THE EFFECT OF HEALTH SERVICE DELIVERY QUALITY ON PATIENTS SATISFACTION: THE CASE OF BLACK LION AND ZEWDITU MEMORIAL HOSPITALS

A thesis submitted to the Graduate program of the Department of Management and the College of Business and Economics of Addis Ababa University

In partial fulfillment of the requirements for the Degree

Master of Business Administration

In Management

By: Nardos Lemma Mengistu

Addis Ababa University

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June, 2024

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Certification of Approval

ADDIS ABABA UNIVERSITY

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DEPARTMENT OF MANAGEMENT

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Declaration

I, the undersigned, declare that this research project is my own work and effort and it has not been submitted anywhere for any award. Where other sources of information have been used, they have been duly acknowledged.

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Date: June 28/2024.

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Signature: (advisor)

Date: 28 June 2024

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List of Abbreviations and Acronyms

OPD: Outpatient Department

AOPD: Adults' out patent Department

FDRE: Federal democratic republic of Ethiopia

AAU: Addis Ababa University.

SERVQUAL: Service Quality

SPSS: Statistical Package for Social Science

HSDP: Health Sector development program

AARHB: Addis Ababa regional health bureaus

Abstract

This study examines the effect of hospital service delivery quality on patients' satisfaction in Black Lion and Zewditu Memorial hospitals in Addis Ababa. A quantitative research approach is used with Multiple Regression analysis as the main data analysis technique to analyze data collected through a self-administered questionnaire distributed to out-patients of Black Lion and Zewditu Memorial Hospitals. Patient perception of hospital service quality was measured using the SERVPERF model.

The findings of this study indicate that hospital service quality significantly affects patient satisfaction in these hospitals. From the service quality dimensions, the highest positive significance is from Responsiveness, followed by Empathy, assurance, reliability, and tangibles in descending order. Patients are unsatisfied most of the time and Service quality is not tangible and responsive enough.

Keywords: service delivery, service quality, customer satisfaction, Health, Hospital.

CHAPTER 1: INTRODUCTION

1.1 Background of the study

Health is a basic necessity. Healthy people in a country are important for human development, economic advancement, and a thriving society. Health supply is a service given to clients, it has been explained in terms of service delivery that involves customers within the consumption process. (FDRE, 2016) Service delivery that is not appropriate harms the clients to the extent of costing a life. For this reason, to take the standard of the health care system one step higher, the evaluation of patient satisfaction plays a central role. (Samson, Waju , & Fikru, 2015).

Healthcare is one of the fastest-growing services in the world (Dey, Hariharan, & Brookes, 2006).

In the modern era, private and public organizations aim for Service quality and customer satisfaction as their leading purpose, because customers demand adequate and effective responses at the right time. The public sector emphasizes on quality and satisfaction issues because it acts on the socio-economic level (vinagre & Naves, 2007). Quality and client satisfaction issues are the primary focus of Managers and practitioners because of the public sector's importance. Thus, discussing and going deep regarding service quality from different angles has an undeniable significance.

Service is not storable, it is a process that is created a result of an interaction between buyer and seller, and customers play a vital role in the process of production. It is produced, distributed, and consumed at the same time. Service is characterized by inseparability, intangibility, and heterogeneity. (Grönroos, 1984; Gro¨nroos, 2000). The customer perceives a service in the package of production processes in addition to the production. When a customer describes his/her experience regarding a service, it is rooted in the interactions between him/her, and organizations, related systems/processes, and service employees. This interaction in turn influences Customer satisfaction and customer perceptions. (Surprenant & Solomon, 1987).

When it comes to Healthcare, satisfaction is a quality component, taken as a service quality indicator. Thus, its value has been emphasized, especially in developing countries like ours. Strength of healthcare systems can be viewed from the angle of how healthcare providers deliver quality and value to patients (Radhika, Assaf, & Al-Assaf, 2007) (Zineldin, Camgo¨z-Akdag˘, &

Vasicheva, 2009). Measuring the satisfaction rate of patients helps to facilitate hospital service management, and maintains the quality of the service provision (Andaleeb, 1998).

In Ethiopia, the not-so-developed health status of people is not hidden, especially in the rural areas. For example, in the west Amhara region, services offered by health centers and hospitals showed weak health care management system due to insufficient health care service provision. There are gaps in supply, staffing, and an immature infection prevention system (Derebe, Shiferaw, & Ayalew, 2017). Tatek, Woldie, and Ololo said that the reason for our community's poor health status is the immaturity of socio-economic development, which causes underdeveloped social services and poor environmental conditions (2012). This indicates that our healthcare system bears a serious deficiency in efficiency, accessibility, and quality. These problems have impacted the provision of quality healthcare service and patient satisfaction.

As mentioned earlier, it is a necessity to assess the client's satisfaction with healthcare to improve the standard healthcare system, especially in institutions like Black Lion which is a pillar and a pioneer healthcare institution In Ethiopia.

Therefore, this study examines the effect of hospital service delivery quality on patients' satisfaction in Black Lion and Zewditu Memorial hospitals.

1.2 Statement of the problem

The quality of health service delivery significantly influences patient satisfaction, yet the relationship between these two aspects is complex and multifaceted. Despite numerous studies exploring patient satisfaction and its determinants, findings remain inconclusive due to the subjective nature of satisfaction, which varies greatly among individuals based on their personal expectations and evaluations of health services' attributes. This complexity is further compounded by the fact that satisfaction is not always a direct reflection of the actual quality of care received, as it can be influenced by various factors including communication with healthcare providers, the environment, and administrative systems (Ferreira, Inês , Pedro, Caldas, & Miguel Varela, 2023).

Moreover, the assessment of hospital service quality involves navigating through numerous criteria and qualitative factors that are challenging to quantify. While some studies focus on uncovering factors associated with overall satisfaction or willingness to recommend a healthcare facility, others explore different dependent variables such as the willingness to return, satisfaction

with medical services, and the quality of medical information provided. This diversity in approaches highlights the need for a comprehensive understanding of what contributes to patient satisfaction and how it can be effectively measured and improved (Ruba Risheed & Khaled Banyhamdan, 2020).

Problems regarding healthcare service quality encompass several critical issues that hinder the provision of optimal care to patients. These challenges are multifaceted, affecting the effectiveness, safety, timeliness, equity, integration, and efficiency of healthcare services.

The Ethiopian government tries to improve healthcare customer satisfaction by developing a guide, the Health Sector Development Program (HSDP). It is a sectorial document within the government's overall five-year national vision to guide the rules of engagement in the health sector (FDRE, CSA, 2016). Despite this, still significant complaints are raised every day from both health professionals and patients side.

There are complaints raised by both the public and the private sectors. Customers complain about the competencies of the healthcare workers, especially health professionals, and the interests of the clients are not being met. Patients also complain about the absence of specialists, long waiting times, lack of attention, poor handling of patients, unavailability of treatment at the right time, lack of proper laboratory and imaging investigations, and poor relationship between patients and caregivers (Tatek, Woldie, & Ololo, 2012). According to research carried out to assess customer satisfaction in the health service of private and government hospitals, most of the patients who are admitted in hospitals have critical cases because the healthcare service given for patients is not qualified enough.

From the health professional's side, some of the issues raised are weak healthcare management system, shortage of medical equipment, lack of specialized staff, inadequate infection prevention, high patient flow, and poor sanitation of the working environment (Fekadu , Andualem, & Yohannes, 2011).

Association between Volume and Quality: The study found a small but statistically significant association between the volume of patients seen by a facility and the quality of care provided. Specifically, facilities with lower patient volumes tended to have higher quality scores, while those with higher volumes showed a decrease in quality. This suggests that as patient volumes increase,

the quality of care might decline due to factors such as overcrowding, longer wait times, and reduced attention to individual patient needs (Arsenault, et al., 2021).

The problems raised on healthcare service quality emphasize the need for a comprehensive approach to addressing the multifaceted challenges facing healthcare systems worldwide.

All the concerns raised by patients and health professionals imply that the healthcare system has a significant gap in providing a quality healthcare service to its customers (to the community).

1.3 Research Gap:

Previous studies in Ethiopia have focused on assessing overall customer satisfaction in healthcare settings, but there is a lack of comprehensive research specifically examining the relationship between health service delivery quality and customer satisfaction in major pioneer hospitals such as Black Lion and Zewditu Memorial Hospitals. While some studies have identified general challenges in the public healthcare system, such as long waiting times, inadequate infrastructure, and limited access to specialized care, there remains a gap in understanding how these, along with other service quality dimensions directly impact patient satisfaction and their overall perception of healthcare services in Black Lion and Zewditu memorial hospitals.

1.4 Research questions

1.4.1 General research question

To what extent does the hospital service delivery quality meet the satisfaction of patients in Black Lion and Zewditu Memorial hospitals?

1.4.2 Sub research questions

- Does specialized health care provider reliability has a statistically significant effect on patient Satisfaction?
- Does tangibles have a statistically significant effect on patient satisfaction?
- Does health provider responsiveness have a statistically significant on patient satisfaction?
- Does assurance have a statistically significant effect on patient satisfaction?
- Does health provider empathy have a statistically significant effect on patient satisfaction?

1.5 Objectives

1.5.1 General objective:

To examine the effect of health service delivery quality on customer satisfaction in Black Lion Hospital and Zewditu Memorial Hospital outpatient departments.

1.5.2 Specific objectives:

- To examine specialized health care provider assurance and its effect on patient satisfaction
- To assess if Reliability has a statistically significant effect on patient satisfaction
- To investigate if tangibles have a statistically significant effect on patient satisfaction
- To examine whether responsiveness of the health care system has a statistically significant effect on patient satisfaction
- To assess if healthcare provider empathy has a statistically significant effect on patient satisfaction

1.6 Significance of the study

This study has aimed to help the responsible managerial bodies of hospitals about how to improve service quality by focusing on important specific characteristics of healthcare. In addition, it is important for general and public hospitals so they can understand the needs of their customers so that they can retain them.

The findings of this study will serve as a guide for Ministry of Health and policymakers to develop policies that will improve overall service delivery. The findings of this study may allow the stakeholders to gain relevant information about the effect of hospital service quality on patient satisfaction. The study also makes important theoretical contributions to the understanding of customer satisfaction and service quality in healthcare. Furthermore, the study will serve as one step for academicians who may wish to focus on similar topics and issues, particularly on the effect of service quality on patients' satisfaction

1.7 Scope of the study

The scope of the study is limited to studying the effect of hospital service delivery quality on patient satisfaction found in outpatient departments of Black Lion and Zewditu Memorial Hospitals. Patients must aged above 17, willing to participate in the study and with at least 1 visit.

These hospitals are found in 2 different geographical areas in Addis Ababa, Ethiopia. When compared with other areas, the capital city has better health facilities both in governmental and private sectors.

1.8 Limitations of the study

- The unwillingness of some patients to fill the questioners, and time and cost constraints
- The unexpectedly longer time was taken to take ethical clearance from Addis Ababa Regional Health Bureau.

1.9 Definition of Terms

- Service Quality: is the measurement of how the customers' expectations are met.
- Reliability is the capability to execute the guaranteed benefit of service consistently and precisely.
- Assurance is that the ability of employees to transfer faith and confidence,
- Tangibility is the physical appearance of facilities, equipment, and employees,
- Empathy is a customized service to individuals.
- Responsiveness is the preparedness to support customers and supply quick service.
- Patient Satisfaction: can be defined as the patient's judgments on the standard of care, particularly the interpersonal relationships with clinicians and other care providers.
- Outpatient Department (OPD): It is one of the healthcare departments, prepared for patients whose conditions do not require them to take a bed.
- Inpatient Department: This department handles patients who are required to be treated bound to bed.

1.10 Organization of this Thesis

The thesis is organized into five chapters. The first chapter discusses about the background of the study, statement of the problem, basic research questions, objectives of the study, research hypothesis, definition of terms, and the significance of the study.

The Second chapter reviews literature related with the subject matter of the study. It covers the theoretical, empirical, and conceptual literatures associated with the subject.

The Third chapter is about the research methodology, it clarifies about the research approach, research design, the source of data, data collection method, data collection instrument, data analysis method, and research ethics related issues.

The fourth chapter, under the title of research methodology, provides information on data presentation, analysis, Interpretation, and discussion of the findings of the study.

The final and the fifth chapter of this thesis paper provides information on data presentation, analysis, Interpretation, and discussion of the findings of the study.

Chapter 2 : REVIEW OF RELATED LITERATURE

2.1 Theoretical literature

2.1.1 Service

Various disciplines, like marketing, management, and economics defined the concept of service. Overall, these definitions mostly emphasize the intangible nature of services, their customer orientation, and the exchange of something valuable between the service provider and the customer.

Services are regarded as having an inherent economic value. Service is a process of transaction, indirectly expressing the interaction of consumers and providers. It is a way of providing an intangible, yet valuable economic activity to customers (Frauendorf, 2006). This value exchange involves the customer paying for the service received, which has intangible benefits. In the middle of or at the end of the exchange process, the service is not owned by any party. (kotler & keller, 2008).

2.1.2 Service quality

Before decades, despite customer wants and needs, the content of the delivered service or material took the focus of quality of care perceptions (Peterson, 1963). As per Densen (1965), the quality aspect of healthcare was judged primarily from the perspective of medical knowledge. Other perspectives were the qualifications of professionals, managerial capability, and equipment-related issues (Sheps, 1955).

However, this is no longer true. Internal factors are not solely used as a factor to analyze quality. The customer's point of view takes the lion's share of quality assessment. Thus, the definition set by different authors summarized quality as the difference between service expectation and consumer experience (Parasuraman, Zeithaml, & Berry, 1985). Hence, as a customer or consumer of health care, patients and their expectations are at the center of healthcare service delivery (Duggirala, Rajendran , & Anantharaman, 2008).

In service exchange, quality is mostly viewed as an output of the interaction between the providing and the receiving parties. Thus, the characteristics of the interaction is important to the final output of the service (Owusu-Frimpong, Nwankwo, & Dason, 2010).

2.1.3 Distinctive Characteristics of Services

Service should be characterized for its effective operation. Service is characterized by its intangibleness, perishability, variability, and inseparability from its provider (Pirrie & Mudie, 2012).

- Intangibleness: services can't be appreciated by any of our sense organs unless it is during the process of consumption.
- Inseparability: services are produced, sold, and consumed simultaneously.
- Perishable: services can't be reserved for later use.
- Variable: The standard of service may be different depending on the providing party, the time of provision, or how it is provided.

2.1.4 Service quality dimensions

Many literatures have been developed having service quality as a topic. The same is true for service quality dimensions, which serve as a framework for quality analysis.

As mentioned above, most definitions of service quality are set by having customers at the center. Hence, it is important to identify distinct facets of quality from the consumers' perspective. Gronroos' (1984) work is widely accepted as a pioneer in service quality research. He identified dimensions of service quality as the following

1. A technical dimension; and
2. A process/functional dimension

The technical dimension is about what is being provided, and functional dimension focuses on the process, it is about how the service is being provided. To estimate the quality of health services, functional dimension from patients' perspective has been chiefly used because most customers lack medical proficiency to assess the technical attributes (Buttle, 1996). Later, Gronroos (1990) added service providers' "image" as a third component or dimension of service quality.

Currently, in service marketing literatures, SERVQUAL is the most commonly cited instrument as a service quality frame work (Padma, Chandrasekharan, & Sai, 2009).

Parasuraman and Berry (1985) put forward that service quality is related with the difference or gap between provider's performance and customer's expectation. They called this assumption the

"Gap Model". Later again, they modified the "Gap model" and came up with a refined scale to measure service quality, which they named SERVQUAL (Parasuraman & Berry, 1988). In this model, five dimensions were identified by taking into account the customers' expectations and perceptions. They developed twenty-two attributing statements that helped them to explain the five dimensions (Parasuraman & Berry, 1988). These dimensions are explained as the following (Padma, Chandrasekharan, & Sai, 2009).

- **Reliability** is the ability to execute services precisely, and error-free.
- **Assurance** is an employee's capability to serve with confidence.
- **Tangibility** relates to the physical entities of facilities,
- **Empathy** is the individualized service to customers. (Alnsour, Tayeh, & Alzyadat, 2014)
- **Responsiveness** is the preparedness to support customers and supply quick service (Upal M, 2008)

In the hospital and healthcare setup, SERVQUAL is found to be a reliable and valid model to assess service quality (Babakus & Boller, 1992). It fits to spot what healthcare stakeholders miss about patients' expectations from the services (O'Connor , Trinh , & Shewchuk , 2001). SERVQUAL plays a vital role in catching gaps between what patients want and what they actually get (Haywood-Farmer & Stuart, 1988). In hospitals found in Bangalore, it is evidenced that the SERVQUAL instrument can be used as a standardized procedure to analyze interpretations and final results (Rohini & Mahadevappa, 2006). According to Chunulaka (2010), SERVQUAL helps to have an insight into customer's values and how those values are met according to the expectations of patients. Hong and Victor (2009) stated that all of the dimensions in this model are significant and they are proven to be reliable.

SERVQUAL instrument is the most widely used tool to measure patient satisfaction (Sohail, 2003). A literature survey made by Dr Ranajit and Anirban (Oct. 2011) noted that there is a difference in how this instrument is applied, some studies make use of it as it is, using all five dimensions. However, some other studies may add or omit dimensions in their studies. Overall, even though the variation is there, researchers apply the modified version of the same SERVQUAL instrument.

For example, Zeneldin (2006) is one of the researchers who modified SERVQUAL. He pointed out that to analyze the relationship between quality and patients' satisfaction in Health care, there must be more to be involved from other dimensions in addition to technical and functional aspects. He expanded the model proposed by Gronroos (technical-functional) and the SERVQUAL model into the following dimensions which is called the 5Qs framework

1. Object – technical quality, which measures what patients treatment, the main reason patients visit hospitals
2. Processes – functional quality, this dimension explains how these services are delivered in a healthcare setup.
3. Infrastructure – basic resources and set of facilities that are important to perform healthcare services. It can be in the form of physical structures or internet access.
4. Interaction – transaction of information about appointments, duration of time taken by health care workers to understand patient's needs, financial transactions, and social exchange'
5. Atmosphere – specific operation environments. Poor care can result from an unfriendly environment.

Yet, despite its criticism and limitations, SERVQUAL is still applied in different healthcare organizations to measure service quality and patient satisfaction-related factors (Dr. Ranajit & Anirban , Oct. 2011). SERVQAL model applies a questionnaire that allows customers to rate their expectations and perceptions on a Likert scale. Cronin and Taylor (1992) disagreed with this measurement scale. They proposed that measuring service quality in terms of performance only is sufficient and they came up with a performance-only scale which they called SERVPERF. SERVPERF is a SERVQUAL model that excludes the patient's expectation as an item. This model is suitable in a Tertiary hospital setup where sophisticated and higher-order medical treatments are given. Patients' expectations can be biased in these setups because patients mostly lack medical knowledge.

2.1.5 Customer Satisfaction

> "A customer is the most important visitor on our premises. He is not dependent on us. We are dependent on him. He is not an interruption in our work. He is the purpose of it. He is

not an outsider in our business. He is part of it. We are not doing him a favor by serving him. He is doing us a favor by giving us an opportunity to do so" (Mahatma Gandhi)

Satisfaction is a psychological concept. It is a personal judgment developed over time about the experience of an event or an object.

Traditionally, quality in healthcare had been explained from the perspective of Physicians; since many healthcare professionals believe that patients lack the intellectual know-how to assess care (Berwick, 1997) , but in recent years, the focus has been on how patients perceive the delivery of healthcare.

Customer satisfaction is defined as a quality of care from the customer's perspective (Beatty, Richmond, Tepper, & Dejong, 1998). Patient-focused healthcare organizations plan, implement, and evaluate their service delivery system considering patient satisfaction. They consider it crucial for the process. Setting a standard through fulfilling the satisfaction of patients is very important for the achievement of healthcare quality (Ramachandran & Cram, 2005).

2.1.6 Service quality and satisfaction:

There is a strong link between service quality and satisfaction, this goes to the extent of defining quality as perceived satisfaction in other industries (Smith & Swinehart, 2001).

In both the service and manufacturing industries, quality improvement increases the purchase intention of customers through increasing their satisfaction. Quality is the key determinant of consumer satisfaction (Oliver, 1980).

Service quality keeps a company in the long run because it keeps its customers through increasing their satisfaction. Service quality is the way to customer satisfaction (Parasuraman, Zeithaml, & Berry, 1985).

When we come to healthcare, as a customer, the main beneficiary of a good healthcare system is clearly the patient. So it is the patient who is the focus of the healthcare delivery system. (Anantharaman, Mayuri, & Chandrasekharan, 2008)

Factors that influence Competitiveness among healthcare organizations are patient satisfaction, continuous healthcare service improvement, and overall doctor-patient relationship (M Z. , 2006).

In patient-focused healthcare organizations, patients and their satisfaction are considered the most crucial points in the planning, implementation and evaluation of service delivery. Indeed, the patient is the center of healthcare's quality agenda. In fact, meeting the needs of the patient and creating healthcare standards are imperative to achieve high quality (Ramachandran & Cram, 2005)

2.2 Empirical Literature Review

In the Ethiopian context, there are different research studies done about service quality and customer satisfaction relationships through different disciplines like the banking industry, insurance, hotel sector, etc. The topic is raised and given appropriate attention many more times than the healthcare industry. But, concerning the matter, the healthcare industry didn't get the attention as much as it needs it. Even it is not as much, Fikirte (2016), Tatek, Woldie and Ololo (2012), and Fekadu, Andualem, and Yohannes (2011) are mentioned among the few who studied service quality and customer satisfaction relationship in the healthcare sector in Ethiopia. The researcher tried to look for studies, however, there is no research done about the effect of hospital service delivery quality on patient satisfaction in pillar tertiary hospitals that give service to general public civilians like Black Lion and Zewditu Memorial Hospitals.

Studying the tie between service quality and customer satisfaction has become important for researchers in the last few years. These studies analyzed the relationship between service quality and customer satisfaction and it was found that the more quality is found in services, the more patients are satisfied (Pollack, 2008).

One of the determinants of customer satisfaction is Word of mouth. Its significance is not obvious for all, but, it affects the level of customer perception about the quality of service (Qadeer, 2014). An inherent need drives a customer to seek a service, and word of mouth is powerful enough to change customer perception and expectations regarding a service. Therefore Service performance along with word of mouth has the strongest impact on customer decisions about intentions of purchasing or declining a service, or satisfaction or dissatisfaction with a service. Therefore, it has a paramount importance for service providers to focus on their customer interaction skills.

Customer satisfaction in healthcare

The number of studies about service quality-patient satisfaction has increased for the past few years. This indicates that service quality improvement concepts has become more imperative over

the years. The focus has been on the importance of patient's views as an essential instrument to the process of service quality evaluation and improvement in healthcare. (Badri, Attia, & Ustadi, 2008). Patient's satisfaction influences clinical outcomes, patient retention, and reduces the likelihood of medical malpractice. Patient's service quality perceptions determines patient's decision about choice of his/her healthcare provider through satisfaction as a mediator (Andaleeb S. , 2001). An early study done by Donabedian (1988) indicated that patient satisfaction is a key outcome of care. The study conducted by many authors on the factors affecting patient satisfaction and healthcare quality revealed that the relationship between healthcare quality and patient satisfaction is significant.

The study carried out on determinants of customer satisfaction within hospitals showed that perceived competence of the hospital staff had the greatest impact on customer satisfaction. The quality of communication and the general condition of the facilities were also significant but not that much in explaining customer satisfaction with the hospital service. Besides, a clean and organized appearance of hospitals, their staff, their premises, restrooms, equipment, wards, and beds can influence patient impressions of the hospital. However, it cannot explain patient satisfaction at the primary health care unit.

Several patient characteristics have been associated with patient satisfaction including demographic factors, socio-economic status, and general health status. Satisfaction is also influenced by how healthcare is delivered, the type of healthcare setting, and the Characteristics of the medical provider, such as experience, age, and gender, are related to patient satisfaction (Naidu, 2008).

A study conducted in Bangladesh on patient satisfaction with health services by Andaleeb S (2007) showed that the service orientation of doctors was found to be the strongest factor influencing patient satisfaction in hospitals. Similarly, a study conducted by Habib (2011) on the topic of patient satisfaction in tertiary private hospitals in Dhaka revealed that environmental conditions, delivery time, patient /provider relationship, and ease accessibility of to the health care system they are led to a higher level of patient satisfaction. He revealed that among these variables doctor's service orientation was the most important factor explaining patient satisfaction.

The SERVQUAL model, which captures service quality in a multidimensional way, was found to be effective in assessing even slight quality indicators. This model includes tangibles, reliability,

assurance, responsiveness, empathy, accessibility, and affordability. A study involving 252 patients in Singapore hospitals concluded that improvements were needed across all six dimensions of the modified SERVQUAL model. (Diogo , Viera, & Pedro, 2023)

The study conducted at a public university hospital in Ghana utilized a quantitative research design, adopting a survey strategy through convenience sampling techniques. The study focused on outpatient department (OPD) patients, excluding those who could not speak or listen, were in serious condition, had mental health conditions, were minors, or were in-patients. The findings revealed gaps across all SERVQUAL dimensions, with responsiveness showing the widest gap, indicating areas for improvement in healthcare service delivery. Responsiveness emerges as the dimension with the most influence on patient satisfaction, followed by empathy, tangibles, assurance, and finally reliability. This order of importance suggests that how quickly and effectively healthcare providers respond to patient needs and concerns, coupled with their ability to empathize with patients, are critical factors in determining patient satisfaction (Essiam, 2013)

A survey conducted in the Harari region; in eastern Ethiopia by Birna (2006) revealed that long waiting hours during registration, visiting of doctors after registration, laboratory procedures and re-visiting of the doctor for evaluation with laboratory results, failure to obtain prescribed medications from the hospital's pharmacies and difficulty to Locate different sections were the frequently faced problems affecting utilization leading to dissatisfaction

Therefore, this study aims to measure the differences between the expected and perceived healthcare service delivery quality, evaluate customers' satisfaction level, and suggest ways to improve the service quality in Black Lion and Zewditu Memorial hospitals.

2.2.1 Research Hypotheses

According to the researcher's investigation about the best-fit variable for customer satisfaction in the case of Black Lion and Zewditu Memorial hospitals, the variables used to examine patient satisfaction are healthcare professional Reliability, responsiveness, empathy, assurance, and healthcare system tangibles. Based on a review of related literature and the objectives of the study, the following hypotheses are developed.

1. Null Hypothesis (H0):

- Health service delivery quality has no statistically significant effect on patient satisfaction.

2. Alternative Hypothesis (H)

H1: Healthcare provider reliability has a statistically significant effect on patient satisfaction.

H2: Tangibles of the health care system have a statistically significant effect on patient satisfaction.

H3: Healthcare professional responsiveness has a statistically significant effect on patient satisfaction.

H4: Assurance by health care providers has a statistically significant effect on patient satisfaction.

H5: Healthcare professional empathy towards the patient has a statistically significant on patient satisfaction.

Reliability and patient satisfaction

Reliability is a personnel quality and ability to serve accurately and dependably. It refers to the quality of all the personnel involved in delivering service (Padma, Chandrasekharan, & Sai, 2009). It consists of all the interactions between service personnel and patients including moments of truth, critical incidents, service recovery, etc. The personnel offering service are expected to be responsive, reliable, friendly, sincere, and competent by the customers. Assurance, empathy, and responsiveness dimensions are used to indicate the quality of personnel. Reliability is a competence of the service provider (Parasuraman & Berry, 1988) and in a study done in private and public hospitals in Ethiopia, perceived technical competency was found to be a predictor of patient satisfaction in public hospitals (Tatek, Woldie, & Ololo, 2012). Competency starts with an interest to serve, extending to a friendliness and welcoming approach in places of service, delivering at the time of promise, creating a sense of confidentiality and safety for customers, and many more depending on the kind of service being provided. Perceived body signaling and a welcoming approach are predictors of patient satisfaction as per Tayue, Mirkuze, and Shimelis. (2012). Therefore, it is proposed that:

H1: Reliability has a statistically significant effect on patient satisfaction.

Tangibles and patients satisfaction

Tangibles are easily seen or recognized parts of service. It is Physical evidence in a service facility (Padma, Chandrasekharan, & Sai, 2009). Hospital Physical Environment creates a better context in which patients feel empowered and experientially satisfied. (Bellio & Luca , 2021). In a hospital context, what can be easily recognized are the infrastructure, appearance of equipment, radiological, laboratory and pharmaceutical equipment through the availability of the services, and the appearance or professional look of healthcare service providers. Thus, the following hypothesis is developed

H2: Tangibles of the health care system has a statistically significant effect on patient satisfaction.

Responsiveness and patient satisfaction

Responsiveness is the third component of the service quality dimensions. Responsiveness is the readiness or quickness in responding to customers' needs. It can be manifested in availability, quickness, and willingness to help (Padma, Chandrasekharan, & Sai, 2009). Unfulfilled expectations are related to lower satisfaction. Perceived waiting time is a strong predictor of patient satisfaction in Public hospitals as evidenced in research (Tatek, Woldie, & Ololo, 2012). If waiting time is longer than what is expected or considered inappropriate, customer satisfaction will not be met. Availability and timeliness are some of the defining characteristics of quality in health care (Fikirte , et al., 2016).

H3: Healthcare professional responsiveness has a statistically significant effect on patient satisfaction.

Assurance and patient satisfaction

Assurance is the ability of workers to convey trust and confidence (Parasuraman & Berry, 1988) Patients visit hospitals having many unanswered questions about their conditions, the first of which is 'Can this healthcare worker solve the problem I am having'. Thus many questions can be raised and customers expect knowledgeable answers to their questions. After a solution or treatment is formulated, it is expected from healthcare workers to provide detailed explanations about the treatment options. Fully explained questions will elicit confidence on the patient.

H4: Assurance by health care providers has a statistically significant effect on patient satisfaction

Empathy and patients satisfaction

Empathy is the fifth component of service quality dimension. It shows how Caring and individualized attention is provided to customers. Caring is a dynamic way of approach in which healthcare workers work further to increase their concern for patient. Caring is a type of transaction between the giver and recipient of care to improve and protect the patient as a human being, and as a result affecting the patient's ability to recover. (kristyaningsih & Rusmawati, 2023)

H5: Healthcare professional empathy towards the patient has a statistically significant on patient satisfaction

2.2.2 Conceptual Framework

Any hospital should improve healthcare delivery quality to deliver service to their patients to influence patient satisfaction. From the researcher's own survey point of view, it is noted that there is an unwritten but walking misconception held by public comprehensive hospitals that implies only healthcare workers' and administration staff's opinions matter for the success of the hospitals. But the reverse is true. Provider's long-term success depends on patient's behavioral intension, which becomes favorable if customers are satisfied. Customers mostly tend to express their satisfaction by suggesting the company to others, premium payments and increasing purchase volumes. (Naidu, 2008). Especially in Hospitals like Black Lion and Zewditu, where a fund is allocated from the public one way or another, satisfied customers can be a source of funds for future developments if patients are already satisfied with the journey of the hospitals in terms of quality dimensions.

As indicated in the following figure, hospital service quality has multi-dimensional construct with five components; tangibility, reliability, responsiveness, empathy, and assurance. These five dimensions were modeled with patient satisfaction which is the dependent variable in this model.

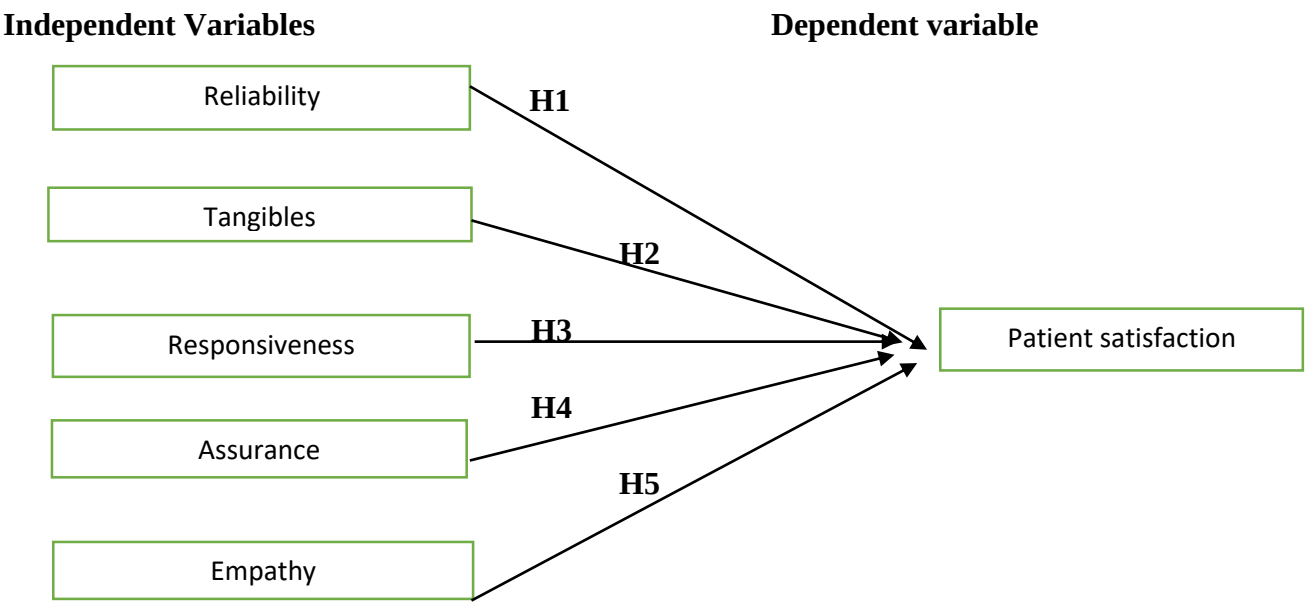


Figure 1: conceptual frame work

Source: conceptual framework developed by the researcher

Chapter 3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the implemented research methodology. Methodology is the systematic way to solve the research problems" as it is defined by (Kothari, 2004). It describes the research approach, research design/type, sampling design, source of the data, data collection method, data collection instrument, method of data analysis, and ethical issues.

3.2 Description of the Study Area

Description of the study area is the act of describing the characteristics, qualities and physical features of an area, location, neighborhood, city or community tat is being studied or investigated for research purposes (Kothari, 2004).

The study is conducted in governmental hospitals inside Addis Ababa City. Addis Ababa is the capital city of Ethiopia. There are 12 public hospitals in the capital, one of which is TASH, the largest referral hospital in the country (AAU, 2023). This study is conducted in the biggest and one of the oldest hospitals in Addis Ababa, Black Lion (Tikur Anbessa Comprehensive Hospital) and Zewditu Memorial Hospital. These Hospitals are referral hospitals and they are pioneers in Ethiopia's healthcare service in the modern healthcare industry. Several services are found in these hospitals and patients from all over the country are referred to these hospitals to get medical services.

3.3 Research approach

Research approaches are foundational to conducting scientific investigations. It guides researchers in how to collect, analyze, and interpret data to answer research questions or test hypotheses. These approaches are categorized primarily into qualitative, quantitative, and mixed-methods, each with its own set of methodologies and data collection techniques.

By taking the research objectives and questions into consideration, a quantitative research approach is used.

3.4 Research Design/Type

Research design can be defined as the arrangement of conditions for collection and analysis of data in a manner that aims to meet the relevance to the research purpose. Hence, the general objective of the research design is to facilitate the researcher to control the data process once collected and to do interpretation in a smooth way (Kothari, 2004).

Research designs or types are fundamental to the structure of a research project, guiding how data will be collected, analyzed, and interpreted to answer the research question. Three basic types of research design are; exploratory, descriptive, and explanatory (Kothari, 2004). By taking the research objectives and nature of the study into consideration, explanatory research design is used. Explanatory research aims to explain why particular phenomena work in the way that they do. It seeks to answer the question "why" by investigating the causes and effects of the phenomena being studied. As per Kothari (2004), the outcome of explanatory research is an understanding of the causal mechanisms underlying the phenomena, revealing how and why certain events or behaviors occur.

3.5 Sampling Design

Kothari (2004) defined a sample as a "small group of subjects drawn from the population in which the researcher is interested in getting the information and drawing the conclusions about the study.

A sample design is a method of selecting items for the sample. It is determined before data is collected (Kothari, 2004). It contains the target population, sampling frame, sampling technique, sample size, and sampling procedure of the study, which are discussed in this section.

3.5.1 Target population

A target population refers to the broad set of individuals or entities to which the results of a study will be generalized. A clear definition of the target population is essential for generalizing the study's findings. Without a well-defined target population, it becomes difficult to ascertain the applicability of the research outcomes to other similar groups. (Kelley, Clark, Brown , & Sitzia, 2003). Accordingly, the target populations of the study were all patients being served during data collection at Out Patient Department in Black Lion and Zewditu Memorial Hospitals.

3.5.2 Sampling Frame

The sampling frame is a comprehensive list of all the cases used by researchers to specify the population from which the sample will be drawn (Saunders, Lewis, & Thornhill). The sampling frame for this study was drawn from outpatient departments of the hospitals found in Black Lion and Zewditu Memorial Hospitals.

3.5.3 Sampling Technique

Sampling techniques are crucial in research for efficiently gathering data from a subset of a population to make inferences about the entire population. These techniques can be broadly categorized into two main types: probability sampling and non-probability sampling. In this study, purposive sampling and convenience sampling techniques is used in combination.

Purposive sampling, also known as judgment or selective sampling, is a non-random sampling technique where researchers intentionally select participants based on specific criteria that are closely aligned with the study's objectives. This technique is used to select the hospitals as well as departments inside the hospital (AOPD).

Convenience sampling is a non-probability sampling method where participants are chosen because they are conveniently available to the researcher. In this study, in addition to purpose sampling, a convenient sampling technique is used for respondent selection.

3.5.4 Sample size

For large populations (more than 20,000), there is an equation used to determine the sample size. (Israel, 2009). The following formula is used to determine the sample size for the study

$$N = p\,(1-p)\,(z/e)^{2}$$

Whereas:

n = is the minimum sample size required

Z = is the value corresponding to the level of confidence 95% equals to 1.96

P=0.5 (maximum variability) is the estimated proportion of an attribute that is present in the population,

q= is the proportion not belonging to the specified category which is 0.5 (1-p)

e = the desired level of precision which is (± 5%)

N = 384.

Finally, 5 % non-response is added to the sample size obtained using the above formula. The total sample size = 384 + (384 x 5%) = 384 + 19 = 403

203 sample was taken from Black Lion and 200 was taken from zewditu memorial hospitals.

3.6 Data Sources and Types

Data source can be broadly categorized into primary and secondary data sources, each serving unique purposes in the research process. Primary data sources are generated specifically for the research in question. In this research, it is the response collected from the patients found at the Outpatient Department (OPD) of Black Lion and Zewditu Memorial Hospitals.

On the other hand, secondary data sources consist of information that has been previously collected by someone else for a purpose other than the current research. It is gathered from different books, articles, journals, and different reports of hospitals to support the primary data. This study uses both sources of data.

3.7 Data Collection Instrument

The study mainly depends on primary data which is collected through a self-administrated questionnaire. The questionnaire is structured into three sections. The first section of the questionnaire is designed to obtain socio-demographic information about the respondents. The second section dealt with the issue related to the service quality dimension by using the SERVPERF model. The third section of the questionnaire will be for patient satisfaction. The questions were structured in close-ended type and responses to the questions will be measured by a Likert scale of five rating scale where:

Strongly Agree (SA) = 5; Agree (A) = 4; Neutral (N) =3, Disagree (D) = 2; and Strongly Disagree (SD) =1.

The Likert scale is used to make the questions easier for respondents to answer and permit an efficient use of statistics for the interpretation of data. The questionnaire was first designed in

English language. Then, it was translated into Amharic language before distributing the questionnaire to obtain reliable information from the respondents because different patients have different educational backgrounds.

The questionnaire was prepared by the researcher and no items were adopted from other researchers. The items for each of the variables were prepared based on the information that were provided in the literature review.

3.7.1 Testing of Research Instrument-Reliability

Reliability in research refers to the consistency of a measure, meaning that if the same method is applied under the same conditions, it should produce the same results. This consistency is crucial for ensuring that the findings of a study are dependable and can be replicated by other researchers (J.R, 1999).

Cronbach's alpha coefficient is proved to be an appropriate mathematical value to be assured about the reliability of a questionnaire whose responses are measured by Likert scale (J.R, 1999). It measures the internal consistency or the interrelatedness of items within a test. Its value ranges between 0 and 1. Values from 0.7 to 0.95 are the acceptable range. (Mohson & Reg, 2011)

The following table shows the result of Cronbach's coefficient alpha calculated for each of the variables found in the questionnaire. The values are obtained from a survey Result of SPSS, version 26.

Table 1: Cronbach's alpha of variables

Construct or dimension name	Number of items	Cronbach's α
Reliability	6	0.864
Tangibles	4	0.757
Responsiveness	4	0.742
Assurance	4	0.837
Empathy	5	0.850
Patient Satisfaction	5	0.846
Overall	28	0.942

Cronbach Alpha value of each variables is more than o.7. These values indicate that the measurement items used in the questionnaire are reliable to measure the constructs.

3.7.2 VALIDITY

Validity indicates if an instrument measures what it intended to measure (J.R, 1999). This study's questionnaire validity is assessed from content and construct angles.

Construct validity: is the extent to which the survey measures the theoretical construct it aims to measure. Two experts engaged in the field of quality assurance, and one expert engaged in public health research who are experienced in research related to this study's construct were requested to assess the questionnaire. Both experts critically examined the items and they suggested some ways to improve the questionnaire. The researcher improved and finalized the questionnaire according to the suggestions given.

Content validity: validates if the instrument contains sufficient design to cover what it intends to cover (J.R, 1999). It validates the comprehensiveness of subject matter coverage. To make sure that content validity is kept, all questions were prepared according to the information expressed in the literature review section. In addition, modifications were applied according to the comments and feedback of the researcher's advisor.

3.8 Data Analysis Methods

After data was collected through a valid and reliable questionnaire, data was coded and entered into SPSS version 26 software. Then, data analysis is carried out using descriptive statistics and inferential statistics. I.e. mean, standard deviation and multiple regression. Descriptive statistics is applied to analyze each if the 28 items under the variables.

Inferential statistic, particularly correlation and multiple regression analysis is used for this study. Correlational analysis is applied to measure strength and direction of the relationship that exist between service quality dimension variables and patient's satisfaction. Multiple regression

analysis is applied in order to describe the nature of the relationship that exists between the dependent variables and the independent variable.

3.9 Ethical Issues

Before conducting the research, a supporting letter was taken from AAU, department of MBA. A necessary allowance letter for approval of the research was taken from Addis Ababa Regional Health Bureau.

This research is conducted based on the voluntary participation of respondents. Informed consent was taken by making sure that participants fully understand the purpose, and benefit of the research. Anonymity and Confidentiality are kept by protecting the identities of participants. Personally identifiable information is not collected. Collected information is anonymized and cannot be linked to individuals.

Potential for Harm is not found in this study process. There are no physical, social, psychological, or other types of harm to participants.

Results Communication Ensures that research findings are reported accurately and honestly, without plagiarism or research misconduct, to maintain scientific integrity.

Chapter 4 : DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

This chapter contains the presentation, analysis, and interpretation of data related to assessing the effect of health service delivery quality on patient satisfaction in Black Lion and Zewditu Memorial hospitals. The data is obtained from the primary source using a questionnaire.

4.1 Data Editing and Coding

After the primary data was collected, the questionnaire was reviewed to check if the questionnaires were filled appropriately. The analysis process omits incomplete and missed responses. 'Clearing of data' is the term given to this process of data coding and elimination of any errors related to coding (Rubin & Babbie, 2012). Internal consistency, reliability, and validity are evaluated.

4.2 The Questionnaire Response Rate

415 patients from OPD of the hospitals, whose age is over 18 had been physically contacted. Questionnaires were given after consent was taken. 398 responses were received. 396 responses remained for the data analysis after the elimination of extreme values. The appropriately filled questionnaire response rate is 95.4%. Which can be considered as a very good rate (Hair, Black, Babin, & Anderson, 2006).

4.3 Demographic Characteristics of the Respondents

Socio-demographic characteristics of Respondents at adult OPD of Black Lion and Zewditu memorial hospitals are described in this section and a table summarizing the frequencies and percentage of the variables follows the description of the variables.

Gender: Among the respondents encountered at adult outpatient OPD of black lion and Zewditu memorial hospitals, female respondents were greater in percentage as 37.6% of them were male and 62.4% were female.

Table 2: Gender descriptive

Demographic variable	frequency	Percentage	Cumulative percent
Male	149	37.6	37.6
Female	247	62.4	100.0
Total	396	100.0	

Source: Own Survey Result of SPSS, version 26

Age: as per the results of this study, most of the patients that visit the OPD have a youth back ground, 48.7% are from 21-30 age group, followed by 22.2% fro, 31-40 age group. 12.4% are within 41-50 age range and the remaining 9.8 percent are below 21 but above 17 and finally, 6.8% are above 50.

Table 3: Age descriptive

Demographic variable	frequency	percentage	
<21	39	9.8	9.8
21-30	193	48.7	58.6
31-40	88	22.2	80.8
41-50	49	12.4	93.2
>50	27	6.8	100.0
Total	396	100.0	

Source: Own Survey Result of SPSS, version 26

Educational Level: 52.0% of the respondents are from a secondary school or less in their educational background. 25.3% are diploma holders, 13.9% are first-degree holders and 8.8% have second-degree and above

Table 4: Educational status descriptive

Demographic variable	Frequency	Percentage
Secondary school or less	206	52.0
Diploma	100	25.3
First Degree	55	13.9
Second degree or above	35	8.8
Total	396	100.0

Source: Own Survey Result of SPSS, version 26

Marital status: 54.8%, which is more than half of the respondents are married, 39.4% are single, 4.5% are widowed and 1.3% are divorced.

Table 5: Marital Status descriptive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	156	39.4	39.4	39.4
	Married	217	54.8	54.8	94.2
	Widowed	18	4.5	4.5	98.7
	Divorced	5	1.3	1.3	100.0
	Total	396	100.0	100.0	

Source: Own Survey Result of SPSS, version 26

Address: Both black lion and Zewditu Memorial Hospitals are referral hospitals. Both receive patients from all over the country, as some services are available only in these hospitals. Hence, assessing the address of the respondents is necessary based in rural and urban backgrounds. According to the study, 78.5% are from urban areas and 21.5 are from the rural areas of our country. This shows that 21.5% of the patients in adult OPD travel a significant distance to get services in these hospitals

Table 6: Address descriptive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	311	78.5	78.5	78.5
	Rural	84	21.2	21.2	99.7
	3	1	.3	.3	100.0
	Total	396	100.0	100.0	

Source: Own Survey Result of SPSS, version 26

Health status: Assessment of respondents' health status is significant because very critically ill patients may not be comfortable enough to respond. In addition, the data may be useful to assess

if there is a difference in quality perception among acutely sick patients, recovering patients, and patients on checkup patents.

From all the respondents found in adult OPD, 46.2% were feeling sick at the time of feeling the questioner. 32.8% were recovering and The remaining 21.8% had a history of illness, which is treated and they were on checkup at the time of data collection.

Table 7: Health status descriptive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	currently feeling sick	183	46.2	46.2	46.2
	Recovering	130	32.8	32.8	79.0
	Healthy, on check up	83	21.0	21.0	100.0
	Total	396	100.0	100.0	

Source: Own Survey Result of SPSS, version 26

Visit frequency: respondents with more than one visit frequency are more knowledgeable about the service provision of the hospitals.

54.8% of the respondents were on their repeated visit to the hospital, and 45.2% were on their first-time visit, and were new to the service provided by the hospitals.

Table 8: Visit frequency descriptive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First time	179	45.2	45.2	45.2
	Repeated	217	54.8	54.8	100.0
	Total	396	100.0	100.0	

Source: Own Survey Result of SPSS, version 26.

4.4 Descriptive Analysis of the Variables

This section presents the descriptive statistics if the variables. Minimum, maximum, frequency, mean, and standard deviation of the measured variables are presented in a table format followed by a specific variable description. In order to measure the variables associated with healthcare quality dimensions as patients perceive it, SERVPERF model is used (steve & joseph, 1992).

Diverse attributes are used to measure satisfaction as well. The applied questionnaire contains 28 questions, 23 of the items are used to measure service quality aspects and 5 questions are used to measure satisfaction aspect of the study. The questions are paraphrased according to healthcare contexts so that patients would find it easily understandable. Paraphrasing also helps to ease the application process. To measure their response, a Likert scale is utilized, and the ranking is presented as follows

1= strongly disagree; 2= Agree; 3= Neutral; 4= Disagree; 5= strongly agree

Mean value of the responses for each variable is taken as a representative of all the responses. The interpretation of the values is as the following table states it.

Table 9: Mean interval value interpretation

Mean interval value	Description	Interpretation
4.50 – 5.00	Very High	The service quality dimension is always present or the customer is always satisfied
3.50 – 4.49	High	The service quality dimension is mostly/often present or the customer is mostly satisfied
2.50 – 3.49	Intermediate	The service quality dimension is sometimes present or the customer is sometimes satisfied
1.50 – 2.49	Low	The service quality dimension is rarely present or the customer is rarely satisfied
1.00 – 1.49	Very Low	The service quality dimension is never present or the customer is never satisfied

Source: Own Survey Result of SPSS, version 26.

Standard deviation tells us how data values are dispersed around a mean value (Brooks, 2014). Values less or close to 1 imply that the data values are close to and consistent with the mean. However, high values of standard deviation imply that the data set is different from or very dispersed away from the mean.

4.4.1 Reliability

As one of the service quality assessment tools, reliability of the service provided by the hospitals should be analyzed.

To assess the reliability of services provided by Black Lion and Zewditu Memorial hospitals, six assessment questions are prepared which are contextualized in light of medical background and wording.

The first part of the reliability test assessed if patients are satisfied with how healthcare workers approach them, it judges if the staff are friendly and welcoming. 47.5% of the respondents agree with the claim that the staff's friendliness and welcoming approach is satisfactory. 24.2% strongly agree, 18.7% disagree, 5.3% strongly disagree and the remaining 4.3.3% are neutral to the statement. The mean response is 3.67, meaning the friendliness and welcoming approach are often present, and the standard deviation is 1.184.

The second part of the reliability test assessed if the hospital staff showed sincere interest to solve patients' problems. 42.4% of the respondents agree with the statement, 24.5% strongly agree, 19.2 disagree, 9.1 % are neutral and the remaining 4.8% strongly disagree. The mean response is 3.63, implying that the staff's sincere interest in solving patients' problems is often present and patients are often satisfied. The standard deviation of this data is 1.183.

The third part of the reliability test judges if patients feel safe related to keeping error-free records. 39.9% agree that their records are error-free, 20.2 strongly agree, 17.7% disagree, 16.9% are neutral and the remaining 5.3% strongly disagree. The mean of the responses is 3.52, interpreted as patients often feel safe about their records and often satisfied with the issue of their records.

The Fourth part of the reliability tests if the hospitals perform the services at the time they promise. 34.3% of the respondents agree that it performs at the time it promises, 25.8% strongly agree, 19.2% are neutral, 15.7% disagree and the remaining 5.1% strongly disagree. The mean value of the responses is 3.6, indicating that hospitals often perform services at the time it promise and patients are often satisfied.

The Fourth part of the reliability tests if the hospitals perform the services at the time they promise. 34.3% of the respondents agree that it performs at the time it promises, 25.8% strongly agree, 19.2% are neutral, 15.7% disagree and the remaining 5.1% strongly disagree. The mean value of the responses is 3.6, indicating that hospitals often perform services at the time it promise and patients are often satisfied.

The fifth part of the reliability test assessed if the hospital keeps the privacy and confidentiality of their customers. 35.9% agree their privacy and confidentiality are kept. 26.5% strongly agree,

24.2% are neutral, 10.4% disagree and the remaining 3% strongly disagree. The mean of the responses is high, 3.72. This indicates that the privacy and confidentiality of patients are often kept.

Sixth and final part of reliability test assess if administration stuff is available to address customers concerns. 34.6% agree administration is available, 31.3% are neutral, 14.4% disagree, 13.9% strongly agree and 5.8% strongly disagree. Mean of the values yields a moderate value, 3.36. This is interpreted as administration stuff is sometimes present to address the concerns of patients.

The following table summarizes the responses related with reliability assessment tool.

Table 10: Mean and Standard deviation of items under reliability

Item No	Item description	Mean	SD
RL1	I am satisfied with hospital staff friendliness and welcoming approach	3.67	1.184
RL2	Hospital stuff shows sincere interest to solve patient's problems	3.63	1.183
RL3	Hospital staff keeps error-free records, therefore I feel safe	3.52	1.152
RL4	Hospital performs the services at the time it promises	3.6	1.172
RL5	Hospital staff keeps my privacy and confidentiality	3.72	1.059
RL6	Administration stuff is available to address any concerns I have	3.36	1.072

Source: Own Survey Result of SPSS, version 26.

- Grand mean of all the six reliability assessment items is high, 3.5838, which indicates that the service provided in these institutions is often reliable and the standard deviation 0.87 indicated that the responses are fairly consistent.

4.4.2 Tangibles

Four questions were developed to assess the tangibles of the service provided by Black Lion and Zewditu Memorial Hospitals.

The first part of the test deals asks if the hospitals have appropriately constructed infrastructure. 45.7% agree that the infrastructure is appropriate. 22.5% strongly agree, 12.1% are neutral, 11.4%

disagree and 8.3% strongly disagree. The mean of the response is high, 3.63. We can conclude that the hospital often has an appropriate infrastructure from the customers' point of view. And patients are often satisfied with it.

Second part of tangibles tests if the hospital has modern-looking equipment. 40.9% agree that it is modern-looking, 17.9% disagree, 17.7% strongly agree, 16.2% are neutral and the remaining 7.3% strongly disagree. The mean of the outcomes is moderate, 3.44. Patients are sometimes satisfied with the modernization of equipment as it is sometimes present.

Third part of the tangibility test asks questions if hospitals provide easily accessible radiological, laboratory and pharmaceutical services. 33.3% of respondents disagree to the claim of accessibility, 30.3% agree, 13.1% are neutral, 11.9% strongly agree and 10.9% strongly disagree. Mean of the responses is moderate, 2.98. The accessibility of radiological, laboratory and pharmaceutical services is sometimes present.

The fourth and final part of the tangibility test assesses the professionalism of staff in terms of their appearance. 45.2% agree with staff's professionalism, 32.1 strongly agree, 9.8% disagree, 8.3% are neutral and 4.5% strongly disagree. The mean of the response is high, 3.91, which can be interpreted as Hospital staff mostly have a professional appearance.

Table 11: Mean and standard deviation summery of each items in Tangibles

Item No	Item description	Mean	SD
TA1	The hospital has appropriately constructed infrastructure	3.63	1.189
TA2	Hospital has modern-looking equipment	3.44	1.184
TA3	Hospital provides easily accessible radiological, laboratory and pharmacy services	2.98	1.247
TA4	Hospital staffs have a professional appearance	3.90	1.096

Source: Own Survey Result of SPSS, version 26.

Grand mean of all the four assessment items is high 3.4880, which indicates that

- The service provided in these institutions is often tangible and the standard deviation 0.89726 indicates that the responses are fairly consistent.

4.4.3 Responsiveness

Four questionnaire elements are prepared to assess the responsiveness of healthcare workers.

The First one assesses if healthcare workers are available during working hours to respond to patients' concerns. 33.1% agree that they are available, 30.8% disagree with the claim, 16.4% strongly disagree, 13.1% strongly agree and 6.6% are neutral regarding the claim. The Mean of all four responses is 2.96, moderate. We can conclude that Health care workers are sometimes available at working Hours to respond to concerns.

Second part of responsiveness assessment claims that healthcare workers perform quickly and promptly. 34.3% disagree with this claim, 32.1% agree, 15.7 strongly disagree, 9.3% strongly agree and 8.6% are neutral. Mean value of all responses is moderate, 2.85. This is interpreted as health care workers sometimes perform quickly and promptly.

The third Responsiveness assessment asks if waiting time for services is appropriate and understandable. 34.3% disagree, 25.5% strongly disagree, 25.5% agree, 7.6% are neutral and 7.1% strongly agree. The mean of all data under waiting time is moderate, 2.54. Waiting time for services is sometimes appropriate and understandable.

Fourth and final item under responsiveness indicated on hospital stuffs willingness to help their patients. 33.1% agree, 22.5% strongly disagree, 19.7% disagree, 18.9% strongly agree and the remaining 5.8% are neutral. The mean is moderate, with a value of 3.06. Hospital staff are sometimes willing to help their patients.

The following table summarizes the grand mean and standard deviation of each of the items.

Table 12: Mean and standard deviation summery of each item under responsiveness

Item No	Item description	Mean	SD
RS1	Healthcare workers are available at working hours to respond to my concerns	2.96	1.350
RS2	Healthcare workers perform quickly and promptly	2.85	1.283
RS3	Waiting time to get the services is appropriate and understandable	2.54	1.303
RS4	Hospital staff are always willing to help their patients.	3.06	1.478

Source: Own Survey Result of SPSS, version 26.

Grand mean and standard Deviation are 2.8535 and 1.01773 respectively. The mean has a moderate value, and data is clustered around the mean.

- Health care workers are sometimes responsive to their patients.

4.4.4 Assurance

To Assess assurance from service providers in Zewditu and black lion hospitals, four items were formulated.

The first part mentions that health care workers are capable of providing knowledgeable answers to questions raised by patients. 50.8% agree with it, 21.7% strongly agree, 12.6 disagree, 9.3% are neutral and the remaining 5.3% strongly disagree. The mean of the responses is high, 3.71.

Knowledgeable answers are mostly provided by workers to questions raised by patients

Second item states that healthcare workers can clarify and ensure treatment options for patients. 44.7% of respondents agree with this statement, 25% strongly agree, 12.1% disagree, 11.4% is neutral and 6.8% strongly disagree. The Mean of the responses yields a value of 3.69, which is high.

- Healthcare workers mostly clarify and assure patients about the treatment options.

Third item assesses if customers believe that the hospitals are capable of handling their problems. 48.7% agree, 23.5% strongly agree, 13.4 are neutral, 10.1% disagree and 4.3% strongly disagree. The mean on the responses is high, with a value of 3.77.

- The hospital is mostly capable of handling patient's problems.

The final item under assurance states that patients feel confident about the staff's services. 37.9% agree with the claim, 24% strongly agree, 16.2% are neutral, 14.4% disagree and 7.6% strongly disagree. The Mean of the data is high with a value of 3.56.

- Patients often feel confident about the services provided by the staff.

Table 13: Mean and standard deviation summery of the responses of each items under Assurance

Item No	Item description	Mean	SD
AS1	Health care workers are capable to provide knowledgeable answers to questions raised by patients	3.71	1.103
AS2	Healthcare worker can clarify and assure you about treatment options	3.69	1.170
AS3	The hospital is capable of handling your health problems	3.77	1.053
AS4	I feel confident about the services provided by the staff	3.56	1.213

Source: Own Survey Result of SPSS, version 26.

The grand mean and standard deviation are 3.6823 and 0.93168 respectively.

- Services provided at Black Lion and Zewditu Memorial Hospitals are often assuring and data is fairly distributed around the mean

The following table summarizes the Mean and standard deviation for each item of Assurance

4.4.5 Empathy

Empathy is the final component of the health service quality dimensions studied in this research. It has 5 items under it.

The first part assesses the politeness of the hospital staff towards customers. 48.1% of respondents agree with the claim that staff are polite. 24.1% strongly agree, 10.9% disagree, 10.4% are neutral and 6.6% strongly disagree. The mean of the data is high, 3.72.

- Hospital staff often treats patients with politeness.

The Second component claims that the hospitals give patients individualized attention. 36.4% of respondents agree, 20.5% strongly agree, 18.9 disagree, 18.2% are neutral and the remaining 6.1% strongly disagree. The mean of the responses is moderate, 3.46.

- The hospital sometimes gives individualized attention to patients.

The third part of empathy assessment items assesses consultation hours. 34.6% of respondents agree that they were given enough consultation hours, 29.8 are neutral, 15.2 disagree, 14.9% strongly agree and 5.6% strongly disagree. The mean of the responses is moderate, 3.38.

- Patients are sometimes given enough consultation hours.

Fourth component states that healthcare workers treats patients with a caring fashion. 43.4% of respondents agreed with the statement, 22.7% strongly agree, 15.2% are neutral, 14.1% disagree and 4.5% strongly disagree. Mean of the response is high, 3.66

- Health care workers often treats patients with a caring fashion.

The final item under empathy asks about the helpfulness of information services personnel. 41.9% of respondents agree on the friendliness and helpfulness of information services personnel. 21% are neutral, 16.7% strongly agree, 12.4% disagree and 8.1% strongly agree. The mean of the data gathered is moderate with a value of 3.47.

- Patients are sometimes satisfied with the friendliness and helpfulness of information services personnel.

Table 14: Mean and standard deviation summery of each items under Empathy variable.

Item No	Item description	Mean	SD
EM1	The hospital stuff treats me with politeness	3.72	1.139
EM2	The hospital gives me individualized attention	3.46	1.185
EM3	I was given enough consultation hours	3.38	1.083
EM4	Healthcare workers treat patients with a caring fashion	3.66	1.113
EM5	I am satisfied with the friendliness and helpfulness of personnel in the information services	3.47	1.148

Source: Own Survey Result of SPSS, version 26.

The grand mean and standard deviation are 3.5382 and 0.89683 respectively. The mean value is high and data is fairly clustered around the mean

- Health service is often delivered to patients with empathy by workers.

The mean and standard deviation of each item in empathy Patient's satisfaction is settled as follows

4.4.6 Patient's satisfaction

Five assessment factors were established to assess how well patients are satisfied with the service provided at the hospitals

The first item assessed patient's satisfaction with the service of doctors. 39.1% agree that services provided by doctors are satisfactory, 27.3% strongly agree, 20.5% disagree, 8.8% are neutral and 4.3% strongly disagree. The mean of the responses is high with a value of 3.65.

- Patients are mostly satisfied with the medical service provided by physicians

The second item assessed the medical service provided by nurses. 40.7% of respondents agree that nurse's medical service is satisfactory, 22% disagree, 21.7% strongly agree, 10.1 are neutral and 5.6% strongly disagree with it. The mean of all the responses under this is high, with a value of 3.51.

- Patients are mostly satisfied with the medical service provided by nurses.

The Third item under patient's satisfaction deals with medical facilities of the hospitals. 33.6% agree that it is satisfactory, 26.3% disagree, 17.7% are neutral, 13.1% strongly disagree, and 9.3% strongly agree. Mean of the responses is 3.

- Patients are sometimes satisfied with the medical facilities of the hospital.

The fourth item assesses the medical services provided by the hospital as a whole. 38.4% agree that medical treatment in the hospital is satisfactory, 19.7% disagree, 17.9% are neutral, 17.2% strongly agree, and 6.8% strongly disagree. The mean value of all responses is 3.39, which is a moderate value

- Patients are sometimes satisfied with the medical treatment of the hospital

The Final and fifth part of patient's satisfaction assessment is about the recommendation of the hospital services to other people. 39.4% of respondents agree to recommend the services to other people, 19.7 strongly agree, 18.7% are neutral, 14.6% disagree, and remaining 7.6% strongly disagree. Mean of the values is 3.49, which is a moderate value.

- Customers at black lion and Zewditu memorial hospitals sometimes recommend the services of the hospitals to other people.

The mean and standard deviation of each item under patient satisfaction are summarized in the following table.

Table 15: Mean and standard deviation of each items under patient's satisfaction variable.

Item No	Item description	Mean	SD
PS1	I am satisfied with the medical service provided by doctors	3.65	1.202
PS2	I am satisfied with the medical service provided by nurses	3.51	1.209
PS3	I am satisfied with the medical service provided by doctors	3.00	1.225
PS4	I am satisfied with the medical treatment of the hospital	3.39	1.178
PS5	I recommend the services of this hospital to other people	3.49	1.181

Source: Own Survey Result of SPSS, version 26.

The grand mean and standard deviation: are 3.4076 and 0.94338 respectively. The Mean has a moderate value and the standard deviation indicates that the data is mostly clustered around the mean.

- Patients are sometimes satisfied with the services provided by Black Lion and Zewditu Memorial Hospitals.

Descriptive analysis of the variables is summarized in the table below from own survey result of spss version 26.

Table 16: descriptive analysis of the variables

	N	Minimum	Maximum	Mean	Std. Deviation
Reliability	396	1.00	5.00	3.5838	.87812
Tangibles	396	1.00	5.00	3.4880	.89726
Responsiveness	396	1.00	5.00	2.8535	1.01773
Assurance	395	1.00	5.00	3.6823	.93168
Empathy	395	1.00	5.00	3.5382	.89683
Patient Satisfaction	396	1.00	5.00	3.4076	.94338
Valid N (list wise)	395				

Source: own survey result from SPSS version 26.

Measurement Model

4.5 Correlation

Correlation is a measure of association (Brooks, 2014). It measures the strength and direction of the linear relationship between two variables. It is expressed through a correlation coefficient, denoted as (r), which ranges from (-1) to (+1). It is a very useful means to summarize the relationship between two variables with a single number that falls between -1 and +1.

- A correlation coefficient close to (+1) indicates a strong positive correlation, meaning that as one variable increases, the other variable also tends to increase.
- A correlation coefficient close to (-1) indicates a strong negative correlation, meaning that as one variable increases, the other variable tends to decrease.

- A correlation coefficient close to (0) suggests little to no linear relationship between the variables. Strength of the relationship is indicated as weak, if r is between 0.1 and 0.29; moderate if it is between 0.3 and 0.49, and strong if >0.5.

Correlation analysis between variables of this study is indicated in the following table.

Table 17: Correlation table

		Reliability	Tangibles	Responsiveness	Assurance	Empathy	Patient Satisfaction
Reliability	Pearson Correlation	1	.573**	.460**	.654**	.685**	.586**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	396	396	396	395	395	396
Tangibles	Pearson Correlation	.573**	1	.409**	.558**	.562**	.528**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	396	396	396	395	395	396
Responsiveness	Pearson Correlation	.460**	.409**	1	.475**	.535**	.565**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	396	396	396	395	395	396
Assurance	Pearson Correlation	.654**	.558**	.475**	1	.699**	.599**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	395	395	395	395	395	395
Empathy	Pearson Correlation	.685**	.562**	.535**	.699**	1	.635**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	395	395	395	395	395	395
Patient Satisfaction	Pearson Correlation	.586**	.528**	.565**	.599**	.635**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	396	396	396	395	395	396

**. Correlation is significant at the 0.01 level (2-tailed).

Bivariate Correlation:

It quantifies the degree to which two variables move in tandem with each other. The most common measure of bivariate correlation is Pearson's correlation coefficient, which measures the strength and direction of the linear relationship between two variables.

As indicated in the table 11, all the independent variables are positively and strongly correlated with the dependent variable (patient satisfaction).

- The strongest coefficient of correlation is noted between empathy and assurance (r=0.699, $p \leq 0.01$). It indicates a strong, positive, and significant relationship between them.
- The second strong coefficient of correlation is between empathy and reliability, which has a strongly positive and significant correlation with performance (r=0.685, $p \leq 0.01$).
- The third strong coefficient of correlation is between patient satisfaction and empathy. (r= 0.635, $p \leq 0.01$)

Generally, the result of this study's correlation matrix shows that all the independent variables, except responsiveness, are positively and strongly correlated with the dependent variable. Responsiveness is moderately related with reliability(r=0.460), tangibles (r=0.409) and assurance (r=0.475).

Sig (2-tailed) value:

In the context of correlation, specifically when dealing with Pearson's correlation coefficient ((r)), a two-tailed test is used to determine the statistical significance of the correlation. This approach tests whether the correlation coefficient is significantly different from zero, regardless of the direction of the relationship. A two-tailed test allocates half of the significance level (e.g., 0.05) to each tail of the distribution, allowing for the detection of significant correlations in either direction (positive or negative).

A Sig (2-tailed) value is less than or equal to 0.05 indicates a statistically significant correlation between the two variables (Brooks, 2014). This means, that increases in one variable will significantly relate to increases in the second variable.

Therefore, as indicated in Table 11, all of the constructs have a sig (2-tailed) results of (.000), meaning all have significant correlations.

- It is interpreted as there is a significant correlation between the independent variables and the dependent variable at 95% confidence interval.

4.6 Regression Analysis

Regression analysis is a statistical method used to estimate the relationships among variables by examining how the variation in the dependent variable is explained by independent variables. It extends beyond simple correlation by allowing for the inclusion of multiple predictors, the consideration of nonlinear relationships, and the ability to control for confounding variables/

Classical linear regression operates under several key assumptions, which are crucial for the validity of the model's predictions and interpretations (Brooks, 2014).

4.6.1 The Assumptions for Testing Regression Analysis

The assumptions that are required and that we test are normality, homoscedasticity, Autocorrelation, multi-collinearity, and *Linearity.*

Test of Normality

Normality: Normality tells us about the data distribution. Its errors are normally distributed. The mean, median, and mode are the same. Normality can be breached in case of insufficient data, lack of randomness, if data is discrete, and when an outlier is present. Tests being used for violation of normality assumption are the Bera–Jarque test and visual inspection test.

Bera–Jarque came up with these ideas by testing if the coefficient of skewness and the coefficient of excess kurtosis is jointly zero. If the skewness and kurtosis lie between -2 and +2, the normality assumption is not violated (Brooks, 2014)

Normality relates to the shape of the data distribution as well. Bell shape curve distribution is normally distributed, where when skewness depicts the symmetry of the bell shape and kurtosis tells how much of the distribution falls in the tails instead of the center. In this research, as stated in the following table, normally distributed data is present as the skewness and kurtosis of all variables lie between -2 and +2 (Hair, Black, Babin, & Anderson, 2006)

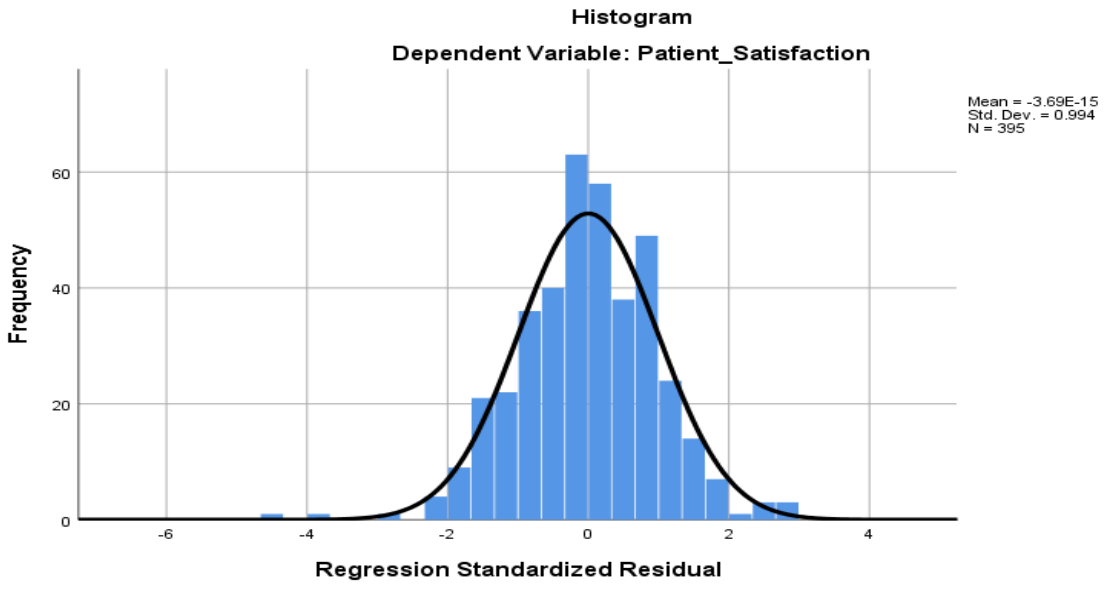
Table 18: Normality of Distribution Using Descriptive Statistics (Skewness and Kurtosis)

		Reliability	Tangibles	Responsiveness	AssurancE	Empathy	Patient_Satisfaction
N	Valid	396	396	396	395	395	396
	Missing	0	0	0	1	1	0
Std. Error of Mean		.04413	.04509	.05114	.04688	.04512	.04741
Skewness		-.365	-.531	.146	-.605	-.518	-.448
Std. Error of Skewness		.123	.123	.123	.123	.123	.123
Kurtosis		-.368	.147	-.808	.197	.113	-.318
Std. Error of Kurtosis		.245	.245	.245	.245	.245	.245

Source: Own Survey Result of SPSS, version 26, 2024.

Alternatively the researcher produced a histogram using spss version 26, which shows a bells shape distribution and visually suggests a normally distributed data.

Figure 2: Normality histogram



Source: Own Survey Result of SPSS, version 26, 2024.

2. Multi Collinearity

Multicollinearity (high correlation among independent variables) is a concern in regression analysis. It can inflate the variance of the regression coefficients, making them unstable and difficult to interpret (Brooks, 2014). We care about multicollinearity because the effect of one variable can have a double-counting effect. As a result, R2 and SE and coefficients can be affected and certain mathematical operations will be difficult. Multicollinearity is positive when it is above 0.7 in absolute value. Other factors to assess multi-collinearity are Tolerance and variance inflation factor (VIF). If VIF is less than 10 and a tolerance value between 0.1 and 1, it indicates the absence of multicollinearity (Ho, 2006).

As per the collinearity statistics shown in Table 13, the variance inflation factors (VIF) value is between 1.470 and 2.599, and the Tolerance value ranges from 0.385 to 0.680. Likewise, as indicated in Table 11 of the correlation analysis, the results of the correlation coefficient between independent variables are below 0.8. Therefore, this result indicates that there was no multi-collinearity problem in this study.

Table 19: coefficients, tolerance, and VIF

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.302	.158		1.910	.057		
	Reliability	.152	.057	.141	2.686	.008	.439	2.277
	Tangibles	.138	.048	.131	2.891	.004	.588	1.700
	Responsiveness	.235	.039	.253	6.008	.000	.680	1.470
	Assurance	.165	.054	.163	3.081	.002	.432	2.315
	Empathy	.226	.059	.215	3.833	.000	.385	2.599

a. Dependent Variable: Patient Satisfaction

Source: Own Survey Result of SPSS, version 26, 2024.

3. Homoscedasticity of the Error Terms

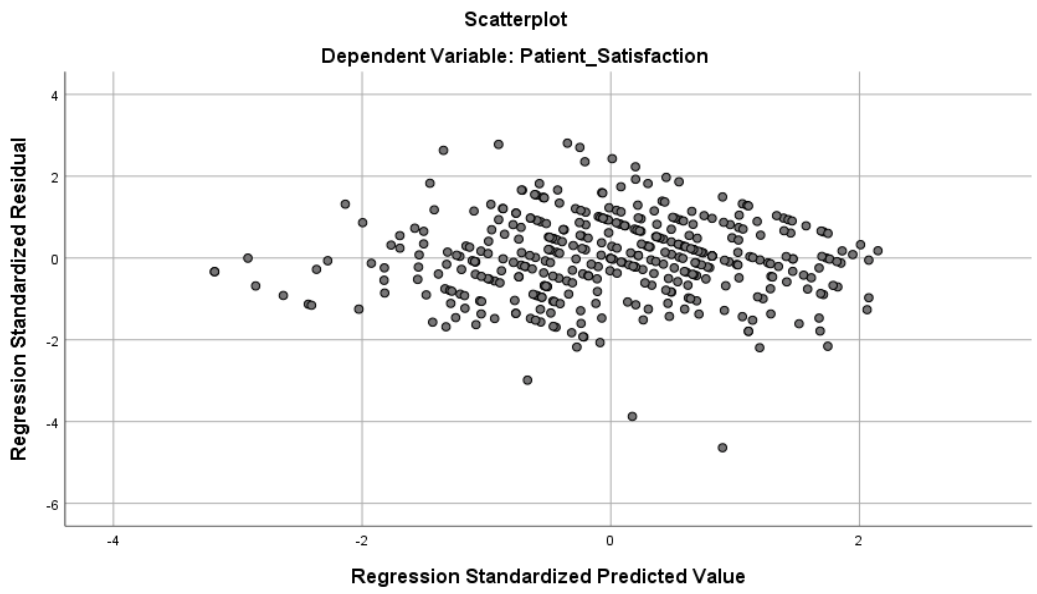
The variances of the errors are constant across all levels of the independent variables. This assumption, known as homoscedasticity, ensures that the spread of the residuals is uniform across

the range of the independent variables. Violations of this assumption can lead to inefficient estimates of the regression coefficients (Brooks, 2014).

To test for Homoscedasticity, It is possible to use formal statistical tests for heteroscedasticity and one of the simplest methods is the GQ test or a graphical method; but the graphical method will not reveal the cause or the form of the heteroscedasticity, if it is present (Brooks, 2014).

In This study, the homoscedasticity of variables is tested using a graphical method which is a scatterplot. Scatter plots of the standardized residual are conducted for all the variables and the outcome is shown in Figure 3. The figure does not show any exact pattern and indicates no violation of assumption.

Figure 3: scatter plot



Source: Own Survey Result of SPSS, version 26, 2024.

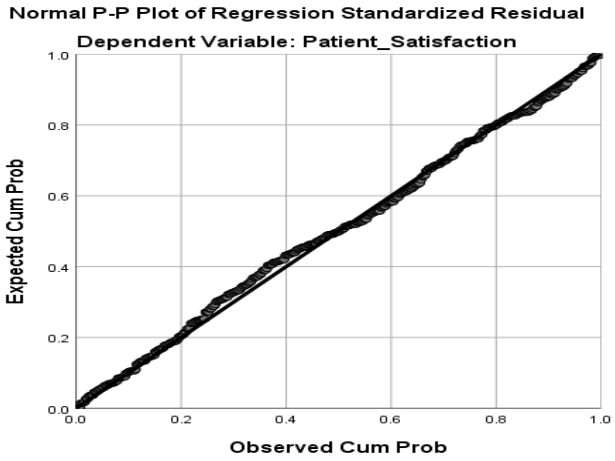
4. Autocorrelation

Autocorrelation is not an issue in this study because the study does not have a time element.

5. Linearity:

The relationship between the dependent variable and each independent variable should be linear. This assumption can be visually inspected using scatterplots, or P-P plot which should reveal a straight-line relationship (Brooks, 2014).

Figure 4: P-P plot of data



Source: Own Survey Result of SPSS, version 26, 2024.

4.6.2 Multiple Linear Regression Analysis

Multiple linear regression is a statistical technique used to predict the outcome of a dependent variable based on the values of two or more independent variables. It builds on the principles of simple linear regression by allowing for the inclusion of multiple predictors. This study conducts multiple linear regression to determine the explanatory power of the independent variables. A significance level of 5% with 95% confidence interval is used.

Table 20: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.727[a]	.529	.523	.65221	1.944

a. Predictors: (Constant), Empathy, Responsiveness, Tangibles, Reliability, Assurance

b. Dependent Variable: Patient Satisfaction

Source: Own Survey Result of SPSS, version 26, 2024.

The Value of Adjusted R Square (R_2):

Adjusted R2 tells explains a substantial portion of the variability in the dependent variable as a function of the independent variables. Adjusted R-squared is designed to address the issue of R-squared which increases simply because more predictors are added to the model. It aims to provide a more accurate measure of how well the model fits the data by considering the complexity of the model relative to the number of observations. (Brooks, 2014)

As indicated in the model summary in Table 14, the adjusted R^2 is 0.523, which means that 52.3% of the variation in patient satisfaction can be explained by changes in Empathy, responsiveness, tangibles, reliability, and assurance. The remaining 47.7% is explained by other variables, which have not been included in this regression model.

ANOVA: it is useful as it predicts whether the independent variables can sufficiently predict the dependent variable. If the p-value of the model is less than 0.05, then one can assume that the independent variable can predict the dependent variable.

In this study, as shown in the following table, the p-value is lower than 0.05, hence we can conclude that Empathy, Responsiveness, Tangibles, Reliability, and Assurance can sufficiently predict patient satisfaction.

Table 21: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	186.021	5	37.204	87.461	.000[b]
	Residual	165.473	389	.425		
	Total	351.494	394			

a. Dependent Variable: Patient Satisfaction

b. Predictors: (Constant), Empathy, Responsiveness, Tangibles, Reliability, Assurance

Source: Own Survey Result of SPSS, version 26, 2024.

Table 22: Regression coefficients for independent variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.302	.158		1.910	.057		
	Reliability	.152	.057	.141	2.686	.008	.439	2.277
	Tangibles	.138	.048	.131	2.891	.004	.588	1.700
	Responsiveness	.235	.039	.253	6.008	.000	.680	1.470
	Assurance	.165	.054	.163	3.081	.002	.432	2.315
	Empathy	.226	.059	.215	3.833	.000	.385	2.599

a. Dependent Variable: Patient Satisfaction

Source: Own Survey Result of SPSS Version 26, 2024.

Beta coefficients: This numerical values depicts about the significance of a relationship between the dependent variable and a specific independent variable. Values are interpreted as insignificant or significant relationships. For a simple $y= \alpha + \beta x + u$, β shows the significance of the relationship by a slope, meaning the change in y as a result of change in X.

4.6.3 Hypothesis testing and Model development

- Health service delivery quality has a spastically significant effect on patient's satisfaction at 5% significance level. 52.3% of change in patient satisfaction can be explained by change in independent variables.

Alternative Hypotheses (H)

H1: Healthcare provider reliability has a statistically significant effect on patient satisfaction.

- Accepted ($p<0.05$)
- Healthcare provider reliability has a statistically significant effect in patient satisfaction at 5% significance level.

H2: Tangibles of the healthcare system have a statistically significant effect on patient satisfaction.

- Accepted($p<0.05$)
- Tangibles of the healthcare system have a statistically significant effect on patient satisfaction at 5% significance level.

H3: Healthcare professional responsiveness has a statistically significant effect on patient satisfaction.

- Accepted($p<0.05$)
- Healthcare professional responsiveness has a statistically significant effect on patient satisfaction at 5% significance level.

H4: Assurance by health care providers has a statistically significant effect on patient satisfaction

- Accepted($p<0.05$)
- Assurance by healthcare providers has a statistically significant effect on patient satisfaction at 5% significance level.

H5: Healthcare professional empathy towards the patient has a statistically significant on patient satisfaction

- Accepted($p<0.05$)
- Healthcare professional empathy towards the patient has a statistically significant on patient satisfaction at 5% significance level.

After adding the unstandardized coefficients, the final model will be as follows

$$PS = 0.152(RL) + 0.138(TA) + 0.235(RS) + 0.165(AS) + 0.226(EM)$$

Where, PS = patients satisfaction

RL = reliability

TA = tangibles

AS = Assurance

EM = empathy

4.6.4 Interpretation of the model

In this research, with reference to coefficients table, the following interpretations are inferred

- Intercept: we accept the possibility that when all the independent variables assume zero value, patients satisfaction at Black Lion and Zewditu memorial hospitals will be zero at 5% significance level.(p=0.057)
- All of the five independent variables have a statistically significant effect on patient's satisfaction at 1% significance level. All p values for independent variables are less than 0.01.
- Among the independent variables, the highest positive significance is from Responsiveness, followed by Empathy, assurance, reliability, and tangibles in descending order.
- Responsiveness: Holding other factors constant, when responsiveness increases by 1 unit, patient satisfaction will increase by 0.235 units on average at 1% significance level.
- Empathy: Holding other factors constant, when Empathy increases by 1 unit, patient satisfaction will increase by 0.226 units on average at 1% significance level.
- Assurance: Holding other factors constant, when Assurance increases by 1 unit, patient satisfaction will increase by 0.165 units on average at 5% significance level.
- Reliability: Holding other factors constant, when reliability increases by 1 unit, patient satisfaction will increase by 0.152 units on average at 1% significance level.
- Tangibles: Holding other factors constant, when responsiveness increases by 1 unit, patient satisfaction will increase by 0.138 units on average at 1% significance level.

Chapter 5 : SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1 Summery

Demographic characteristic of respondents: out of all, 62.4% are female, 62.448% are within 21-30 years of age, 52% are in secondary school or below, 54.8% are single, 78.5% are from urban area, 46.2% were feeling sick at the time of data collection and 54.8% were on their repeated visit.

The questionnaire used in this study is reliable. Cronbach's Alpha value for each dimension is more than 0.7. This indicates that the scales used in the questionnaire satisfactorily measured the constructs.

Construct validity was maintained.

The data indicates that Black Lion Referral Hospital and Zewditu Memorial Hospitals are performing poorly on the ‘Responsiveness’ and ‘Tangibles’ dimensions of service quality. But reliability, assurance, and empathy are often present. Patients are not satisfied with service quality since quality services are only offered sometimes.

The result of the correlation matrix shows that all of the independent variables are positively and strongly correlated with the dependent variable (patient satisfaction) at 95% confidence interval & at p-values<= 0.01. The highest strong coefficient of correlation in this research is between empathy and assurance ($r=0.699$, $p \leq 0.01$). It shows that there is a strong, positive, and significant relationship between them. All independent variables except responsiveness is positively and strongly correlated with the dependent variable. Responsiveness is moderately related with reliability($r=0.460$), tangibles ($r=0.409$) and assurance ($r=0.475$).

Health service delivery quality has a positive and significant influence on patient satisfaction. Among the service quality dimensions, the highest positive significance is from Responsiveness, followed by Empathy, assurance, reliability and tangibles in descending order.

5.2 Conclusion

The main objective of this study is to examine the effect of health service delivery quality on patient satisfaction at Black Lion and Zewditu Memorial Hospitals. The data indicates a significant gap in fulfilling patient's satisfaction in these hospitals. From the service quality dimensions used as a variable in this study, each variable has a significant relationship with hospital service quality. Responsiveness, followed by Empathy, assurance, reliability, and tangibles in descending order are found as main drivers of hospital service quality in these hospitals.

Reliability: even though most of the patients are satisfied with the hospital's reliability, a significant gap is found in the availability of administration staff to respond to questions raised by customers. Most of the patients do not even know who is responsible for administration as they are not available when patients are in need.

Tangibles: patients are mostly satisfied with the professional appearance of the staff. However, there is dissatisfaction related to the availability of necessary equipment, especially laboratory, radiological, and pharmaceutical products. Because of this, patients are exposed to extra costs and transportation problems as they have to search for these services outside of the hospitals. It also delays the healing process of patients as these materials are important for the diagnosis and treatment of patients.

Responsiveness: is the first and foremost dissatisfaction factor in Black Lion and Zewditu Memorial hospitals. Patients are not satisfied with all aspects of responsiveness. The first of which is the availability of health care workers on time. This exposed patients to unnecessary waiting time. This is responsible for very long lines of patients waiting for a service which was observed at adult OPD during the data collection procedure. Patients do not believe that waiting time to get the services is appropriate and understandable.

Assurance: patients are mostly satisfied with all the assurance aspects of service quality.

Empathy: patients mostly believe that the staff treats them with politeness, so they are satisfied. However, they do not get individualized attention as much as they expect. The hospital does not provide enough consultation hours and information personnel are not available on the information

desk as much as expected. When they are sometimes available, Patients do not find the information given by personnel as useful as they desire.

Satisfaction: even though patients are mostly satisfied with the service of doctors and nurses (but, keeping in mind the gaps in quality dimensions), patients are mostly dissatisfied, and this roots mainly from the dissatisfaction with medical facilities and medical services of the hospitals. As a result, patients mostly do not recommend the services of these hospitals to others.

The above findings suggest that patients are looking out to public hospitals to deliver them a better health service in terms of quality aspects.

Overall, service quality has a significant positive effect on satisfaction of patients evidenced by the regression coefficient. Therefore, it is very significant to note that all the service quality dimensions: tangibility, reliability, responsiveness, assurance, and empathy affect service quality; and detailed attention is necessary to these aspects from the managerial body.

5.3 Recommendations

- To improve the tangibles dimension of service quality, FDRE and AARHB shall give attention to the availability of qualified laboratory and pharmaceutical products. The administration of the hospitals shall revise their culture on how they are handling their equipment, as it is found to be visually not attractive.
- To give a better reliable service, the hospital administration office should be in accessible location and ready to respond when concerns are raised. This can be done by putting signals towards the administration office and by making sure that the attendance of administration stuffs.
- To improve the responsiveness dimension, the hospitals shall revise its work culture related with time management and availability of workers on time. Strict attendance rule for time and availability is suggested.
- To make empathy sensed by patients, the first interface of customers, which is the information desk has to be worked on. The information personnel should be first and foremost available, and then well equipped with knowledge about where and when services are given. So hiring trained information personnel is recommended. In addition, to improve

the individualized attention given to patients, the responsiveness dimension has to be worked on, and adding a health worker force that matches the demand is suggested.

- In general, hospitals should revise the service standards.

5.4 Limitations and Suggestions for the Further Research

- This research studies the health service delivery quality and patient satisfaction from a patient's perspective. Future research is recommended to assess the service provider's point of view.
- Black Lion and Zewditu Memorial Hospitals have many beds that treat patients in their Inpatient departments. These hospitals receive a referrals from all over the county as well. So future research in inpatient and emergency departments is suggested.
- Other factors affect patient satisfaction in addition to the five service quality dimensions, as these dimensions predict around 52% of patient satisfaction. Therefore future research can be done by assessing and adding other factors.
- Future research is recommended to assess specific hospital-related factors that affect patient satisfaction.

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APPENDIX I **English Version Questionnaire**

Addis Ababa University

College of Business Administration

Department of Management

Dear Respondent,

My name is Nardos Lemma Mengistu. I am MBA candidate at Addis Ababa University College of Business and Economics. The purpose of this survey is to collect information so that we can understand about the health service delivery quality and its effect on patient's satisfaction in Tikur anbessa and Zewditu memorial hospitals. The study is for the partial fulfillment of the requirements for the Masters degree in business administration of Addis Ababa University.

The information obtained will be used for academic purpose only and it will be treated confidentially. Your genuine and honest response is very important for the success of the research and Thank you very much in advance for your cooperation. The questionnaire will take 10-15 minutes of your time. Kindly be assured that all information that you provide will be kept strictly confidential and will be used solely for research/analysis purpose. If you require any further information, want feedback on the study or unclear situation please contact me by the following address.

Email: jappytati@gmail.com

Tel no: 0978007331

Therefore you are requested to put √ mark on the box where you feel appropriate.

Part 1: Socio-Demographic Characteristics of Respondents

1. Sex: Male-------- Female---------

2. Age (in years): a) 18-24----- b) 25-34-------- c) 35-44-------- d) 45+-------

3. Marital Status a) single------- b) Married------- c) Divorced -----

4. Educational Status: - a) Illiterate -------- b) 1-6 ------- c) 7-12 ------ d) Diploma &above-------

5. Address: - a) Rural ---------- b) Urban ----------

d) Others (please specify) _____

6. Condition: a) I fell Ill----------b) recovering----------c) I feel well, on check up_____

7. Frequency of visit: - a) New visit ---------- b) Repeat----------

Part 2: Dimensions of service quality

Please indicate how strongly you agree or disagree with each statements by using "√" mark in the box that truly reflects your opinion. The scale represents: 1=Strongly Disagree (SDA), 2=Disagree (DA), 3=Neutral (N), 4=Agree (A) and 5=Strongly Agree (SA).

No	Characteristics	SDA	DA	N	A	SA
	Reliability					
1	I am satisfied with hospital staff friendliness and welcoming approach					
2	Hospital staff shows a sincere interest to solve patient's problem.					
3	Hospital staff keeps error free records, therefore I feel safe					
4	Hospital performs the services at the time it promises					
5	Hospital staff keeps my privacy and confidentiality.					
6	Administration stuff is available to address any concerns I have.					
	Tangibles					
7	Hospital has appropriately constructed infrastructure					
8	Hospital has modern-looking equipment.					
9	The hospital provides easily accessible radiological, laboratory and pharmacy services					
10	Hospital staffs have professional appearance					
	Patient satisfaction in related to Responsiveness					
11	Health care workers are available at working hours to respond to my concerns					
12	Health care workers perform quickly and promptly					
13	Waiting time to get the services is appropriate and understandable					
14	Hospital staffs are always willing to help their patients.					
	Assurance					
15	Health care workers are capable to provide knowledgeable answers to questions raised by patients					
16	Health care worker can clarify and assure you about treatment options					
17	The hospital is capable to handle your health problems					

18	I feel confident about the services provided by the staff					
	Empathy					
19	The hospital stuff treats me with politeness					
20	The hospital gives me individualized attention					
21	I was given enough consultation hours					
22	Health care workers treats patients with a caring fashion					
23	How much are you satisfied with friendliness and helpfulness of personnel in the information services					

Part 3: Patient Satisfaction

No	characteristics	SDA	DA	N	A	SA
1	I am satisfied with the medical service of doctors					
2	I am satisfied with the medical service of the nurses					
3	I am satisfied with the medical facilities of the hospital					
4	I am satisfied with the medical treatment of the hospital					
5	I recommend the services of this hospital to other people					

APPENDIX II: **Amharic version questionnaire**

ውድ የመጠይቁ መላሾች፣

ስሜ ናርዶስ ለማ ይባላል፡፡ በአዲስ አበባ ዩኒቨርሲቲ በንግድ አስተዳደር ማስተርስ ዲግሪ (MBA) ማሙዋያነት የሚያገለግል የመመረቂያ ጥናት እየሰራዉ ነዉ፡፡ ከመመረቂያነት ባለፈ ይህ ሆስፒታል ያለዉን የአገልግሎት ጥራት ለማሻሻል ይረዳል። የዚህ የዳሰሳ ጥናት መጠርያ “የሆስፒታል ጤና አገልግሎት አሰጣጥ ጥራት በታካሚው እርካታ ላይ ያለዉ ተፅእኖ” ሲሆን ዓላማዉም በጥቁር አንበሳ እና በዘውዲቱ ሆስፒታልች ላይ የታካሚዎችን እርካታ ጥናት ማድረግ ነው፡፡ ስለሆነም የእርስዎ እውነተኛ መልስ ለጥናቱ ስኬታማነት በጣም አስፈላጊ ነው። እናም ተመራማሪዋ ስለ ትብብርዎ አስቀድማ ልታመሰግንዎት ትፈልጋለች፡፡

መጠይቁ የጊዜዎን ከ10-15 ደቂቃዎች ይወስዳል። ያቀረቡት መረጃ ሁሉ በጥብቅ ሚስጥር እንደሚጠበቅ እና የምርምር/ትንተና ዓላማ ብቻ እንደሚውል እርግጠኛ ይሁኑ፡፡ ተጨማሪ መረጃ ከፈለጉ፣ በጥናቱ ሊይ ወይም ግልጽ ያልሆነ ሁኔታ ካለ እባክዎ በሚከተለው አድራሻ ያነጋግሩኝ፡፡ ስልክ ቁጥር: 0978007331 email: jappytati@gmail.com

እኔን ወክለው ሊድያ መላኩ እና ኢፍራታ ዝምበላቸው ይህን መጠይቅ ያስሞላሉ። ስለሆነም ሁሉንም ጥያቄዎች እንዲመልሱ በአክብሮት እጠይቃልሁ፣ ወቅታዊ ምላሽዎንም በጉጉት እጠብቃለሁ። ስለ ተሳትፎዎ በጣም አመሰግናለሁ!

አጠቃላይ መመሪያ፡

●ስም መጻፍ አያስፈልግም

● እያንዳንዱ መጠይቅ ክፍል የተሰጠው መመሪያ በጥያቄዎቹ መጀመሪያ ላይ ተሰጥቷል፡፡

ክፍል ፩ : የግለሰባዊ መረጃ ጥያቄ

እባክዎን የ **“√”** ምሌክትን በተገቢው አማራጭ ውስጥ ያስገቡ ወይም ምላሽዎን ይግለጹ።

1. ፆታ፡ ወንድ ☐ ሴት ☐

2. ዕድሜ፡ ከ 20 ዓመት በታች ☐ 21-30 ዓመት ☐ 31-40 ዓመት ☐ 41-50 ዓመት ☐ ከ 50 ዓመት በሊይ ☐

3. የትምህርት ደረጃ፡ ከሁለተኛ ደረጃ ትምህርት ያነሰ ☐ ዲፕሎማ☐ 1ኛ ዱግሪ ☐ 2ኛ እና ከዚያ በላይ ☐

ያልተዘረዘረ ካለ እባክዎ ይግለጹ _____

4. የጋብቻ ሁኔታ፡ ያላገባ/ች ☐ ያገባ/ች ☐ የሞተበት/ባት ☐ የተፋታ/ች ☐

5. አድራሻ፡ ከተማ አካባቢ ☐ ከገጠራማ አካባቢ ☐

6. የጤና ሁኔታ: እያመመኝ ነው ☐ አሞኝ ነበር ግን እየዳንኩ ነው ☐ ጤነኛ ነኝ የመጣሁት ለመታየት ነው(check up) ☐

7. የአመጣጥ ሁኔታ፡ የመጀመሪያ ነው ☐ የመጀመሪያ አይደለም፣ ተመላላሽ ነኝ ☐

ክፍሌ 2: የአገልግሎት ጥራት ልኬቶች

የእርሶዎን አስተያየት በእውነት በሚያንፀባርቅ ሳጥን ውስጥ **"√"** ምልክት በማድረግ እባክዎን በእያንዳንዱ መግለጫዎች ምን ያህል እንደሚስማሙ ወይም እንደማይስማሙ ያመልክቱ:: ልኬቱ የሚያመክተው

1 = በጣም አልስማማም (በአል) ፣ 2 = አሌስማማም (አል) ፣ 3 = ገለልተኛ (ገ) ፣ 4 = እስማማለዉ (እስ) እና 5 = በጣም እስማማለሁ (በእስ)።

አስተማማኝነት **(Reliability)**	መግለጫዎች	በአል	አል	ገ	እስ	በእስ
1	የሆስፒታሉ ሰራተኞች በሚያሳዩት ተግባቦት እና አቀባበል አረክቻለው።					
2	የሆስፒታሉ ሰራተኞች የታካሚዎችን ችግር መፍታት ልባዊ ፍላጎት ያሳያሉ።					
3	የሆስፒታሉ ሰራተኞች ከስህተት የራቀ መዝገብ አያያዝ ስላላቸው ስጋት አይገባኝም።					
4	ሆስፒታሉ ቃል በገባበት ወቅት አገልግሎቱን ያከናውናል					
5	የሆስፒታሉ ሰራተኞች የታካሚን ሚስጥር በጠበቀ መልኩ ያገለግላሉ					
6	የሆስፒታሉ አስተዳደር ችግር ሲፈጠር ወይም ጥያቄ ሲኖር ለመመለስ ዝግጁ ነው።					
ቁሳዊ እና አካላዊ ጉዳዮች **(Tangibles)**						
7	የሆስፒታሉ ግንባታ ተገቢ እና ጥራቱን የጠበቀ ነው።					
8	ሆስፒታሉ ዘመናዊ የሚመስሉ እና ለአይን የሚስቡ መሳሪያዎች አሉት					
9	የሆስፒታሉ ላቦራቶሪ፣ ፋርማሲ እና የምስል ምርምራ ክፍሎች የተሙዋሉ እና ተደራሽ ናቸው።					
10	የሆስፒታሉ ሰራተኞች የሙያ ስነ ምግባር የጠበቀ አለባበስ አላቸው።					
ምሊሽ ሰጪነት **(Responsiveness)**						
11	የሆስፒታሉ ሠራተኞች ታካሚዎችን ለመርዳት በሰዓታቸው ይገኛሉ					
12	የሆስፒታሉ ሠራተኞች ለታካሚዎቻቸው ፈጣን እና የተቀላጠፈ አገልግሎት ይሰጣሉ					
13	አገልግሎቱን እስከናገኝ ድረስ የምንጠብቀው ሰአት ተገቢ እና ለመረዳት ቀላል ነው።					

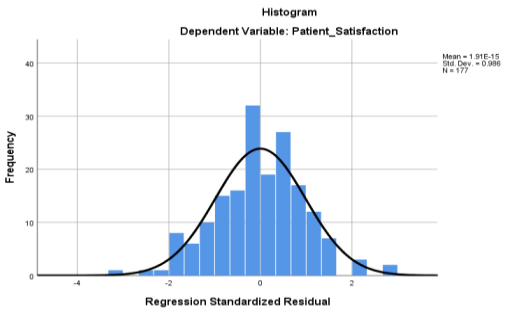
14	የሆስፒታሉ ሠራተኞች ሁልጊዜ ታካሚዎቻቸውን ለመርዳት ፈቃደኞች ናቸው					
ማረጋገጫ መስጠት **(Assurance)**						
15	የሆስፒታሉ ሠራተኞች ከታካሚዎች ለሚንሳ ጥያቄ በእውቀት ላይ የተመሰረተ ምላሽ ይሰጣሉ።					
16	የሆስፒታሉ ሠራተኞች ስላሉት የህክምና አማራጮች በደንብ ያስረዳሉ።					
17	ሆስፒታሉ ያሉብኝን የጤና ችግሮች ማስተናገድ እና መፍታት ይችላል።					
18	የሆስፒታሉ ሠራተኞች በሚሰጡት አገልግሎት ልበ ሙሉነት ይሰማኛል					
ርህራሄ **(Emphaty)**						
19	የሆስፒታሉ ሠራተኞች በትህትና ነው የሚያስተናግዱት					
20	የሆስፒታሉ ሠራተኞች ለታካሚው ግለሰብ የሚገባዉን ልዩ ትኩረት ይሰጣሉ					
21	ሆስፒታሉ ምቹ እና በቂ የምክክር ሰዓት አለው					
22	የሆስፒታሉ ሠራተኞች ለታካሚው አገልግሎት ሲሰጡ በእንክብካቤ ነው።					
23	መረጃ የሚሰጡ የሆስፒታሉ ሰራተኞች ለመርዳት ዝግጁ እና ጠቃሚ ናቸው።					

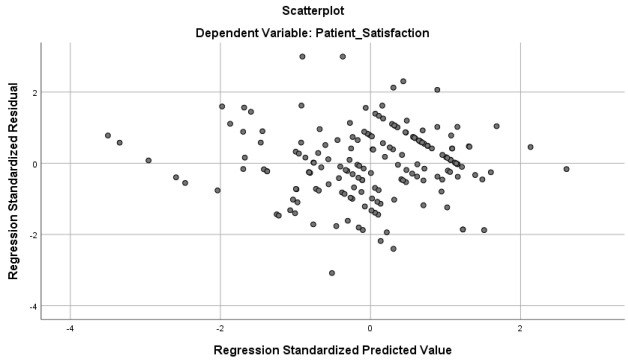
ክፍሌ 3 -የታካሚ እርካታ

ተ.ቁ	መግለጫዎች	በአል	አል	ገ	እስ	በእስ
1	በሆስፒታሉ ሃኪሞች አገልግሎት እረክቻለው።					
2	በሆስፒታሉ ነርሶች አገልግሎት እረክቻለሁ፡፡					
3	በሆስፒታሉ መገልገያዎች እረክቻለሁ					
4	በአጠቃላይ በሆስፒታሉ አገልግሎት አሰጣጥ እረክቻለው።					
5	በዚህ ሆስፒታል መተው እንዲገለገሉ ለሌሎች ታካሚዎች እጋብዛለው።					

ANNEX

Annex 1: Regression result of independent variables on patient satisfaction only at Zewditu memorial hospital, assuming normality is not violated.





Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.795[a]	.633	.622	.57445	.633	58.928	5	171	.000

a. Predictors: (Constant), Empathy, Tangibles, Responsiveness, Reliability, Assurance

b. Dependent Variable: Patient_Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.231	5	19.446	58.928	.000[b]
	Residual	56.430	171	.330		
	Total	153.660	176			

a. Dependent Variable: Patient_Satisfaction

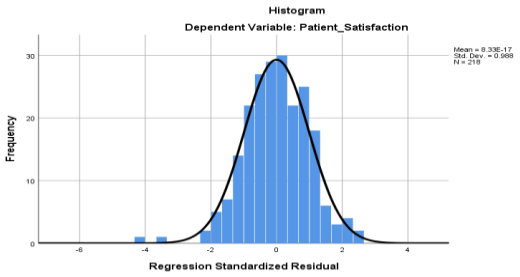
Coefficients[a]

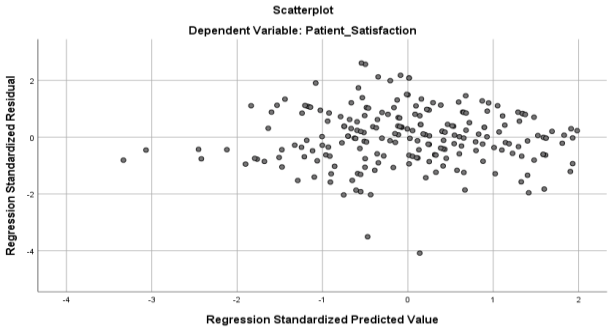
Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.601	.232		-2.586	.011		
	Reliability	.296	.078	.231	3.810	.000	.587	1.705
	Tangibles	.090	.057	.088	1.584	.115	.701	1.427
	Responsiveness	.023	.055	.024	.412	.681	.628	1.592
	Assurance	.200	.070	.174	2.867	.005	.581	1.720
	Empathy	.545	.086	.442	6.327	.000	.440	2.271

a. Dependent Variable: Patient_Satisfaction

b. Predictors: (Constant), Empathy, Tangibles, Responsiveness, Reliability, Assurance

Annex 2: Regression result of independent variables on patient satisfaction only at Black Lion Specialized Hospital





Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.690[a]	.476	.464	.66133	.476	38.574	5	212	.000

a. Predictors: (Constant), Empathy, Responsiveness, Tangibles, Reliability, Assurance

b. Dependent Variable: Patient_Satisfaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.709	.229		3.101	.002		
	Reliability	.098	.078	.099	1.259	.209	.398	2.514
	Tangibles	.134	.075	.125	1.788	.075	.504	1.984
	Responsiveness	.339	.052	.376	6.497	.000	.738	1.354
	Assurance	.199	.076	.206	2.610	.010	.396	2.528
	Empathy	.059	.077	.060	.765	.445	.402	2.485

a. Dependent Variable: Patient_Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.353	5	16.871	38.574	.000[b]
	Residual	92.720	212	.437		
	Total	177.073	217			

b. Predictors: (Constant), Empathy, Responsiveness, Tangibles, Reliability, Assurance