Time Motion and Satisfaction of Adult Patients with Outpatient Health Services at Dessie Referral Hospital, Amhara Region, Northeast Ethiopia

By:

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ABSTRACT

Background: Increase waiting time at OPD causes a negative impact on patient's satisfaction; hence health care facility performance can be best assessed by measuring the level of patient's satisfaction.

Methods: Present time motion study was done at the OPD of Dessie Referral Hospital, Eastern Amhara Region. The study population consisted of adult patients who are attending the OPD of Dessie Referral Hospital, in which they are selected randomly and Mets the inclusion criteria. Thus 280 respondents were studied and interviewed for the present study.

Results: Each patient required 73.25 minutes waiting time to receive the OPD services. Various factors contributing to long waiting time were- registration clerk not attending duty on time, taking more time to register the patient, difficulties in locating rooms, rush, doctors coming late on duty, doctors, pharmacists talking on mobiles, VIP patients jumping queue etc. Total satisfaction with OPD services was observed in 74.47% of the respondents. Association was observed between waiting time and satisfaction.

Conclusion: Improving patient's satisfaction towards health care services by reducing their waiting time, attending the patient in time and sympathetic approach will create a positive image of hospital in the mind of people and also will help hospital image building in the community.

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Abbreviations

ARHB   Amhara Regional Health Bureau

MHA   Master of Healthcare and hospital Administration

OPD   Out Patient Department

TMS-AP   Time Motion Study Tool: Ambulatory Practice

PHC   Primary Health Care Unit

Chapter one: Introduction

1.1 Background

Time, one of the most valuable things, is the major factors that play an important role in attaining patient satisfaction. Patient satisfaction is one of the desired outcomes of health care and it is directly related to utilization of health service .[1] During the last decade the number of patients seeking out patient department services has increased many folds, but the facilities in the OPD have not increased at the same rate. Patients are attended in various OPD within the hospital system, but almost invariably, a high percentage of the patients arrive and leave the hospital at various times. The amount of time the patient waits to be seen, is one factor which affects the utilization of health care services.[2,3]

In a competitively managed health care environment patient waiting time play an increasingly important role in a clinics ability to attract new business. It is difficult to sell services if individuals are dissatisfied with waiting time.[4] Patient satisfaction has emerged as an increasingly important parameter in the assessment of quality of health care; hence health care facility performance can be best assessed by measuring the level of patient's satisfaction.[5] Because of great volume of ambulant patients in most communities, an efficient outpatient department (OPD) in hospital is clearly of critical importance. This is more because of lower cost of outpatient services compared to in-patients.[6]

In most developing countries, the outpatient department is over-crowded. Patients are mixed together and any attempt to impose rules fails before such a huge attendance.[7] Patients coming to hospital for treatment loss their valuable time which ultimately cause many more difficulties. So, increase waiting time causes a negative impact on patient's satisfaction.[8] It is revealed that there is significance difference between the patients and their physician's view of patients waiting time in OPD care and perspective to improve the situation.[9] As majority of the people come in contact with the OPD services of the hospital so it is the area of importance to satisfy and address the peoples demand accordingly and in an effective way.[10] Waiting time is the time required just after patient's arrival at the OPD to meet his health needs. It is the total time elapsed in circulating the patient from one room to another. These include the time spent for collecting the treatment ticket, for attending the physician, for submission of samples for investigations and for collecting medicines including receiving instructions for their use. Patient's waiting depends on many factors including efficiency, sincerity and punctuality of the health care providers as well as the existing facilities of the institution.[11] Health care service that is given on the OPD of a hospital, such as, services given at registration, physician's chamber, pharmacy, x-ray, and laboratory section requires a systematic study of its service for its efficient

management and function . So, a simple time and motion study of an OPD system that is suitable and inexpensive interventions can go a long way to improve both patient satisfaction and the efficiency of a hospital .**[12]** Different studies have been done on public hospitals mainly at emergency department and inpatient departments, but not as much at OPD of a government health care facility like referral and teaching hospitals. A study of this nature is critical to public appreciation of the quality of health care operating environment. Hence this study was aimed at assessing patients waiting time and factors affecting waiting in the OPD and their satisfaction towards some services rendered at OPD. .**[14]**

1.2 Statement of the problem

Naturally, prolonged waiting times lead to public dissatisfaction with the service being offered, and patients are known to leave without waiting to be seen. Moreover, it has been shown that timely care leads to improved patient health outcomes. Patient satisfaction has emerged as an increasingly important parameter in the assessment of quality of health care; hence health care facility performance can be best assessed by measuring the level of patient's satisfaction. The amount of time the patient waits to be seen is one factor, which affects the utilization of health care services .Patients coming to hospital for treatment loss their valuable time which ultimately because many more difficulties Therefore, increase-waiting time causes a negative impact on patient's satisfaction. In a competitively managed health care environment patient waiting time play an increasingly important role in a clinics ability to attract new business. It is difficult to sell services if individuals are dissatisfied with waiting time .[14]

Health service quality of one country is determined by health delivery system, structure of the health system , and process and the resource it has. The structure of care includes generally resources like people, buildings, facilities and the like. The process deals with actions, which characterize the care that is actually delivered through diagnostic procedures, laboratory tests, drugs prescribed, operations and so forth. It is indicted that health care system in developing country suffers from serious problems such as, overcrowding, long waiting times, long queues, inefficient staffs, absence of staffs, inequity, poor quality, and they are poorly prepared to resist these challenges etc. In most developing countries, the outpatient department care is entangled with problem, like inefficient time management, overcrowding, delay in consultation , lack of proper guidance and many others lead to patient dissatisfaction .[15]

Chapter Two: Literature review

The issue of waiting time in the OPD has been used as the entry point to the various problems in the OPD. Nevertheless, the issue of waiting time cannot be analyzed in isolation. Because, it may be related to the overall system of the hospital, which is a sub set of the entire health care system. The overall system of the hospital, the physical environment and structural element of the hospital, and other factor related to patient and service providers might need adequate attention in order to analysis this issue holistically. According to Jonathan, Rikich and Kurt (1992), there are four main areas which directly or in directly contributes to the problem in the hospital. These are manpower, management, technology, and infrastructure . Manpower, in terms of quantity and quality such as, capability, knowledge and skill, behavior and attitude, motivation etc. may contribute to the issue of waiting time and patient satisfaction. Management may play an important role in the issue of waiting time and patient satisfaction. The health care delivery system in the OPD, which consist of hierarchy system, job responsibilities, policy and planning, monitoring and supervision, leadership and motivation etc . Many hospitals are facing great difficulties to cope up change with technology. The main issue related to technology are, lack of capability to decide which technology is most suitable for the country, lack of trained personnel to use the technology, lack of maintenance etc .The infrastructure of the hospital may be equally important as contributing factor to the issue of waiting time and patient satisfaction in the OPD. Many hospitals are facing great difficulties with the infrastructure related factors such as, the comfort of waiting area, cleanliness, etc .[12]

Satisfaction is more related to partnership building, waiting time to treatment, conversation that is more social, courtesy, clear communication and information, respectful treatment, cleanliness of facility, etc. Long waiting time in the different OPD service unit, visiting of doctor after the registration, and different farther investigation procedure and revisiting of the doctor for evaluation with the different investigation results, failure to obtain prescribed medication from the hospitals and difficulties to locate different sections were the frequently faced problems affecting utilization leading to dissatisfaction. Reports on waiting times in U.K. shows that, the length of time-spent waiting in the department generates a large number of complaints by patients and is an area, which needs to be improved. The public in the media has heavily criticized studies conducted in Europe, Malta (Mater Dei Hospital - MDH) Prolonged waiting times at the Emergency Department .[12,13]

Waiting time is the time required just after patient's arrival at the OPD to meet his health needs.. These include the time spent at registration for treatment, attending to the physician chamber, submission of samples for investigations and for collecting medicines including receiving instructions for their use. Increase waiting time at OPD causes a negative impact on patient's satisfaction; hence health care facility performance can be best assessed by measuring the level of patient's satisfaction. Studies have shown that satisfied patients are more likely to utilize health services, comply with medical treatment, and continue with the health care providers and spreading positive information to in courage others to use a health service. Patient's waiting depends on many factors including efficiency, sincerity and punctuality of the health care providers as well as the existing facilities of the institution . [14]

The amount of time the patient waits to be seen in the OPD of hospital, is one factor which affects the utilization of health care services. Because of great volume of ambulant patients in most communities, an efficient outpatient department (OPD) in hospital is clearly of critical importance. This is more because of lower cost of outpatient services compared to in-patients. As majority of the people come in contact with the OPD services of the hospital so it is the area of importance to satisfy and address the peoples demand accordingly and in an effective way. Thus improving the satisfaction of patients towards health care services by reducing their waiting time, by attending the patient in time and with sympathetic approach will help to create a positive image of hospital in the mind of people and also will help hospital image building in the community. Different studies have been done on public hospitals mainly at emergency department and inpatient departments, but not as much at OPD of a government health care facility like teaching hospitals . A study of this nature is critical to public appreciation of the quality of health care operating environment. Hence this study was aimed at assessing patients waiting time and factors affecting waiting in the OPD and their satisfaction towards the services rendered at OPD [14]

Time and motion study measures the time required to perform a given task in accordance with a specified method and is valid only so long as the method is continued. Motion study is designed to determine best way to complete a repetitive job while the time study measures how long it takes an average worker to complete a task at a normal pace. The two techniques became integrated and refined into a widely accepted method applicable to the improvement and upgrading of work systems. This integrated approach to work system improvement is applied to determine schedules and planning of work in industrial as well as service organizations, including banks, schools and hospitals.[15]

A Study in US hospital system shows, a reconsideration of hospital design and work processes holds the potential to affect the efficiency and effectiveness of care delivery for the foresee able future. Bold changes in the hospital work environment are imperative to ensure the sustainability and affordability of the hospital as part of the American health care delivery system .[16] The reason that patients attend outpatient clinics is to seek the opinion of a medical professional about their symptoms or condition (Grace and Armstrong, 1986) .[17] One challenge that health care environments pose to conducting a time and motion study is the frequent interactions with patients that are inherent to almost all positions within the health care industry. [18]

Therefore the central question will be consider to the factors that leads to long waiting time and then the filling of the patient toward the service that delivered at the OPD of a hospital namely, services given at registration, physician's chamber, pharmacy, x-ray, and laboratory section is worthwhile.

3.Conceptual framework: Time motion and patient satisfaction conceptual framework is shown as below.

Physical Environment

- ✓ Clear sign & direction
- ✓ Lay out of the hospital, such as, distance in between the service units separate
- ✓ Comfort of waiting area or service room
- ✓ Hospital environment clean lines …etc

Socio demographic

- ✓ Age
- ✓ Sex
- ✓ Level of education
- ✓ Type of visit

Waiting time and Patient satisfaction

Structure

- ✓ Lay out of the hospital building
- ✓ General resource such as, technology
- ✓ Medical equipment,
- ✓ Availability of furniture … etc

Processes

- ✓ Over all health care delivery system
- ✓ All the operational tasks such as, treatment, Diagnostic procedures', laboratory tests, drugs prescribed, documentation and so forth
- ✓ Practice (courtesy & respect)
- ✓ Clear communication & information
- ✓ management system…. etc

Fig. 1 Adapted conceptual framework from time motion study Tool: Ambulatory Practice (TMS-AP) Version 1.0 Partners Healthcare Agency for Healthcare Research and Quality National Resource Center for Health Information Technology

Chapter Three: Significance of the study:

The expected result of the study was gained an overall impression or a broad picture of what patients really felt about the service that was delivered in each service station and overall the OPD experience of Dessie Referral Hospital in relation to waiting time .

The finding of this study mainly helps to Dessie Referral Hospital, other Referral Hospitals found in the different place of the Amhara Region, at large to Amhara Region hospital management at Referral level .

Moreover, the study was an important input in providing recommendation(s) on how to improve the health service delivery that helpful to fill gaps, which ultimately contribute to enhance patient satisfaction in the OPD of Dessie Referral Hospitals. In addition to this, the paper may be useful to other researchers as base line for further studies in the future.

Chapter Four: Objectives of the study

4.1 General objective

To assess patient satisfaction in relation to waiting time to treatment at the OPD of Dessie Referral Hospital.

4.2 Specific objective

- To assess factors affecting waiting time .
- To Identify relationship of waiting time and satisfaction

Chapter Five: Methods and materials

5.1 Study area and period

This time motion study was done during November to December 2014 at the Out Patient Department of Dessie Referral Hospital. Dessie Referral Hospital was one of the largest referral hospitals in Amhara Region, which located in the Easter part of the Amhara regional state, Dessie town at a distance of 401 km from the capital city of Addis Ababa. Dessie Referral Hospital serves both as teaching Hospital for Wollo University and as the main referral center and has a total of 300 bed capacity and runs outpatient clinics in various medical specialties.

5.2 Study Design

Hospital based cross sectional study with quantitative methods would be employed at Dessie Referral Hospital from November 2014 to December 2014.

5.3 Population

5.3.1 Source population

The source population consisted of patients attending the outpatient clinic of the hospital namely, internal medicine, follow up clinic, ophthalmology, dermatology, surgery and gynecological outpatients were used for the selection of the study subjects.

5.3.2 Study Population

The study population consisted of adult patients who are attending the OPD of Dessie Referral Hospital, in which they are selected randomly and Mets the inclusion criteria.

5.3.3 Inclusion and Exclusion Criteria

Inclusion

Those who are above 18 years old, patients who are willing to respond , individual able to respond without any barrier e.g. critically ill patients, Patients who cannot speak (mute) and listen (deaf) were included in the study

Exclusion

- All patients under the age of < 18 age
- Individual unable to respond due to any health related condition e.g. critically ill patients
- Patients who cannot speak (mute) and listen (deaf)
- patients who are not willing to respond

5.4 Sample size and sampling procedure

5.4.1 Sample size determination

Sample size (n) would be estimated based on single population proportion by using the following statistical formula's

$$n = \left(\frac{z\alpha/2)^{2 * P(1-P)}}{d^2} \right.$$

Where:- n = estimated sample size

p = proportion of satisfaction with OPD service 77 % cited in research of Jimma University specialized hospital health survey (2010).

Z = value of standard normal distribution (Z-statistic) at the 95% confidence level

This is 1. 96

d^2 = degree of accuracy required i.e. allowable error 0.05 With these assumptions,

The required sample size will be (272) (where 272 sample size rounding up to the next whole number). By using adjusted n   when n is < (10,000)   n was found to be 272 and the population size estimated were 8550 then   nf = 272/ (1+272/4255)   nf = 264 by using the adjusted formula the final sample size will be 280 with non response rate or zero response rate.

5.4.2 Sampling Techniques

Total daily OPD census is about 600. Sample size were determined by single population proportion formula and the calculated sample size were 280 patients. From the total daily OPD attendant randomly a total of 40 study population per day was   selected from the registration queue with in the 7 consecutive working days of data collection period and a total of 280 patients data was collected.

5.5 Data Collection

5.5.1 Developing Data Collection Tools

A standardized questionnaire was developed mainly based on the issues the study wish to address after reviewing relevant literatures and assessing internet sources. The questionnaire was developed depending on research objectives. It was prepared in English and then translated into Amharic and back to English to ensure accuracy. The questionnaire designed mainly on four parts. The first part of the questionnaire was   about socio-demographic characteristics of patients that are important for analysis, the second part of the questionnaire encompass waiting time at each service station, such as, registration, physician's chamber, pharmacy, laboratory, and x - ray and ultrasound and overall the OPD. by using stop watch the time spend at various stages was recorded. Part three of the questionnaire encompass liker scale items which enable to collect information on the perception of respond ant and

their satisfaction level. The level of satisfaction and perception was based on the 5 points liker type scale of alternatives. (See Appendix) . The last but not the list part of the questionnaire was the open ended questions that helps to obtained various factors contributing long waiting time and becomes patient dissatisfied .

5.5.2 Data collection method

Data was gathered using a set of comprehensive and pretested questionnaires which sought such socio demographic character of respondents, time spent by respondent, and information as - causes of long waiting period and the level of satisfaction with the services offered by the hospital. Satisfaction was assessed using Liker's five rating scale. A stop watch was used to record the time spent in waiting at various stages. Patient below 18 years of age, Patient critically ill, patients who are not willing to respond and patients who has defect in speaking and listening were excluded from the analysis.

Five data collectors were recruited from non-study area for data collection. Data collectors and supervisors was trained for two day. Data collector explained to the respond ant about the proposed study, its objective, the purpose and the duration of the study. Only the subject who was willing to be respondents were selected for the study. This is to ensure the personal rights of the respondents and the cooperation of the respondents during the course of the study. Trained data collector and interviewer were administer the questionnaire regarded to the designed questionnaire starting from joining the patient to the registration in counter, during patients' receiving different service at different stations of the OPD till the patient finished their OPD visit and finally interview was employed at exit.

5.6 Study Variables

5.6.1 Dependant variables

- Patient satisfaction
- Waiting time

5.6.2 Independent variables

Age, Sex, Level of Education, Type of patient visit, Operational tasks (Diagnosis, Documentation, and the likes, Practice of   health care provider (Courtesy and   respect)   Clear Communication   & Information, General resource, Clear sign & direction, Lay out of the hospital, Comfort of waiting area, Hospital environment cleanliness.....etc.

5.7 Operational Definitions

Patient satisfaction: refer to the patient's value judgments related to waiting time and factors that may affects waiting time and leads to patient dissatisfaction at each service station and overall the OPD service and succeeding reaction to the stimuli they perceive in the health care delivery of the OPD of the hospital just during and after the course of their clinical visit. The indicator for patients satisfaction in this study consists of processes, structure and physical environment. The answer of each question is measured by using liker scale and the answer would be ranked in 5 scales as very satisfied = 5 satisfied = 4 neutral = 3 dissatisfied = 2 very dissatisfied = 1 For the overall satisfaction level, those who were satisfied greater or equal to the mean score of satisfaction were categorized as "**satisfied**" and those who were less than the mean score of satisfaction were categorized as "**not satisfied**"

Service providers: In this study, it will mean facilities providing health care as well as the staff directly involved in this work such, as doctors, nurses, counselors, laboratory technician, pharmacy, x - ray technician, managers and other staffs.

Perception: a process by which individuals organize and interpret their sensory impressions in order to give meaning to the specific or intended object and not necessarily based on reality, but is merely based on perspective of candidates towards the service provided.

Time Motion: Time motion analysis or flow process analysis is an actual measurement of the time spent by the patient at each process of the service.

Adult: person with the age greater than 18 years old

Process: measures check if the right things have been done in the right sequence for service recipients.

Structure: measures assess whether facilities, equipment, staff, material, and budget meet established standards.

Physical environment; refers to the features of the setting in which the health services are provided. This includes clear sign and direction, lay out of the hospital, comfortable waiting area and rooms, hospital clean lines and the likes .

Out Patient Department: Part of a hospital where patients get different services as an outpatient

New Patient: Patients visited the OPD for the first time for the present illness.

Repeat Patient; Patients visited the OPD for the second time for the present illness.

Follow-up visit: Patients visited the OPD for more than one times for the present illness

Referral visit: Patients that are referral from any other health facility for the present illness

5.8 Data entry and analysis

The collected data was critically checked for its completeness and then coded, edited, entered, and cleaned using SPSS version 20. Reliability tests would be employed on SPSS to check the instrument internal consistency. Data was entered in the Microsoft excel sheet and analyzed using the software EPI-Info version 2.3. Discrete data was analyzed using Chi square test for normal distribution; value < 0.05 was considered significance.

5.9 Data quality management

Two-day training for data collectors and supervises was given . by Principal investigator for omissions and incomplete answers was checked questionnaires. Responses will then be carefully coded, with verification. After checking all questionnaires for consistency and completeness, the supervisors will submit the filled questionnaire to the principal investigator. In addition, prior conducting the actual study, 5% of the questionnaires would be pre-tested at Boru Meda Hospital which is 15 km far apart from the study area for precision, sequence, simplicity and soundness.

5.10 Ethical consideration

Supportive letter has been obtained from Jimma University Post Graduate Class, department of Health service management describing the purpose of the study and Permission was obtained from Dessie Referral Hospital. Before starting the data collection, process. Participants in the study is voluntary and based on study subjects' ability to give informed consent and confidentiality of Participation would be guaranteed.. After getting oral consent from the respondent data would be collected at different stage of the OPD that is starting from the time of arrival up to the exit time interview w. Total daily OPD census is about 600. Thus daily 40 patients were interviewed. Thus during one to two week period of time a total of 280 patients were studied. patient from each counter was selected as soon as the patient enters the hospital gate and joined the queue for registration ticket. The patient was followed from joining the queue at registration counter till the exit gate of the hospital without their knowledge. The next patient was selected randomly after interviewing the first patient. At the time of their exit the respondents were greeted and told about the purpose of the study before interviewing.

5.11 Dissemination of the results

The findings of the study would be submitted to Jimma University, College of Public Health and Medical Sciences, Department of Health Service Management. Then findings of the study would be publicly defended at Jimma University. After approval by the department, Copies of the study findings would be provided to relevant stakeholders like Zonal , Regional Health Bureau and to the hospitals. An effort will be made to present the results at scientific conferences and to publish in a national or an international journal.

5.12 Limitations of the study

> ➢ Unable to follow the patient when they are going for other activity separately
> ➢ Patient and family character change being followed by the data collectors

Chapter six : Result

6.1 Socio demographic characteristics

Out of the 295 randomly selected patients, 15 patients were excluded which included patients age below 18 years - 2, critically ill patients - 5 and those who refuse to participate - 6, patients who cannot speak and listen - 2. Thus lastly 280 patients were studied and interviewed for the present study. Out of the 280 respondents a total of 126 (45%) and 88 (31.42%) patients were send to the laboratory and radiology department for farther laboratory and radiology investigation respectively .

Most of the study population 143 (51.01%) patients were 35 to 44 years old. Mean age of the patient was 35 years old . Out of the 280 respondents, 127 (45.35%) males and 153 (54.64%) were females. Out of the 280 respondent it is showed that 86(20%) patients were greater than grade 12 and above, 26(9. 28%) patients were Illiterate or an able to write and read

Out of the 280 respondents 132(59.28%) patients visited the OPD first time for the present illness,40(14.28%) patients visited the OPD for the second time for the present illness while 76 (29.28%) respondents visited OPD for follow up visits. 32 (11.42%) respondents visited the OPD as they were referred from the nearby healthy facilities like PHCs and Zonal Hospitals.

6.2 Waiting time in each service station
The overall OPD waiting time of the respondent to receive the OPD service of Dessie Referral Hospital was showed that on average 73.25 minutes . The Average time required for Getting treatment card was 9.07 minutes, for attending physician was 12.28 minutes, for laboratory investigation procedure was 23.33 minutes , for getting x- ray and ultrasound investigation was 18. 40 minutes and for getting medicine and instructions was 10.17 minutes.

Table : Average time spent for various activities at OPD by respondents

No	Service Area	Average w t in minute	No of respondent	Percentage
1	Registration Room n = 280	9.07 min	280	100%
2	Physicians Room n = 280	12.28 min	280	100%
3	Laboratory Service n= 126	23.33 min	126	100%
4	X-ray & Ultra Sound n = 88	18.40	88	100 %
5	Pharmacy service n= 280	10.17 min	280	100%
6	Total / Average OPD Wt	73.25 min	280	100%

Out of the 280 patients that was visited to receive the registration room service only 12 (4.28%) patient spent more than 30 minutes, 114(40.71%) spent less than 10 minutes, 116 (41.42%) spent 10 to 20

minutes in a queue to get the OPD Card, while 38 (13.5%) respondents got OPD cards with in 20 to 30 minutes of time . Average time required for Getting treatment card was 9.07 minutes.

Out of the 280 patients that was visited the physicians room, 62 (22.14%) respondents spent 10 to 20 minutes to attend the doctor after receiving the OPD card, 134 (47.85%) spent 20 to 30 minutes. 26 (9.28%) spent more than 30 minutes while 58 (20.71%) spent less than 10 minutes for this purpose. Each respondent spent on an average 12.28 minutes to attend the doctor consultation .

Out of the 280 total respondents 126 patients were send to the laboratory department. Out of the 126 patients that was send to the laboratory department, 46 (36.50%) respondents spent 20-40 minutes, 52 (41.26%) respondents spent 40-60 minutes, 06 (4.76%) respondents spent more than 60 minutes for laboratory investigation procedure, while 22 (17.46%) spent less than 20 min. The average time required for laboratory investigations was 23.33.

Out of the 280 total respondents 88 patients were send to the x- ray and ultrasound department for farther radiological investigation procedure. Out of the 88 patients that was send to the radiological investigation, 44 (50%) respondents spent 20-40 minutes, 09 (10.22%) respondents spent 40-60 minutes, 04 (4.54%) respondents spent more than 60 minutes, while 31 (35.22%) spent less than 20 minutes. The time spent for the laboratory and radiological service by the respondents was required only for giving samples to the laboratories and to get other investigations like x-ray, ECG etc done. This time did not include the time required for getting the investigation results.

Out of the 280 patients that was visited the pharmacy service, Almost greater than half of the respondents i.e. 166 (59.28%) spent 10-20 minutes for getting medicine, 62 (22.14%) spent less than 10 minutes for it , 32 (11.42%) respondents spent 20-30 minutes, while 20 (7.14%) spent more than 30 minutes for getting drugs. The average time spent by each respondent for this purpose was 10.17 minutes.

Table : Time spent for various activities at OPD by respondents

No	Service Area	Time taken in minute	No of respondent	Percentage

1	Registration Room n = 280	Less than 10 minute	114	40.71%
		10 min to 20 min	116	41.42%
		20 min to 30 min	38	13.57%
		Greater than 30 min	12	4.28%
2	Physicians Room n = 280	Less than 10 minute	58	20.71%
		10 min to 20 min	62	22.14%
		20 min to 30 min	134	47.85%
		Greater than 30 min	26	9.28%
3	Laboratory Service n= 126	Less than 20 minute	22	17.46%
		20 min to 40 min	46	36.50%
		40 min to 60 min	52	41.26%
		Greater than 60 min	06	4.76%
4	X- ray &Ultra Sound n = 88	Less than 20 minute	31	35.22%
		20 min to 40 min	44	50%
		40 min to 60 min	09	10.22%
		Greater than 30 min	04	4.54%
5	Pharmacy Service n = 280	Less than 10 minute	62	22.14%
		10 min to 20 min	166	59.28%
		20 min to 30 min	32	11.42%
		Greater than 30 min	20	7.14%

6.3 Level of satisfaction

In the present study assessment was conducted on the satisfaction level of the respondent toward the service rendered by the OPD of Dessie Referral Hospital by gathering the response from the respondent . Patients who scored 3 or more are considered as satisfied while those who scored less than 3 are considered as unsatisfied. The mean of total score was found to be 15.11. For total satisfaction those securing equal and more than mean were labeled as satisfied. Similarly, those securing less than mean were classified as unsatisfied.

It was noted that 785 (74.47%) respondents showed total satisfied towards various OPD services while 269 (25.76%) were showing total Unsatisfied.

Table : Waiting time and satisfaction level

Total waiting time	No of respondents in (%)	Total

	Total Satisfaction	Dissatisfied	
Less than 30 min	**172(86.86%)**	**26(13.13%)**	**198(100%)**
Greater than 30 min	**18(21.95%)**	**64(78.04%)**	**82(100%)**
Total	**190(67.85%)**	**90(32.14%)**	**280(100%)**

(X2 =53. 07, d . f =1 , p 0.001)

It was noted that 185 (66.07%) respondents were satisfied about the registration services while 95 (33.92%) respondents were unsatisfied. These respondents were unsatisfied about the waiting area near registration counter and about communication and information provided by registration counter clerk.

As far as physicians services are concerned, 206 (73.52%) were satisfied while 74 (26.42%) were unsatisfied about physician's services. These respondents were unsatisfied about the examination done by doctor, about the advice given by doctor and about the time taken by the doctor for examination.

I t was found that out of the 58 patients who spent less than 10 minutes at OPD, 30 were satisfied about the OPD services while 28(48.27%) were dissatisfied. Out of 222 respondents who spent more than 10 minutes with the doctor for their illness 192 (86.48%) were satisfied with the doctor's services rendered for him or her while 30 (13.51%) were dissatisfied. There is significance statistical association between less waiting time satisfaction expressed about OPD service. Statistically this association is significant. (X2 = 33. 83, d . f. =1, p < 0.05) .

Table: Distribution of respondents by time spent with doctor for health check up and their satisfaction about it .

Time spent with doctor	No of respondents(%)		Total
	Satisfied	Dissatisfied	
Less than 10 min	30(51.72%)	28(48.27%)	58(100%)
Greater than 10 min	192(86.48%)	30(13.51%)	222(100%)
Total	222(79.28%)	58(20.71%)	280(100%)

(X2 = 33. 83, d . f. =1, p < 0.05)

It was found that out of 198 respondents who spent less than 30 minutes at OPD, 172(86.86%) were satisfied about the OPD services while 26 (13.13%) were unsatisfied. Out of 82 respondents who spent more than 30 minutes at OPD to avail services, only 18 (21.95%) were satisfied while 64(78.04%) were unsatisfied. There is a significant statistical association between less waiting time and satisfaction expressed about OPD services. (X2 = 53.07, d .f. =1 , p 0.001)

It was found that out of the 126 respondents who visited the laboratory, 106 (84.12%) respondents were satisfied about services rendered by laboratory while only 20 (15.87%) were unsatisfied about these services. The reason for their dissatisfaction was –required more time for the laboratory investigations .

Out of the 88 patients who visited the x- ray and ultrasound department for farther radiological investigation procedure, 56 (63.63%) respondents were satisfied about services rendered by the radiological department while only 32 (36.35%) were unsatisfied with the services given by the radiological department. The reason for their dissatisfaction was –required more time for the investigations like x-ray etc.

About the pharmacy services, 232 (82.85%) were satisfied while 48 (17.14%) were unsatisfied about the services. Their dissatisfaction is related to non availability of drugs and arrogant behavior of the pharmacy staff.

Table: Distribution of respondents response of satisfaction to ward various OPD service by time spent with the service and their satisfaction about it .

Various service area	Level of satisfaction in %				
	Number of satisfied patient			Number of dissatisfied patient	
score	5(very satisfied)	4(satisfied)	3 (neutral)	2(dissatisfied)	1(very dissatisfied)
Registration service	25(8.92%)	68(24.28%)	92(32.85%)	61(21.78%)	34(12.14%)
Physician service	36(12.85%)	72(25.71%)	98(35%)	52(18.57%)	22(7.85%)
Laboratory service	11(8.73%)	45(35.7%)	50(39.68%)	11(8.73%)	9(7.14%)
Pharmacy service	22(7.85%)	96(34.28%)	114(40.71%)	31(11.07%)	17(6.07%)
X-ray& Ultrasound	8(9.09%)	22(25%)	26(29.54%)	18(20.45%)	14(15.90%)
Over all the OPD	102(9.67%)	303(28.74%)	380(36.05%)	173(16.60%)	96(9.10%)
Total satisfaction score	785 (74.47%)			269 (25.76%)	

6.4 Reasons contributing to long waiting time

Each patient required 73.25 minutes waiting time to avail the OPD services. Various reasons contributing to long waiting time were- registration clerk not attending duty on time, taking more time to register the patient, difficulties in locating rooms, rush, doctors coming late on duty, doctors, pharmacists talking on mobiles, VIP patients jumping queue etc. Total satisfaction with OPD services was observed in 74.47 % percent respondents. Association was observed between waiting time and total satisfaction and between times spent with doctor and total satisfaction.

Chapter - Seven : Discussion

Patients visiting the hospital require several activities to perform at the OPD. Adding mean time of different activities a patient required 73.25 minutes on an average as waiting time. Afzal in his study showed that patients waiting time at medical OPD was 2.35 hours.[19]

Unlike the present study, this study included the consultation time with the physician as well as the time taken for the investigations. Aswar Nand keshav R and Ershad Ur Rahim et al in their study found that to avail OPD services each patient spent an average 75.5 and 66.64 on minutes, respectively.[20] This finding is similar to the present study. According to standard operating procedures of OPD for district level hospitals waiting time for collection of OPD ticket is one minute, waiting time of 2-3 minutes for dispensing medicine and time for lab investigation is 10 minutes.[21]

In comparison to these standards waiting time, the findings of this study showed that it is rather longer. The various factors contributing such long waiting time were- registration clerk not attending duty on time, taking more time to register the patient, difficulties in locating rooms, rush, no one to help, doctors coming late on duty, doctors , pharmacists talking on mobiles, VIP patients jumping queue etc. Most of these problems could be overcome with little efforts from the part of health care providers. Appropriate markings showing directions, increase number of man power, making compulsions to attend duty on time, switching off mobile or its meticulous use during duty hours and sympathetic approach of the staffs will help to reduce the OPD waiting time and to increase their satisfaction towards services rendered. In the present study total satisfaction with OPD services was observed in 74.47% of the respondents. This result is little bit more than that observed by Patavegar et al [22] and Chetwynd S.J.[23] In their studies total satisfaction was 50.89% and 49% respectively.

In the study conducted by Aswar Nandkeshav R and Ranjeeta Kumari et al,[24] total satisfaction was found to be 65 % and 73% respectively. In the present study, statistically significant association was International observed between waiting time and total satisfaction and between times spent with doctor and total satisfaction . Similar type of findings was also observed by Patavegar et al.[22] Patients visiting the OPD are already in pain or sufferings. Naturally they want to visit doctor to take treatment as early as possible so that they get relieved from sufferings. Patients who wait for longer time naturally had less satisfaction level.

Chapter eight: Conclusion and Recommendation

8.1 Conclusion

Thus improving the satisfaction of patients towards health care services by reducing their waiting time, by attending the patient in time and with sympathetic approach will help to create a positive image of hospital in the mind of people and also will help hospital image building in the community.

8.2 Recommendation

Improving patient's satisfaction towards health care services by reducing their waiting time, attending the patient in time and sympathetic approach will create a positive image of hospital in the mind of people and also will help hospital image building in the community.

So, I recommend that to the concerned body at Dessie Referral Hospital that, most of these problems could be overcome with little efforts from the part of health care providers. Appropriate markings showing directions, increase number of man power, making compulsions to attend duty on time, switching off mobile or its meticulous use during duty hours and sympathetic approach of the staffs will help to reduce the OPD waiting time and to increase their satisfaction towards services rendered.

The other recommendation goes to Amhara Region hospital management at referral level and in particular to Dessie Referral Hospital management to establish what outpatients expect from their visit, in order to improve their services in a wide range of areas.

The last but not the list recommendation goes to any concerned body that concerns the present study would be an important input in providing recommendation(s) on how to improve the health service delivery that will be helpful to fill gaps, which ultimately contribute to enhance patient satisfaction in the OPD of any Hospitals. The various factors contributing such long waiting time were-registration clerk not attending duty on time, taking more time to register the patient, difficulties in locating rooms, rush, no one to help, doctors coming late on duty, doctors , pharmacists talking on mobiles, VIP patients jumping queue etc.

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Annex:

Annex -A- Questionnaires

PART - 1 - Socio Demographic

S. no	Variable	code
1	Age	
2	Sex	A. Male B. Female
3	Level of education	A. less than grade 6 B. less than grade 12 C. grade 12 and above D. Degree and above
4	Type of visit	A. New visit B. Follow-up visit C. Referral visit

PART - 2 - Waiting time in each service point

No	Service Area	Waiting time in minutes /Service Waiting time in minutes/	
1	Registration Room	SST (…………....) - EST(…………….)	
2	Physicians Room		
3	Laboratory Service		
4	X- ray & Ultra Sound		
5	Pharmacy Service		
6	Over all the OPD		

PART - 3 - Level of Satisfaction at each service point and over all the OPD
1. At Registration Room

Service point	Criteria	Level of satisfaction/ Score/				
		5 very satisfied	4 satisfied	3neutral	2 dissatisfied	1 very dissatisfied)
Registration Room	Waiting time at registration					
	Courtesy of the staff					
	Staff concerns to explain the required service					
	Comfortable of the waiting area /room/					
	Degree to which you are satisfied with Registration Service					

2. At Physicians Room/ chamber/

Servic	Criteria	Level of satisfaction/ Score/

24

e point		5very satisfied	4 satisfied	3neutral	2dissatisfied	1very dissatisfied)
Physicians Room	Waiting time at the doctor station					
	Courtesy of the doctor					
	Doctor concerns to explain the problem					
	Doctor concerns for privacy					
	Comfortable of the waiting area/room/					
	Degree to which you are satisfied with the Physicians service					

3. At X- ray & Ultra Sound

Service point	Criteria	Level of satisfaction/ Score/				
		5very satisfied	4 satisfied	3neutral	2 dissatisfied	1very dissatisfied)
X- ray & Ultra Sound	Waiting time at the x - ray &Ultra sound					
	Courtesy of the staff					
	Staff concerns to explain the problem					
	Staff concerns for privacy					
	Comfortable of the waiting area/room					
	Degree to which you are satisfied with the x - ray & Ultra sound service					

4. At Laboratory Service

Service point	Criteria	Level of satisfaction/ Score/				
		5 very satisfied	4 satisfied	3neutral	2 dissatisfied	1 very dissatisfied)
Laboratory Service	Waiting time at the laboratory service station					
	Courtesy of the staff					
	Staff concerns to explain the problem					
	Staff concerns for privacy					
	Comfortable of the waiting area/room/					
	Degree to which you are satisfied with the laboratory service					

5. At Pharmacy Service

Service	Criteria	Level of satisfaction/ Score/

e point		5 very satisfied	4 satisfied	3neutral	2 dissatisfied	1 very dissatisfied)
Pharmacy Service	Waiting time at the pharmacy service station					
	Courtesy of the staff					
	Staff concerns to explain the problem					
	Staff concerns for privacy					
	Comfortable of the waiting area/room/					
	Degree to which you are satisfied with the pharmacy service					

6. Over all the OPD

Service point	Criteria	Level of satisfaction/ Score/				
		5 very satisfied	4 satisfied	3neutral	2 dissatisfied	1 very dissatisfied)
Over all the OPD	Degree to which you had to wait for the overall the service in the OPD					
	Courtesy of the staff					
	Degree for which the staff cared for you					
	Comfortable of the waiting area					
	Clear sign & Direction					
	Hospital Environment clean lines					
	Degree to which you are satisfied with overall the service					

PART - 4 - Open ended questions

1. List reasons that are contributing to long waiting time at each station of the OPD

A. At registration room

1……

2……..

3………………………………………………………………………………………………………

B. At physician chamber

1…….

2……..

3……..

C. At laboratory room

1…….

2……..

3………………………………………………………………………………………………………

D. At x-ray and ultrasound room

1……

2……..

3……..

E. At pharmacy room

1……

2……

3……

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical Conduct of the research project and for provision of required progress reports as Per terms and conditions of the Research Publications Office in effect at the time of Grant is forwarded as the result of this application.

Name of the student: _____

Date._____   Signature _____

APPROVAL OF THE FIRST ADVISOR

Name of the first advisor:_____

Date. _____   Signature _____

APPROVAL OF THE SECOND ADVISOR

Name of the first advisor:_____

Date. _____   Signature _____