusive Wellness Wing. The wellness Wing with AFIH qualified doctors' team is committed for corporate needs. The hospital works with good HIS system titled as Lifeline Suite providing a complete paperless system and MCI reports.

In cognizance of its responsibility towards the community, the hospital organises healthcare awareness programs for the poor sections of the society. The hospital regular commits itself to such programs on international level as well.

The dedicated services have brought laurels to the hospital in the form of various National and International accreditations.

## **5. RESEARCH METHODOLOGY**

- i. Research type-** The study is descriptive and analytical
- ii. Nature of the study-** Quantitative Nature
- iii. Variables in the study-**
  - Dependant variable – effectiveness and efficiency of waiting line management.
  - Independent variables- number of counters, registration counters, service requirements, the average customer wait time, the average amount of time it takes to service a customer, all feedback (both positive and negative) from customers, patient behavior, patient perception
- iv. Sampling Plan-**
  - Population- According to Pune Municipal Corporation
    - Government Hospitals- 21 approx. in
    - Private Hospitals- 662 approx.
  - Sample Size- 28 patients
  - Sampling Method- Random Sampling Method
  - Class of respondents- Patients
- v. Tools of data collection-** This research is based on Primary and Secondary data.
  - Primary source for data collection – Survey and Interview Method through structured questionnaire and observation method
  - Secondary source for data collection- Books, Journals, Published reports, Monthly Magazines, Related websites
- vi. Questionnaire-** Structured Questionnaire using Likert scale will be developed.
- vii. Tools for Data Analysis**
  - Descriptive Statistics- Arithmetic Mean, Percentage
  - Graphical methods -Bar diagram, Pie Chart and Line diagrams

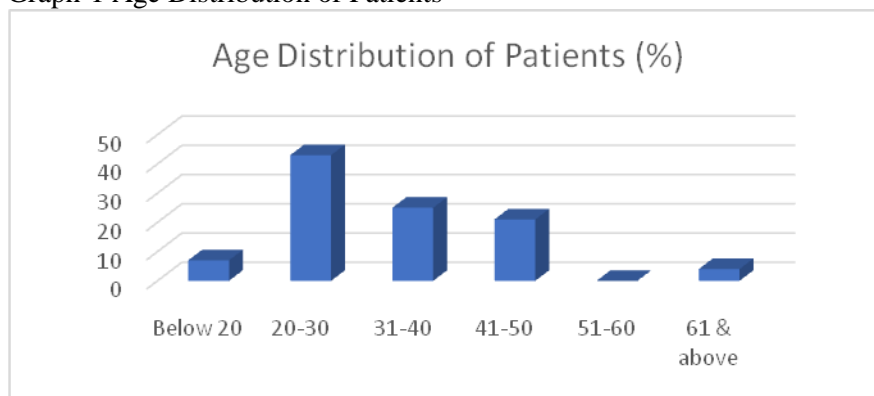
## **6. DATA ANALYSIS AND INTERPRETATION**

### **6.1 Section A**

#### **6.1.1 Demographic Profile-**

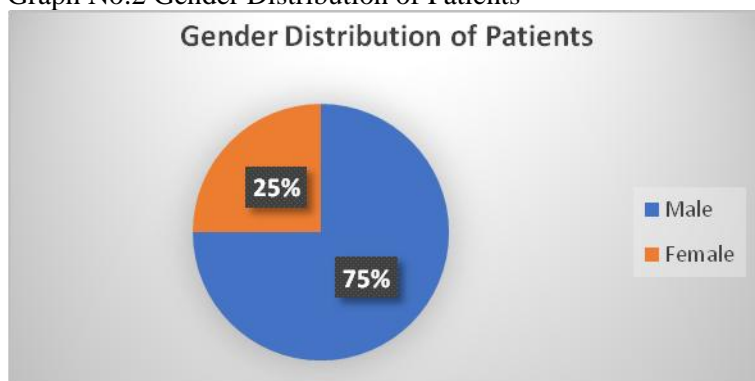
The study was conducted on 28 patients who visited different OPDs namely- General physician, Gynaecology, Paediatrics and Ophthalmology.

Graph-1 Age Distribution of Patients



According to Graph No.1 majority of the respondents 40% belong to age group 20-30 years and there was no patient in the age group 51-60 years.

Graph No.2 Gender Distribution of Patients



According to graph 2 sample under study consisted of 75% male and 25% females.

## 6.2Section B

### 6.2.1 Patients Preference Regarding Appointments

Table No.1 Patients Preference Regarding Appointments

		NO. OF PATIENTS	% Patients
1.	Always	16	57.14
2.	Most of the times	4	14.28
3.	Sometimes	6	21.42
4.	Never	2	7.14
		28	

Table No.1 shows that majority of patients (57.14%) always visit the hospital with appointments whereas only 7.14% people do not prefer appointments. This could be because

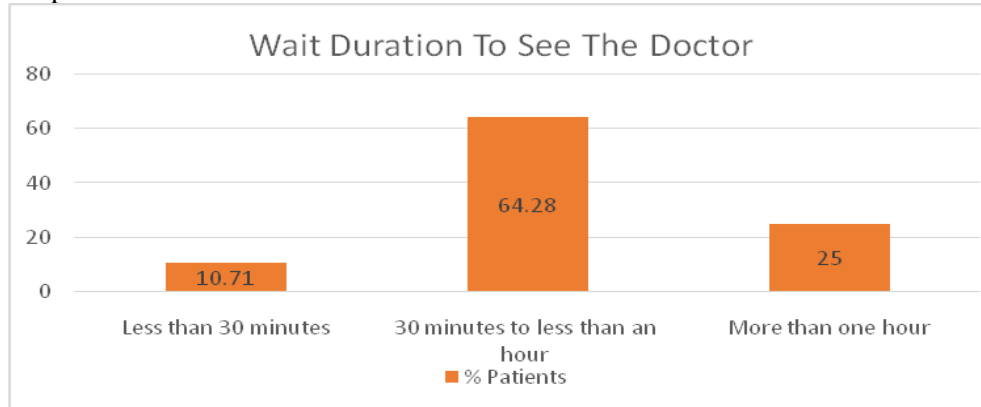
of difficulty in meeting the doctor without appointments in some cases the hospitals do not take without appointment.

### **6.2.2 Wait Duration to See the Doctor**

Table No.2 Wait Duration to See the Doctor

	No. of Patients	% Patients
Less than 30 minutes	3	10.71
30 minutes to less than an hour	18	64.28
More than one hour	7	25

Graph 3 Wait Duration to See the Doctor



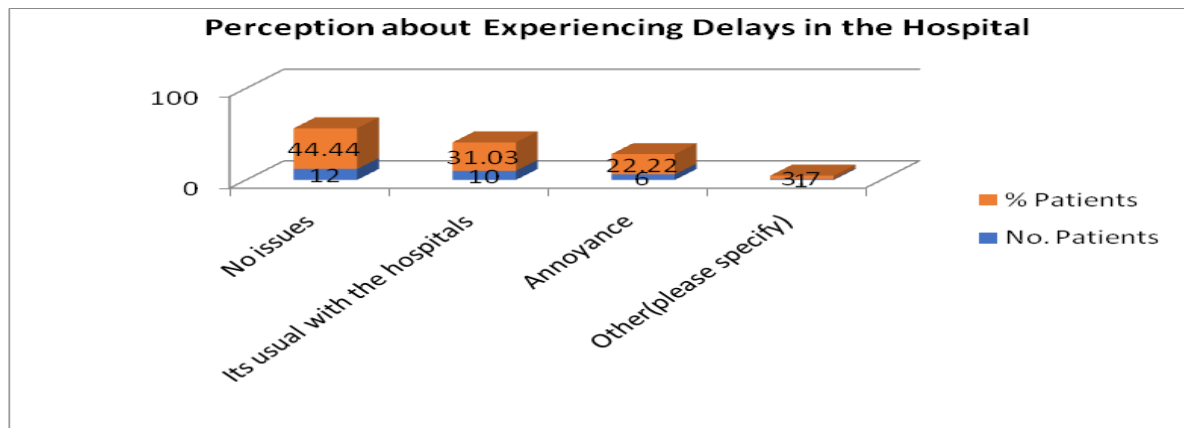
Graph 3 depicts that 64.28% patients experience half an hour to an hour duration from registration desk to meeting the doctor. There are around 25% patients who spent more than an hour for the visit. 10.71% patient experienced less than 30 minutes to meet the doctor. The analysis shows that processes in hospitals have waits as a necessary feature.

### **6.2.3 Perception about Experiencing Delays in the Hospital**

Table No. 3 Perception about Experiencing Delays in the Hospital

	No. Patients	% Patients
No issues	12	44.44
It's usual with hospitals	10	31.03
Annoyance	6	22.22
Other(please specify)	1	3.7

Graph 4 Perceptions about Experiencing Delays in the Hospital

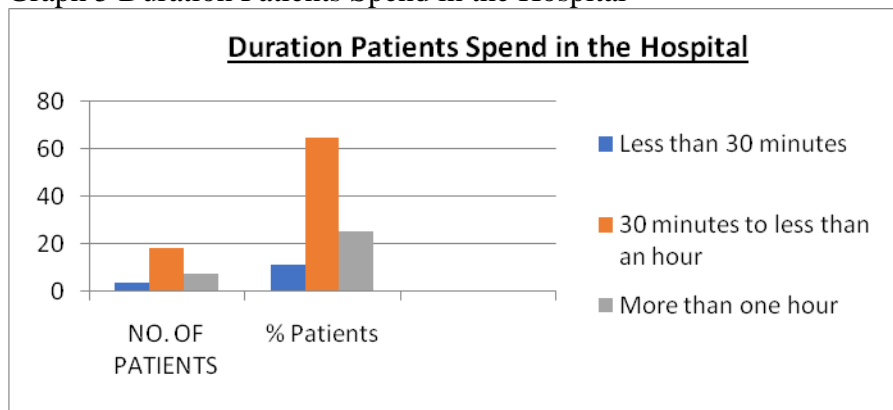


#### **6.2.4 Duration Patients Spend in the Hospital**

Table No. 4 Duration Patients Spend in the Hospital

	NO. OF PATIENTS	% Patients
Less than 30 minutes	3	10.71
30 minutes to less than an hour	18	64.28
More than one hour	7	25

Graph 5 Duration Patients Spend in the Hospital

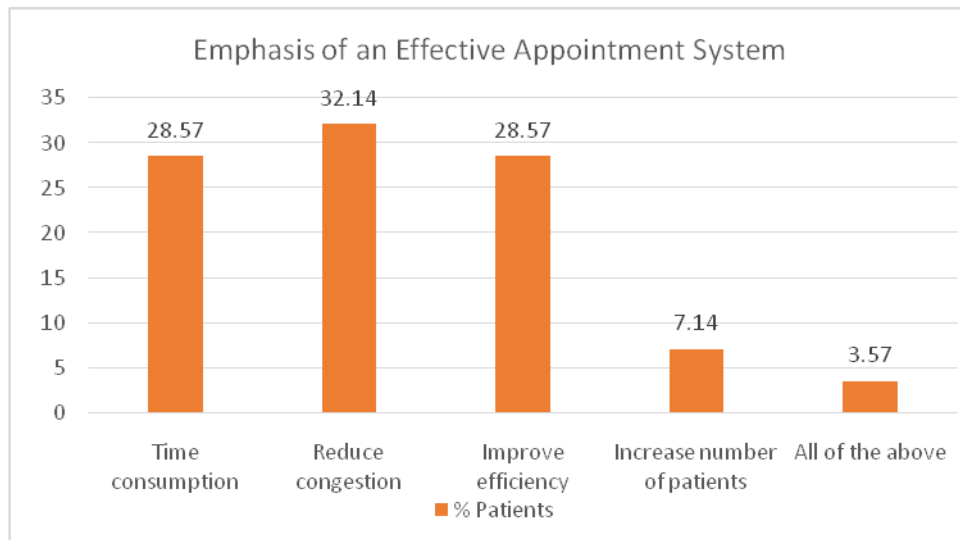


#### **6.2.5 Emphasis of an Effective Appointment System**

Table No. 5 Emphasis of an Effective Appointment System

	No. Patients	% Patients
Time consumption	8	28.57
Reduce congestion	9	32.14
Improve efficiency	8	28.57
Increase number of patients	2	7.14
All of the above	1	3.57

Graph 6 Emphasis of an Effective Appointment System



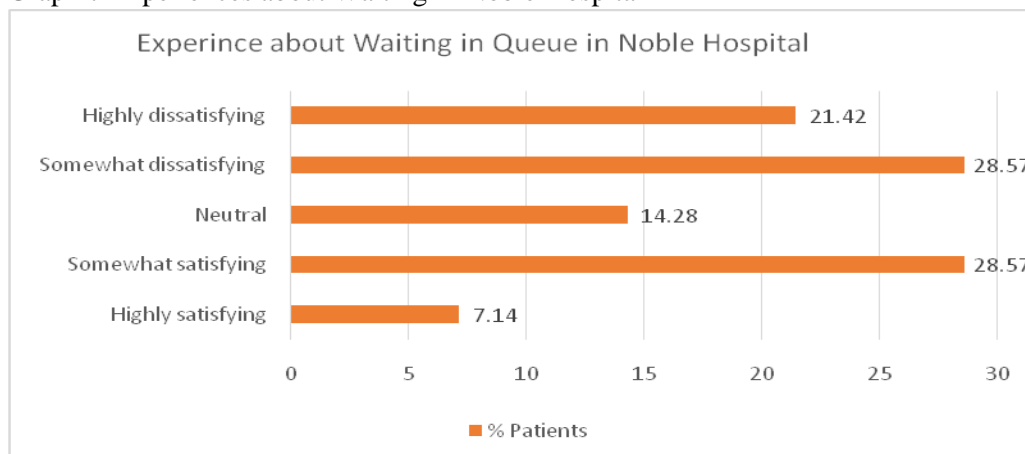
Graph 6 shows that 32.14% patients feel an effective appointment system reduces congestion followed by 28.57% patients feel it leads to time saving and higher efficiency. It is surprising that only 3.57% patients feel effective appointment system leads to all the benefits mentioned.

#### **6.2.6 Experience About Waiting in Noble Hospital**

Table No.6 Experience about Waiting in Noble Hospital

	No. Patients	% Patients
Highly satisfying	2	7.14
Somewhat satisfying	8	28.57
Neutral	4	14.28
Somewhat dissatisfying	8	28.57
Highly dissatisfying	6	21.42
	28	

Graph 7 Experiences about Waiting in Noble Hospital



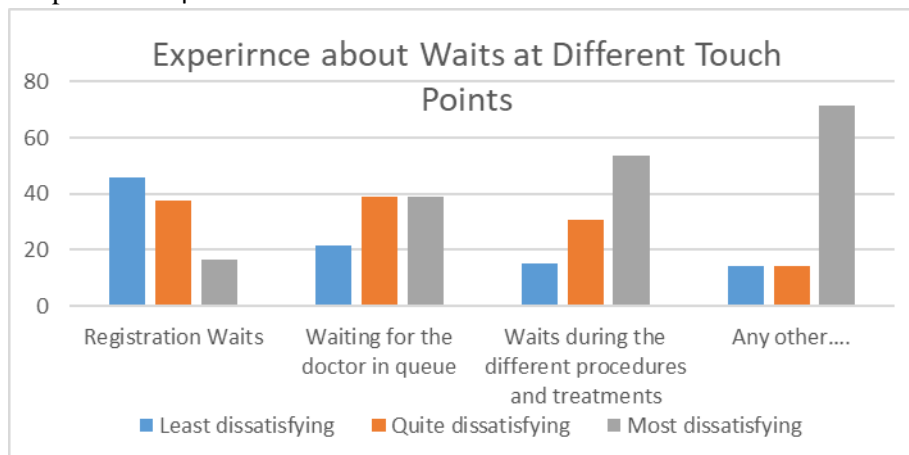
Graph No. 7 illustrates the patients' experience about waiting in queue. An equal percentage of 28.57 patients expressed their experience as somewhat satisfying and somewhat dissatisfying. The possible reason could be in Indian scenario patients always face waiting so they have become indecisive whether to express it as somewhat dissatisfying or somewhat satisfying. 21.42% patients are highly dissatisfied with waiting in queue.

#### **6.2.7 Experiences about Waits at Different Touch Points During the visit to the hospital**

Table No. 7 Experiences about waits at different touch points during the visit to the hospital

	<b>Least dissatisfying</b>	<b>Quite dissatisfying</b>	<b>Most dissatisfying</b>
Registration waits	45.83	37.5	16.67
Waiting for the doctor in queue	21.74	39.13	39.13
Waits during the different procedures and treatments	15.4	30.76	53.84
Any other....	14.3	14.28	71.42

Graph No.8 Experience at Different Touch Points



Graph No. 8 show the patients experience with waits at different stages of visit to the hospital. In case of registration waits majority of the patients (45.83) experience least dissatisfaction. While waiting for the doctor approx. 78% patients expressed dissatisfaction. As the most crucial part of visit to the hospital is seeing the doctor patients show a high level of impatience. Waits during the different procedures and treatments see a very high level of dissatisfaction of 53.84%.

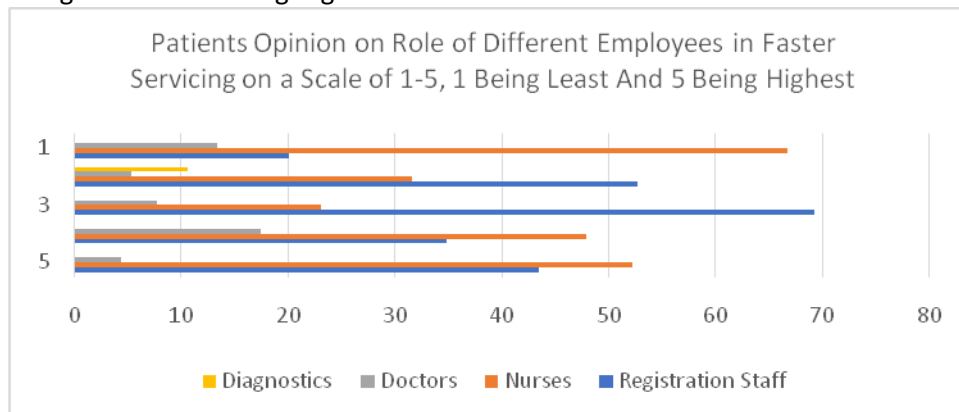
#### **6.2.8 Patients Opinion on Role of Different Employees in Faster Servicing on a Scale of 1-5, 1 Being Least and 5 Being Highest**



Table No.8 Patients Opinion on Role of Different Employees in Faster Servicing on Scale of 1-5, 1 Being Least and 5 Being Highest

	5	4	3	2	1
Registration Staff	43.47	34.78	69.23	52.63	20
Nurses	52.17	47.82	23.07	31.57	66.66
Doctors	4.34	17.39	7.69	5.26	13.33
Diagnostics				10.52	

Graph No.9 Patients Opinion on Role of Different Employees in Faster Servicing on a Scale of 1-5, 1 Being Least and 5 Being Highest



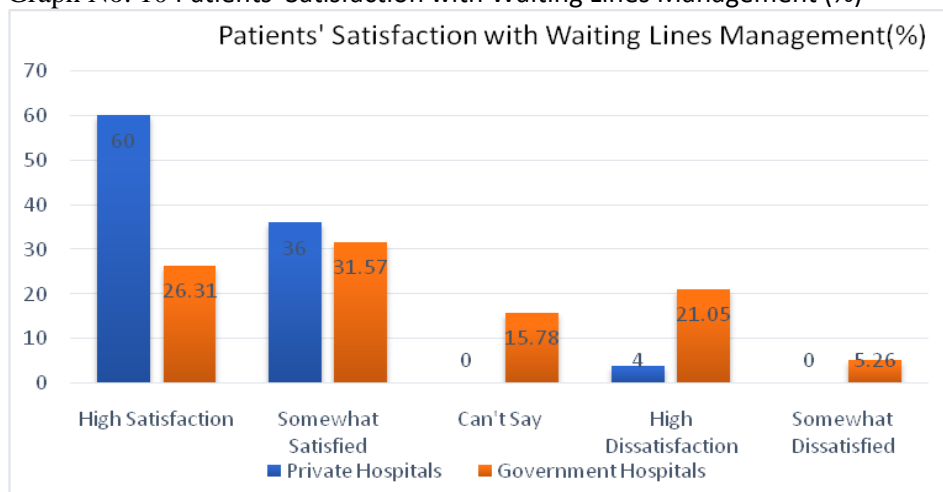
The above graph shows the patients opine that nurses and registration staff play the most important role in faster servicing. Thus, if the work is planned systematically and carefully delays can be avoided to greater extent. Accordingly, the findings establish doctors have very insignificant role to play in the case of wait management.

## 6.2.9 A Comparative Picture of Patients' Satisfaction with Waiting Lines Management (%)

Table No. 9 A Comparative Picture of Patients' Satisfaction with Waiting Lines Management (%)

Hospitals	High Satisfaction	Somewhat Satisfied	Can't Say	High Dissatisfaction	Somewhat Dissatisfied
Private Hospitals	60	36	0	4	0
Government Hospitals	26.31	31.57	15.78	21.05	5.26

Graph No. 10 Patients' Satisfaction with Waiting Lines Management (%)



As seen in the graph no.10 private sector is clearly seen as better in services as compared to government hospitals. 60% patients expressed high satisfaction with private hospitals as against only 26.31% expressing high satisfaction with government hospitals.

#### **6.2.10 Customers Perception About the Causes of Delays in Provision of Services in the Hospital**

According to majority of the patients (i.e. 43.08%) the most important reason is crowding of patients at the same time because of improper scheduling, less staff and popularity of the doctor. Approximate 13.04% patient attributed the cause of delay to time spent for registration. Other patients were dissatisfied with defective coordination and confusion created because of that.

#### **6.2.11 Provisions Made by Hospital for Waiting Line Management and Customers' Cognizance of these Provisions**

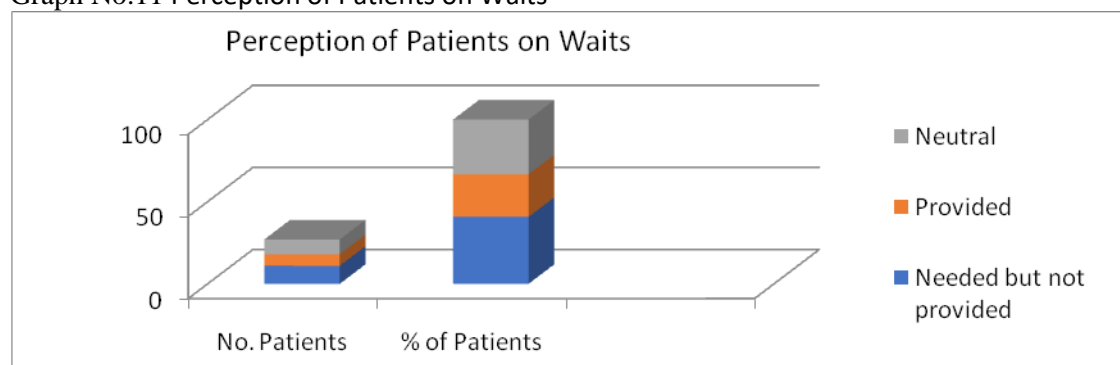
The hospital has a provision of waiting areas, token systems, digital displays and counters to handle the arrival treatment and departure of patients. But surprisingly 21% patients were not aware of token systems and digital displays installed for handling the waits. The possible reason could be because of lack of observation of patients.

#### **6.2.12 Perception of Patients About Updating on Status of Waits**

Table No. 10 Perception of Patients about Updating on Status of Waits

	No. Patients	% of Patients
Needed but not provided	11	40.74
Provided	7	25.92
Neutral	9	33.33

Graph No.11 Perception of Patients on Waits



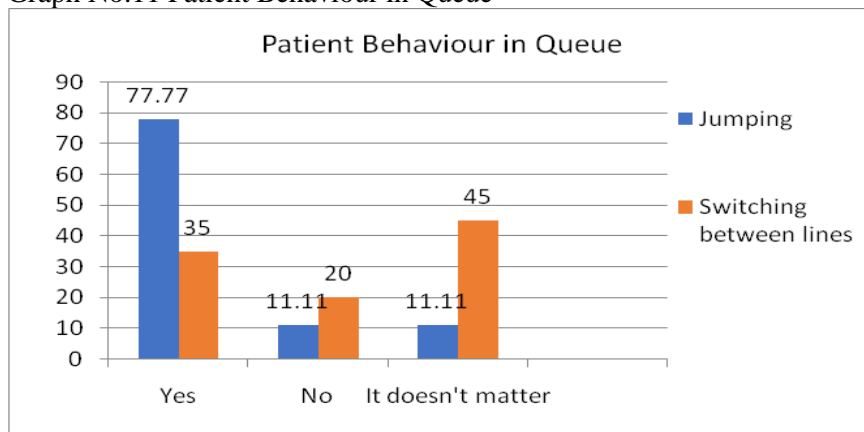
A majority of patients feel the need for getting updated by hospital staff on status of waiting i.e. information regarding when their turn will come but do not get such assistance from the hospital. It was surprising to know that almost equal number of patients i.e. 33.33% have no such expectations. This could be probably because of same practice elsewhere.

### 6.2.13 Patients' Experience on Patient Behaviour When Waiting in Queue in this Hospital

Table No. 11 Patient Behaviours When Waiting in Queue in this Hospital.

	Yes	No	It doesn't matter
Jumping	77.77	11.11	11.11
Switching between lines	35	19.8	44.2

Graph No.11 Patient Behaviour in Queue



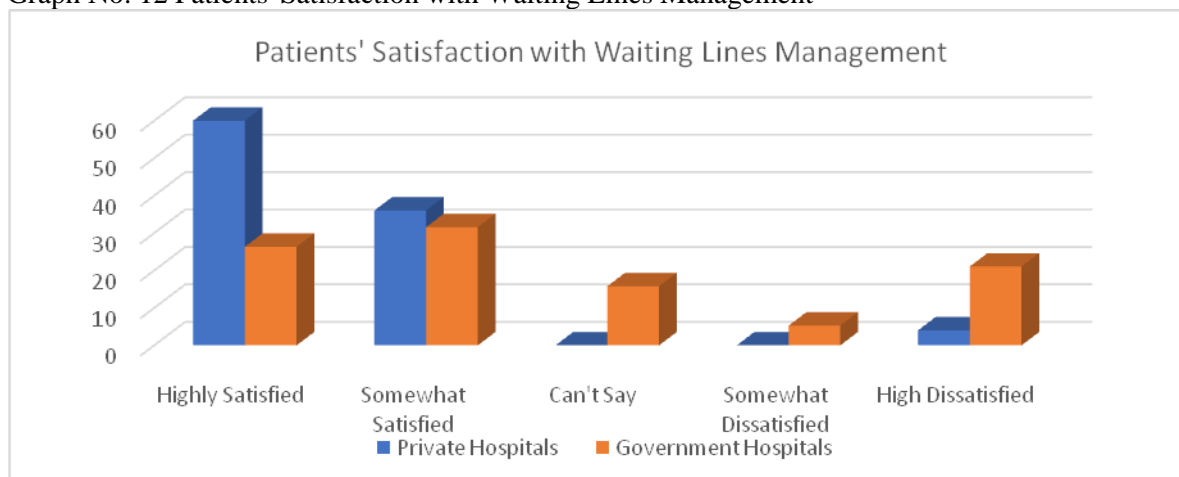
The above graph shows that patients have experienced jumping the queue and switching between lines while waiting in the hospital. A very high percentage of 77.77 patients have experienced jumping, but there are 11.11 % patients who don't see it as a bother. In the case of switching between lines 35% patients have experienced it and see it as a bother but a good number of 44.2% doesn't feel it matters.

### 6.2.14 Patients' Satisfaction with Waiting Lines Management

Table No. 12 Patients' Satisfaction with Waiting Lines Management

Hospitals	Highly Satisfied	Somewhat Satisfied	Can't Say	Somewhat Dissatisfied	High Dissatisfied
Private Hospitals	60	36	0	0	4
Government Hospitals	26.31	31.57	15.78	5.26	21.05

Graph No. 12 Patients' Satisfaction with Waiting Lines Management

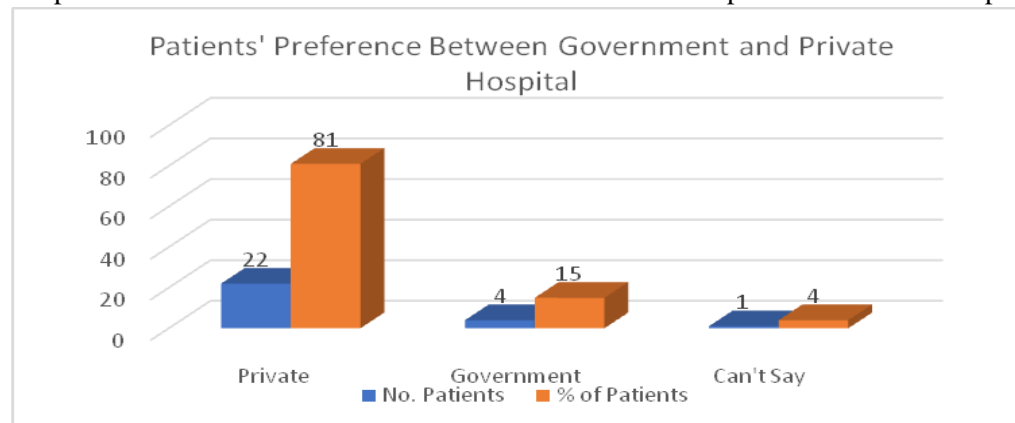


### **6.2.15 Preference between Government Hospitals and Private Hospitals**

Table No. 13 Patients' Preference between Government Hospitals and Private Hospitals

	No. Patients	% of Patients
Private	22	81
Government	4	15
Can't Say	1	4

Graph No. 13 Patients' Preference between Government Hospitals and Private Hospitals



Graph No.13 reflects 81% patients prefer Private Hospitals as compared to only 15% patients preferring Government Hospital. According to the respondents the reason behind not preferring Government Hospital includes insensitive attitude of the staff, more time consuming, being crowded and preference for private hospital include reasons like state of the art equipment, better services, systematic approach towards patients.

### **6.2.16 Patients' opinion on Provisions Made to Make Waiting Tolerable**

Majority of the patient i.e. 52% feel provision of TV, magazine etc. can help reduce boredom due to wait whereas a significant 33% opined that these arrangements do not make any difference. Few patients felt that Television should be use to show Knowledgeable Content.

## **7. CONCLUSIONS**

- The most important components of queue management in a hospital includes well planned and strictly followed appointment system, provisions comprising of waiting area, dedicated registration staff, token systems, digital displays to indicate movement of queue, software to handle the data of patients for proper scheduling and servicing, timely information, sufficient staff and effective coordination. Above all it is important to treat your patents with utmost care.
- Reasons for waits- Approx. 43.08% patients feel the major reason for waits is allowing too many patients at the same time. It is seen as inefficiency as the overcrowding could be because of improper scheduling, less staff and inflexible staff. Another important cause of

delays as found out turns out to be unreasonable long time taken for registration. Patients also opined that defective coordination and confusion also creates waits.

- iii. Patients' perception related to Physical Costs- Physical cost related to wait basically relates to the length of waiting and exertion. In this study it was found out that maximum waiting happens after registration to see the doctor followed by waiting at registration counter and during diagnostics respectively. Hence, also indicating the level of dissatisfaction in that order. That is, 78% patients expressed dissatisfaction while waiting for the doctor, followed by 54.17% dissatisfied because of waiting at the registration counter and 53.84% dissatisfied with waits during treatment procedures. Further majority 64.28% patients experience half an hour to an hour duration from registration desk to meeting the doctor. And a small percentage of 10% patients wait for less than 30 minutes.

Psychological costs of waiting are related to expectation, judgement, opinions and belief patterns. The study reveals that majority of patients do not see the full benefits of approaching hospitals with appointments. The foremost reason for taking appointments is to avoid jamming and to accommodate to the hospital requirements. Majority of patients (57.14%) always visit the hospital with appointments.

- iv. The hospital has a provision of waiting areas, token systems, digital displays and counters to handle the arrival, treatment and departure of patients. Approximately 21% patients didn't notice token systems and digital displays installed for handling the waits. The possible reason could be because of lack of observation of patients and irregular use of them. Another conclusion that can be drawn from this is that for any hospital system it's the registration counters and appointment systems that are seen as most vital to handle patients.

Waiting in hospitals have become such a common sight that patients have accepted it as a norm. The frustration of waiting gets expressed in the form of jumping the queue and switching between lines while waiting in the hospital. Though a very high percentage of 77.77 patients have experienced jumping are unhappy but approx. 11 % patients don't see it as a serious matter. The same practice goes with switching between lines where a good number of 44.2% doesn't feel it matters.

A majority of patients approx. 41% feel the need for keeping updated by staff on status of waiting i.e. when their turn will come but do not get such assistance from the hospital. Again an almost equal number of patients i.e. 33.33% do not want any such information. This could be probably because of lack of awareness about their right or being complacent about the situation. Again interestingly, majority of patients 52% feel

provision of facilities like TV, magazine etc. can help reduce boredom due to wait whereas a significant 33% deny the importance of these.

The study shows a majority of patients (approx. 50%) were dissatisfied with waiting line management. There were around 15% patient's neutral on their experience. There could be many reasons behind such observation. Noble Hospital is one of the prominent hospitals in that area thus receives a lot of patients from the vicinity and popularity of some doctors leads to too many patients at the same time creating long waits and difficulty in handling.

- v. Patients' preference between government hospitals and private hospitals- The study came to conclusion that people clearly prefer private hospitals over government hospitals because of the belief and experience that the treatment is much better and more convenient.

Majority (96%) of the patients are satisfied with private sector hospital as compared to 56% people expressing their satisfaction with Government hospitals. It's worth mentioning that these patients have experienced services from both the providers. As it 's observed in most of other cases be it banks, insurance or education, healthcare as well presents better services by private sector.

- I. In the case of first Hypothesis  $H_0$  (Null Hypothesis) stands rejected as majority of patients (50%) have shown dissatisfaction towards waiting line management. It's noteworthy Dissatisfaction= Perceived Quality is lesser than Expected Quality. Thus, Alternate Hypothesis stands accepted.
- II. In the case of second Hypothesis  $H_0$  (Null Hypothesis) stands rejected as 96% patients have shown satisfaction and preference towards Private Hospitals as compared to Government Hospitals. Thus, Alternate Hypothesis stands accepted.

## **8. SUGGESTIONS**

Based on the observations and findings, this study put forward following suggestions-

- i. Most of the patients feel that dearth of staff is one of the main reason behind waiting lines. Hence, the management should hire more doctors. Management should take initiative to ensure punctuality of the doctors.
- ii. It was felt by the patients that because of the relaxed approach on the part of patients and staff towards appointment overcrowding taking place so implementing a stricter and planned appointment system can be fruitful.
- iii. It is also suggested that if the availability of doctors is increased for more time more patients can be benefitted.

- iv. Registration plays a very important role in reducing and managing waiting time. Few improvements can really bring out better results. It is suggested to hire more people for registration desks, during registration visiting time should be fixed, more responsiveness built in registration staff by orientation towards patients' needs.
- v. Employing Operational Logic-The hospitals should identify critical points which if not handled properly can create delays. Similarly, duplication of activities should also be avoided.
- vi. Miscellaneous suggestions- time scheduling to ensure faster processing per patient, acknowledging patient as customers, reducing paper receipts, regular and functional system of managing queues through token number and electronic display of queue.

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