0SERVICE QUALITY AND PATIENT SATISFACTION WITH TB MANAGEMENT IN PUBLIC AND PRIVATE HEALTH FACILITIES OF KAMPALA DISTRICT

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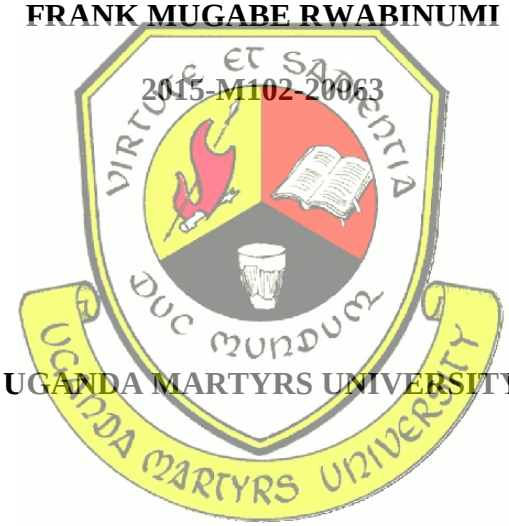

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DEDICATION

This work is dedicated to my beloved mother Dafrose who sacrificed all she had to ensure we got educated during the most trying period of our family. May the Good Lord continue to reward her extraordinarily.

I also dedicate this work to my family and children as a thank you for the moral support, encouragement, patience and love they gave me during the two years of hectic juggling between work and student life; be blessed.

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I am extremely grateful to all the TB patients who were interviewed and the health unit managers who allowed us access to the TB facilities because without their cooperation the study would not have been a success.

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LIST ABBREVIATIONS AND ACRONYMS USED

ANC	Antenatal care
DOT	Direct Observed Treatment
FDC	Fixed Dose Combination
HIV	Human Immuno-deficiency Syndrome
IMCI	Integrated Management of Childhood illnesses
MCH	Maternal Child Health
MOH	Ministry Of Health
NGO	Non-Governmental Organization
NTLP	National TB and Leprosy Program
PFP	Private for Profit
PNFP	Private Not for Profit
TB	Tuberculosis

ABSTRACT

The purpose of this study was to establish the effect of service quality on TB patient's satisfaction in public and private health facilities of Kampala

Specifically, the study set out to establish the level of TB treatment adherence in public and private health facilities in Kampala and the effect of tangibility, responsiveness and empathy on TB patient satisfaction in public and private health facilities in Kampala.

The study used a cross-sectional study using a quantitative approach. The study population included 18 private and 11 public health facilities in Kampala Capital district with an estimated population of 2000 patients in one quarter from which a sample of 278 TB patients were accessed. Data was collected using a questionnaire and was analyzed using SPSS and descriptive, correlation and regression analyses.

The study found a high level of adherence where TB patients always took a full-prescribed daily dose. Some (10%) TB patients did not pick, fulfill appointment or take drug regimens on time. The study also found that tangibility was the second most significant predictor of the variance in patient satisfaction while responsiveness was the most significant predictor of the variance in patient satisfaction. In this study Empathy did not have any significant effect on patient satisfaction.

To enhance patient satisfaction with TB services, the study recommends that the management supports TB units by procuring modern TB diagnostic and Treatment monitoring equipment and also develop a national policy of capacity building through training of doctors, Clinicians, Nurses and Counselors. The management of all health facilities should training staff in TB clinics in customer service and care to equip them with necessary knowledge, skills and attitudes for enhanced responsiveness.

CHAPTER ONE

INTRODUCTION

1.1. Introduction

The widely used definition of service quality is by Parasuraman et al. (1985) who defines service quality as a measure of how well a delivered service matches the customers' expectations by meeting service expectations of tangibility, reliability, empathy assurance and responsiveness. Customer satisfaction is defined as the difference between customer expectations and perceptions of service or simply the level of fulfillment of customer needs (Parasuraman et al., 1985; Zeithaml et al., 2006; Wilson, 2012).

Measuring customer satisfaction provides an indication on how an organizations service meets the customers' expectations (Manani et al, 2013). In context of tuberculosis(TB) patients, the consensus view is that patients who are satisfied with TB treatment are more likely to return for treatment review, stay on treatment to completion which contributes to treatment adherence, positive word of mouth to others and good treatment outcomes (Gaur et al., 2011; Abdul Majeed, Habib, & Rafiqul, 2011; Kessler & Mylod, 2011). However, research into the status of service quality and TB patient satisfaction in Uganda is still scanty (Babikako et al., 2015; Ssengoba et al (2016).

The study specifically seeks to examine the status of service quality and its influence on patient satisfaction with TB management services in public and private health facilities in Kampala. Service quality is the independent variable while TB patient satisfaction is the dependent variable.

This chapter presents the background to the study, objectives of the study, research questions, study hypotheses, scope of the study, significance of the study, conceptual framework, and operational definition of terms and concepts.

1.2. Background to the Study

Health services in developing countries is characterized with persistent gaps and challenges in the delivery of health services in terms of cost to quality ratios which has an impact on the perceived service quality rendered to patients and their resultant satisfaction with state health services (Ramani, 2004. and Mostafa, 2005). Ramani (2004) notes that governmental hospitals world over have over time been plagued with a high patient load, while hospital infrastructure remains the same; enormous financial constraints; poor utilization of otherwise limited resources; and unsatisfactory administrative support from authorities. To complement government delivery of health services, private providers such as Private not for profit (PNFPs), Private for Profit (PFP), and Non-government organization (NGO) hospitals become critical in the delivery of health services and in many poor communities being the sole provider of health services (Manaf, 2005; Mostafa, 2005).

A study by the World Bank in 1986 to contrast private and public health service provides noted that in the African countries of Nigeria and Uganda, mission hospitals and clinics had medicines and other supplies when public facilities did not. In Malawi, consumers walk miles past near free government health centers to get to mission clinics that charge many times as much (World Bank 1986). However, after three decades of African health sector crises and reforms, such sentiments remain strong.

In Uganda, the National TB and Leprosy Program (NTLP) of the Ministry of health (2010) establishes service quality standard for management and treatment of TB cases and notes that successful TB management and treatment is the key to stop the spread of TB disease. Individuals should start treatment as soon as the disease is confirmed and

should be treated according to the World Health Organization (WHO)/NTLP recommended treatment under Direct Observed Treatment (DOT). The aims of treatment are to cure the patient from TB disease; prevent complications and death from the disease. This action will reduce as well as stop transmission of the disease as well as prevent development of drug-resistant forms of TB.

The standard provides for five (5) first-line anti-TB medicines that are used for the treatment of TB most of the time. There are also anti-TB medicines known as second-line drugs that are used for treating drug-resistant TB. Anti-TB drugs are given in combinations called treatment regimens or medicines. These are given in Fixed-dose combinations (FDC), which are a combination of two or more drugs in a single tablet with known weights (mg) of the drugs in each tablet. Anti-TB drug regimens have the following characteristics; contain at least 2 of the most effective anti-TB drugs (rifampicin or isoniazid) in both the initial and continuation phase of treatment; usually must be written in standard abbreviation that clearly identifies the drugs in the initial and continuation phases of treatment; defines a specific duration of treatment and frequency of giving the drugs depending on the type of disease; written with numbers in prefix and the standard abbreviation for the TB drugs.

First line regimen (i) has an intensive /initial phase of 2 months consisting of daily rifampicin, isoniazid, pyrazinamide and ethambutol, followed by a 4-month continuation phase of daily rifampicin and isoniazid. Using these 4 drugs, results in rapid killing of the TB germs. Patients become non-infectious in about 2 weeks of treatment initiation. Symptoms reduce, and the majority of the confirmed cases (smear-positive or bacteriologically positive) cases become and test negative (smear negative) within the

first 2 months. Non anti-TB drugs are equally given to accompany anti-TB treatment. There are two such commonly used medicines, namely pyridoxine (Vitamin B6) and prednisolone. Currently, Uganda is using the 6-month TB treatment regimen. Once a TB patient is started on treatment, it is important to find out if the patient is getting better as a result of the treatment.

The following methods are used for treatment monitoring in order of importance: *i)* Sputum microscopy (or culture) must be used for monitoring all pulmonary TB patients. This is done at two months, at the fifth month and sixth; last month of treatment for ordinary TB treatment. Where culture facilities are available, it can be used to confirm treatment failure, resistance and or the sensitivity pattern to the drugs can be determined. *ii)* Clinical monitoring is particularly useful for children and extra-pulmonary TB cases but can also contribute in pulmonary cases where symptoms such as cough, weight gain, gaining of appetite, loss of fevers are used. *iii)* Radiological monitoring is a method that should not be used as the sole monitoring tool. In cases where radiological monitoring is used, sputum and clinical monitoring should accompany the radiological monitoring as depending on the extent of disease damage to the lung tissues the radiological picture may take long to change towards normal. There may be also issues of interpretation among others.

There has been tremendous improvements in TB control efforts over the years with treatment success moving from 53% in 2010 to almost 80% in 2015 (MOH, NTLP Reports and Manuals 2005-2016).The WHO led Joint Monitoring Mission (2013) however indicate that despite improvements in TB indicators there is still high loss to

follow up of more than 10% and the treatment success remained low at 78% which may be due to lack of patient awareness as a result of poor quality of TB services. Comparing Uganda with other countries at a global level, in Uganda the cure rate is still low at about 50% compared to the global cure rate of about 84% (WHO, 2013). In the same year, Uganda was rated among the 22 high TB burden countries in the world implying there is still a lot of tuberculosis disease. While the health sector had managed to achieve a 50% reduction in new Tuberculosis infections due to scale up of appropriate diagnostics, availability of anti-TB drugs and other community initiatives, the quality of care provided to TB clients remained poor (WHO 2014). This was reflected by over 10% of the diagnosed patients on treatment having reported as loss to follow up (defaulters), low treatment cure rates for patients confirmed with TB among others and the overall treatment success rate being below 85%. There were also still 13,000 estimated missed cases of TB annually these have since been established to be over 40,000 cases missed after the conclusion of the TB prevalence survey in 2016 (NTLP annual reports 2014, 15 and 16, National TB survey report 2016). The emergence of the public health challenge of Multi Drug Resistant TB, which is increasingly driving the costs, and mortality associated with TB control.

1.3. Statement of the Problem

Despite the prescribed TB treatment service quality national standards for public and health facilities in Uganda, some TB patients continue to manifest elements of dissatisfaction with high rate of complaints, inadequate treatment outcomes such as high default rates, and low cure rates. The National TB Program review reports reveal low treatment success rate of 71% in 2011/2012 compared to WHO target of 85%. There was

an improvement to 85% in the 2015/16 review but also below the target of 90% (Joint monitoring Mission report Sept 2013). Anecdotal reports from Kampala health facilities point to some patient missing out on their scheduled appointment visits to the health facilities, poor communication between the providers to the patients, limited treatment information availed to the patients, poorly facilitated TB treatment facilities with no designated waiting/sitting areas, limited furniture, fewer health workers are available to attend to them (NTLP National Annual report, 2015).

Although service quality is a determinant of TB patient satisfaction and treatment outcomes knowledge on the service quality predictors of TB patient satisfaction in peri-urban areas of Kampala is limited. A local study by Babikako et al (2015) only validated the TB patient satisfaction questionnaire while Ssengoba et al (2016) only assessed TB patient satisfaction with Clinical consultations. Since a TB patient satisfaction influences TB treatment adherence, positive word of mouth to others and TB treatment outcomes, it was necessary to gain knowledge on the service quality determinants of TB patient satisfaction in public and private health facilities in Kampala with a high incidence of TB cases.

1.4. Main Objective of the Study

To establish the effect of service quality on TB patients satisfaction in public and private health facilities of Kampala

1.5. Specific Objectives of the Study

1. To establish the effect of tangibility on TB patient satisfaction in public and private health facilities in Kampala.

2. To establish the effect of responsiveness on TB patient satisfaction in public and private health facilities in Kampala.
3. To establish the effect of empathy on TB patient satisfaction in public and private health facilities in Kampala

1.6. Research questions

1. What is the effect of tangibility on TB patient satisfaction in public and private health facilities in Kampala?
2. What is the effect of responsiveness on TB patient satisfaction in public and private health facilities in Kampala?
3. What is the effect of empathy on TB patient satisfaction in public and private health facilities in Kampala?

1.7. Scope of the Study

1.7.1. Content scope

The study concentrated on service quality as the independent variable under the dimensions of tangibility, responsiveness and empathy in offering TB services. The study also concentrated on patient satisfaction under the indicators of adherence to TB treatment as evidenced by TB treatment completion rates, cure rates and rates of loss and treatment interruption, recorded death while on treatment, word of mouth on the treatment received and referrals as indicated by patient's willingness to refer others. If the good outcomes are high, it will reflect good service quality if low, poor service quality. Similarly if the poor treatment outcomes are low it will reflect high quality services and high poor treatment outcomes meaning poor service quality.

1.7.2. Geographical scope

The study was carried out in facilities within Kampala district where TB diagnosing and treatment facilities with high numbers of TB patients were prioritized. Emphasis was made to ensure a good mix of both public and private facilities to allow for comparison along the study objectives. This allowed for observing the differences and similarities for future inference and possible action

1.7.3. Time scope

The study covered a period of one year (12 months) by focusing on patients who would have enrolled for TB treatment 6 months from the commencement of data collection since an average treatment period is 6 months and treatment evaluations are conducted after 12months since commencement of TB treatment. Hence records for patients treated for a full period of 6-12 months were reviewed while for interviews patients on active treatment were targeted.

1.8. Justification of the study

Uganda is one of the 30 high TB/HIV burden countries in the World with an estimated prevalence and incidence of TB as 253 and 234 per 100,000 population respectively. This translates to about 90, 000 prevalent and 87,000 new TB cases each year respectively (WHO 2016 report and the unpublished Uganda population based TB prevalence Survey Report 2016). These are much higher than previously estimated TB cases, leaving close to 50,000 new TB cases undiagnosed on an annual basis. In 2011 the TB treatment success rate was about 7 in every 10-reported cases but in the 2014/15-review TB treatment success only improved to 8 in every 10 which remained below the 90% WHO target. In these TB treatment cohort results, the cure rate had only improved from 35% to

48% despite the WHO target of 85% for all TB patients treated. As if this is not enough a very high number of TB patients, greater than 10% continue to be reported to have not completed TB treatment (Defaulted). TB being a curable and treatable but killer disease with a threat of acquiring drug resistance, it remains not clear from the patient's perspective why such situations continue to exist. This has left a number of questions, the cure rate being a measure of quality TB services, it's important to establish the quality of services this time based on what the patients know, expect and say not what the providers are doing or reporting from their perspective which may have been reviewed several times.

There has been no or very limited efforts directed towards evaluating patient perceptions of TB services provided to them. The quality of the services as well measure their satisfaction which may have a strong relationship with treatment adherence, completion and cure as well as the reverse if the satisfaction is low or poor. In addition to this there has been no effort to disaggregate experiences of TB service quality in private and public TB providing health facilities to help identify provider specific service quality strengths, gaps and challenges as well as establish local benchmarks for strengthening TB quality of care in Uganda from the patients perspective.

This study comes in handy by providing empirical comparative evidence on perceptions of service quality and patient satisfaction in public and private TB providing health facilities in Kampala and Uganda.

1.9. Significance of the Study

The study findings may be useful in a number of ways, these may include;

1. To the MoH, and specifically the TB and Leprosy Control program; the study could help identify TB treatment service quality gaps information which may be used to strengthen TB quality of care policy for enhanced treatment success and cure rates thereby reducing TB deaths, Loss to follow ups eventually impacting on transmission of the disease and the burden of TB
2. To the TB clinics, the study findings could help inform the development managerial recommendations for improving on TB service quality and patient satisfactions.
3. To the TB patients, the study may offer an opportunity for them to express service quality concerns and feedback that the health facilities need to address to their satisfaction. This if achieved will help enhanced participatory care where the feelings of TB patients are considered and taken care of in line with modern health practices.
4. To the academia, the study may help cover knowledge and literature gaps on service quality and TB patient satisfaction in a private and public health facilities of a developing country such as Uganda faced with a multitude of health system challenges standing between quality of health care.

1.10. Conceptual Framework

The figure below shows a schematic illustration between service quality that is the independent variable and Tb patient satisfaction which is the dependent variable. This was also the basis for deriving study objectives.

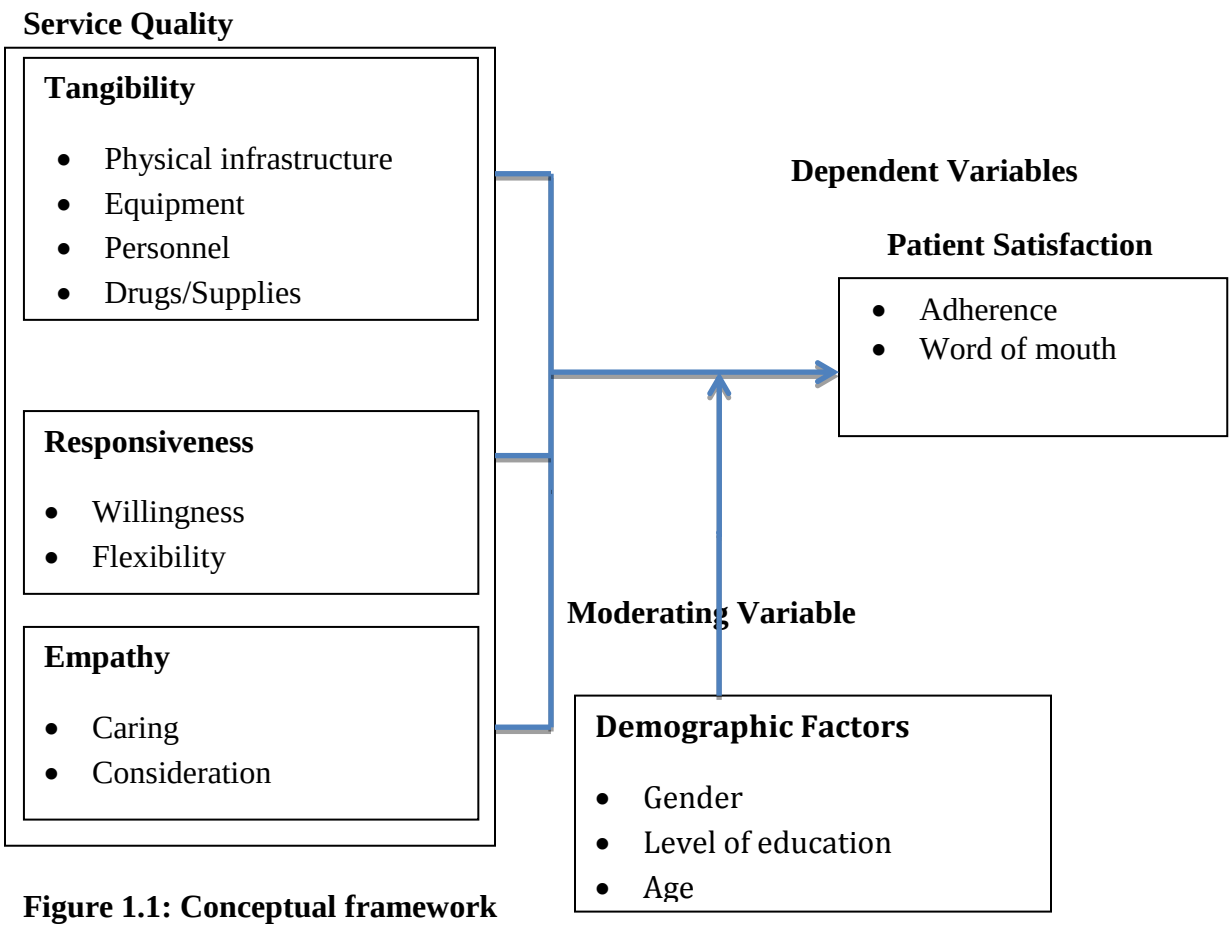

Figure 1.1: Conceptual framework

Source: Adopted with modifications from the Parasuraman et al. (1985) Servi-qual Model.

The model shows that patient satisfaction with TB treatment services is dependent on service quality. Patient satisfaction has two indicators of adherence, treatment outcomes referrals and word of mouth. Service quality has three indicators of tangibility which

considers the physical aspects of the service and personnel used; responsiveness which considers the willingness and flexibility in offering the TB services and; empathy which focused on element of care and consideration by the personnel administering the service. It is therefore hypothesized that a poor service quality will lead to patient dissatisfaction leading to their likely drop out and low success rates in TB treatment leading to high TB burden in the country. However the relationship between service quality and patient satisfaction could be constrained by some risk factors (moderating variables) notably gender, age and education level of the TB patients.

1.11. Operational definition of terms and concepts

Service quality in this study refers to the tangibility, responsiveness and empathy in the TB care.

Tangibility refers to the appearance of physical facilities, equipment, appearance of health care workers, and communication materials used in offering TB treatment

Responsiveness in this study refers to the willingness of the health care workers to help patients and provide prompt service.

Empathy in this study refers to the caring, individualized attention provided to patients by the health care workers.

Patient satisfaction in this study refers to adherence to TB treatment and the resultant word of mouth by patient who enroll for TB treatment.

Adherence to TB treatment in this study is defined as the extent to which the patient's history of therapeutic drug-taking coincides with the prescribed treatment (Urquhart, 1996). Adherence may be measured using either process-oriented or outcome-oriented definitions. Outcome-oriented definitions use the end-result of treatment, e.g. cure rate, as

an indicator of success. Process-oriented indicators make use of intermediate variables such as appointment keeping or pill counts to measure adherence (Volmink and Garner, 2000).

Treatment Regimen: Combination of medicines used to treat TB disease; there are different combinations for different forms of TB disease depending on how complicated the disease is.

Word of mouth in this study refers to the passing or sharing of experiences about the TB treatment services by patients who have accessed the service (Negi, 2009, Ladhari, 2009)

Referral in this study refers to sending another person to a given facility to utilize the service by a patient. This is seen as a sign of approval.

1.12. Conclusion

The study sets out to conduct a comparative analysis of service quality and patient satisfaction in public and private health facilities in Kampala. Specifically the study sets out to establish if there is any significant difference in tangibility, reliability, empathy dimensions of service quality and patient satisfaction with TB treatment services. This chapter has set out the background to the study detailing the problem and conceptual framework. Chapter two focused on a detailed review of literature on the relevant theories and study objectives.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents a review of related literature on service quality and patients satisfaction based on what other scholars have found, noted or opined from previous studies. It specifically presents the theoretical and conceptual reviews. It also features a review of empirical literature on the relationship between variables. It is done with a view of gaining theoretical answers to the research questions and also highlighting the literature gaps in the summary of literature review.

2.2. Theoretical background

2.2.1. Serviqual Model

The study is underpinned by the Service Quality Gaps Model and the SERVQUAL model proposed by Parasuraman et al. (1988) which assumes that service quality has five dimensions tangibility, empathy, reliability, assurance and responsiveness. Reliability- ability to perform the promised service dependably and accurately; Responsiveness- willingness to help customers and provide prompt service; Assurance- knowledge and courtesy of employees and their ability to inspire trust and confidence; Empathy- caring, individual attention the firm provides its customers (Parasuraman et al., 1988).

Notwithstanding its growing popularity and widespread application, SERVQUAL has been subjected to a number of criticisms one of which is the paradigmatic objections where two major criticisms have been raised. First, SERVQUAL has been inappropriately based on an expectations disconfirmation model rather than an attitudinal model of service quality. Second, it does not build on extant knowledge in economics,

statistics and psychology. SERVQUAL is based on the disconfirmation model widely adopted in the customer satisfaction literature. In this literature, customer satisfaction (CSat) is operationalized in terms of the relationship between expectations (E) and outcomes (O). If O matches E, customer satisfaction is predicted. If O exceeds E, then customer delight may be produced. If E exceeds O, then customer dissatisfaction is indicated. According to Cronin and Taylor (1994) SERVQUAL is paradigmatically flawed because of its ill-judged adoption of this disconfirmation model. "Perceived quality", they claim, "is best conceptualized as an attitude". They criticize Parasuraman *et al*. for their hesitancy to define perceived service quality in attitudinal terms, even though Parasuraman *et al.* (1988) had earlier claimed that service quality was "similar in many ways to an attitude".

A related set of criticisms refer to the value and meaning of gaps identified in the disconfirmation model. Babakus and Boller (1992) found the use of a "gap" approach to SQ measurement "intuitively appealing" but suspected that the "difference scores do not provide any additional information beyond that already contained in the perceptions component of the SERVQUAL scale". They found that the dominant contributor to the gap score was the perceptions score because of a generalized response tendency to rate expectations high. Churchill and Surprenant (1982), in their work on CSat, also ponder whether gap measurements contribute anything new or of value given that the gap is a direct function of E and P. It has also been noted that while conceptually, difference scores might be sensible, they are problematic in that they are notoriously unreliable, even when the measures from which the difference scores are derived are themselves highly reliable (Iacobucci et al., 1994).

According to Ahmad Azmi and Norzalita (2008), the serviqual model is a widely accepted tool for measuring service quality (Ladhari, 2008) including the healthcare settings (Taner & Antony, 2006).

The theory informs this study that TB service quality (independent variable) should be evaluated on tangibility, reliability, responsiveness, assurance and empathy perspectives and how they meet TB patient's expectation.

2.2.2. Assimilation theory of customer satisfactions

The study was guided by the Anderson (1973) assimilation theory which asserts that consumers make some kind of cognitive comparison between expectations about the product and the perceived product performance. According to Anderson (1973) consumers seek to avoid dissonance by adjusting perceptions about a given product to bring it more in line with expectations. Consumers can also reduce the tension resulting from a discrepancy between expectations and product performance either by distorting expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced (Anderson, 1973).

The Anderson (1973) assimilation theory has been criticized for its assumption that there is a relationship between expectation and satisfaction but does not specify how disconfirmation of an expectation leads to either satisfaction or dissatisfaction. Second, the theory also assumes that consumers are motivated enough to adjust either their expectations or their perceptions about the performance of the product (Payton et al, 2003). A number of researchers have found that controlling for actual product

performance can lead to a positive relationship between expectation and satisfaction. Therefore, it would appear that dissatisfaction could never occur unless the evaluative processes were to begin with negative consumer expectations (Olson & Dover, 1979).

Despite its criticism the assimilation theory underpinned this study as its helps explain why even when dissatisfied with some aspects of TB services, the patients still seek TB services from a specific treatment center.

2.3. Conceptual Review

2.3.1. Service quality

The definition of service quality has taken majorly two perspectives notably the confirmation disconfirmation and the gaps perspective. However the gaps perspective refined by Parasuraman et al., (1985) has received wide attention for its standardization of service quality dimensions. The Parasuraman et al., (1985) has wide applicability in virtually all sectors and has been used by any scholars to evaluate the health service quality (Gaur et al., 2011; Abdul Majeed, Habib, & Rafiqul, 2011).

Parasuraman et al., (1985) defines service quality as a measure of how well a delivered service matches the customers' expectations by meeting service expectations of tangibility, reliability, empathy assurance and responsiveness. This study however focuses on tangibility, responsiveness and empathy.

Tangible refers to the appearance of physical facilities, equipment, appearance of health care workers, and communication materials such as patient folders, request forms, prescription forms. Responsiveness refers to the willingness of the health care workers to help patients and provide prompt service. Empathy refers to the caring, individualized attention provided to patients by the health care workers.

2.3.2. Patient Satisfaction

Customer satisfaction is an elusive concept but Zeithaml et al (2006) define customer satisfaction using the gap perspective, which is the difference between customer expectations and perceptions of service. Customer expectations are standards that customers place on the service experience, based on what they think should happen before interfacing with the service while customer perceptions are the valuation of the actual service experience. Wilson (2012) equally defined satisfaction in relation the level of fulfillment of customer's needs and expectations. In complement, Bala (2013) contends that customer satisfaction is a result of comparison of perceived performance of a service or product vis-a-vis the expectations. Sakhaei, et al. (2014) notes that dissatisfaction arises from a low evaluation of perceived performance while satisfaction is achieved when the perceived performance exceeds customer expectations. According to (Manani et al, 2013), measuring customer satisfaction provides an indication on how an organization is performing or providing products or services.

The above propositions on what constitutes customer satisfaction have been widely used in patient satisfaction research. Patient satisfaction with medical care is a multidimensional concept, with a dimension that corresponds to the major characteristics of providers and services (Gaur et al., 2011; Abdul Majeed, Habib, & Rafiqul, 2011). Kessler and Mylod (2011)equally notes that within the health care industry, patient satisfaction determines continuity of utilization of the health services, patient trust with health services offered and is widely considered as an important component and measure of the quality of healthcare.

Adherence to TB treatment is defined as the extent to which the patient's history of

therapeutic drug-taking coincides with the prescribed treatment (Urquhart, 1996). Haynes (2011) defines adherence as the extent to which a person's behavior taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider. Adherence may be measured using either process-oriented or outcome-oriented definitions. Outcome-oriented definitions use the end-result of treatment, e.g. cure rate, as an indicator of success. Process-oriented indicators make use of intermediate variables such as appointment keeping or pill counts to measure adherence (Volmink and Garner, 2000).

Word-of-mouth communication is another indicator of customer satisfaction of which researchers have proven that providing good service quality to customers/users motivates them, attracts new ones, enhances positive word-of-mouth recommendation and above all guarantees survival and firm development (Negi, 2009, Ladhari, 2009). According to Kassim and Abdullah (2010) word-of-mouth communication is an emotionally expressed behavior that influences others' purchasing intentions by informing them of a superior experience. Chaniotakis and Lymperopoulos (2009) who suggests that the potential for word-of-mouth communication to impact perceptions or actions depends on the nature of the sender-receiver relationship, the richness and strength of the message and its delivery.

2.4. Empirical Studies

2.4.1. Adherence and treatment outcomes

TB treatment adherence is best seen by patients being documented on Direct observed treatment, Patients attending clinics faithfully as expected, patients being done follow up examinations at the required treatment land marks such as at two months , 5months and 6months and documented. Though this may be affected by the kind of health workers in

terms of reporting which will be assessed by the patients responsiveness and empathy as perceived by the client who is the TB patient TB treatment outcomes especially cure, completion are a positive sign of treatment adherence and response, while other treatments such as death, failure, transfer out may be largely associated with poor treatment response and adherence.

Fagundez, et al (2016) in their Equatorial Guinea study found that 78.57% of respondents were adherent. The risk factors associated with low adherence included low educational level, lack of family support and lack of medical advice about the disease was significantly associated to lower adherence level. Patients with re-infection (due to relapse or treatment failure) and those who have suffered from drug shortages were also less adherent.

Kisambu, Nuwaha and Sekandi (2014) examine the levels of adherence to anti-tuberculosis medications and associated risk factors in a pastoral community practicing transhumance in North-Eastern Uganda and found that Medication and supervision adherence were estimated at respectively 72% and 63%. Independent predictors of medication adherence were perceived drug side effects, running out of drugs and DOT card not filled in.

A South African study by Mazinyo, et al. (2016) on a sample of persons receiving concurrent treatment, found about 90% compliance with only 11% being non adherent. Non-adherent persons were more likely to have extra pulmonary TB and had not disclosed their HIV status. Tesfahuneygn et al. (2015) Ethiopian study equally finds high level of adherence at 88.5%. The main reasons for the non-adherent patients were

forgetting to take medication, being away from home, drug side effects, being unable to go to the health facilities on the date of appointment and being hospitalized. In the TB treatment outcomes component of the current study and the overall treatment success rate was 90.1 %. A total of 5% patients had unsuccessful treatment outcomes, of whom 35.3 % defaulted, 58.6 % died and 6.1 % had treatment failure.

On the contrary, some studies have found low level of patients' adherence. Kulkarni et al. (2013) on TB patients in Mumbai Municipal Corporation found that 50% of the TB patients were non-adherent to anti-tuberculosis treatment and the independent risk factors for non-adherence were identified as male gender and lack of knowledge of importance of regular treatment, and being female sex worker. Similarly, a study by Ofoegbu and Odume (2015) in Nigeria found that HIV positive cases had a lower treatment success rate, 48.8%, a higher rate of treatment failure 10.8% and a higher rate of default, 38.6%.

2.4.2. Tangibility and patient satisfactions

Tangibility of health services considers the physical aspects of health care and there has been a stream of research on how it influences quality of care among public and private entities and some empirical studies have found mixed results on tangibility and patient satisfaction. Odebiyi, et al (2009), study evaluating patient satisfaction with physiotherapy services offered in private and public hospital found that on overall subjects were satisfied with care received in both public and private hospitals although subjects in the private hospitals expressed more satisfaction in all the sub-scales of the patient satisfaction questionnaire than their counterparts in the public hospitals, particularly in the 'facilities' and 'appointment' subscale of the same questionnaire. In all, subjects who received physiotherapy in private hospitals were more satisfied than

those who received physiotherapy in public hospitals. The subjects in public hospitals were particularly least satisfied with the 'available physiotherapy facilities' and 'appointment schedules'. Government should therefore provide adequate facilities in the physiotherapy departments of public hospitals in order to manage the large volume of patients seen.

In support, Sabir et al (2014) examines the impact of Service Quality on Patient's Satisfaction using SERVQUAL in Combined Military, Private and Government Hospitals of Pakistan and found that private and combined military hospitals were more anxious about quality of service, but, little attention has been paid on service quality dimensions by public health care centers Sabir et al (2014) study based on the correlation and regression results confirm that actually tangibility was a significant predictor of patient satisfaction.

Related to the above studies, el Arifeen et al. (2009) found that utilization and quality of care at IMCI primary facilities improved, but distrust of referral facilities meant few severe cases received appropriate treatment. Subsequent modification of IMCI guidelines to increase the level of treatment available at the primary facilities led to a fivefold increase in the number of children seeking treatment for severe pneumonia in Bangladesh Aksan et al. (2010) in their study found out that although private sector grew rapidly in Turkey between 2001-2006 in capacity and service delivery, the expansion of the private sector may not contribute in reducing the inequalities in access to health care but may widen the existing gap for access to health between high and low income earners in these underdeveloped regions.

Abro and Jalbani (2012) study found out that regardless of any demographic dimension of age, gender, social class and education, patients were found dissatisfied from the physical facilities provided by the Hospital implying that management of Civil Hospital should pay attention to Physical facilities provided to the patients mainly the cleanness. In this connection, civil hospital authorities must pay attention towards particular Health care facilities apart from the variables taken by SERVQUAL Model. Civil Hospital authorities may conduct gap analysis research by taking both sides of SERVEQUAL (Expectation & Perception) to bridge the gap between functional and technical facilities provided to the patients. Poor Infrastructure shows lack of government support or interest of authorities.

Rehin and Raveendran (2013) examines the key determinants of patients' satisfaction with tangible elements at government hospitals in Kerala and found that pleasantness of rooms as well as nurses, drinking water and sanitation facilities and timely availability of patient mobility facility are the key factors influencing the satisfaction of patients with tangible elements. The study concluded that pleasantness of rooms and nurses, timely availability of mobility facilities and drinking water and sanitation facilities are the main factors determining patients' satisfaction and therefore the authorities concerned should focus on these issues in order to enhance patient satisfaction.

A more recent study by Chimbindi et al. (2014) concludes that increase in health systems resources for HIV and TB, improvements in facility maintenance and staff attitudes are likely to substantially improve HIV and TB patients' satisfaction with the care they receive in public-sector treatment programs in rural communities in South Africa.

Asemahagn (2014) examines the quality of Tuberculosis Laboratory Services in Selected Public and Private Health Facilities in Ethiopia and found that the presence of quality laboratory services in the study areas was reported by 53.0% of the study participants. Supportive supervision and timely feedback, internal and external quality assurance practices, equity in training and resource distribution were issues given less attention in the study areas. Poor documentation from record reviewing and about 10% false negative discordant report on panel testing were observed. Shortage and unfair distribution of inputs can compromise service quality. The study however does not give a comparison between public and private health laboratories.

Nwabueze et al (2010) conducted a comparative assessment of patients' satisfaction with ambulatory HIV/AIDS care in a Catholic secondary hospital and public tertiary hospital in Anambra State. Mixed-method (surveys/exit interviews): A descriptive comparative cross-sectional study based on interviews of 300 PLWHA-patients sampled from the two facilities. More patients complained of a bad attitude of staff at the Catholic (SCBH) facility but overall patients' perception of care by all staff was significantly higher at the Catholic facility than the public one. Rating of patient satisfaction drivers like waiting time, confidentiality, hospital structure and environment were higher in the Catholic facility. Overall patient satisfaction with HIV/AIDS services was rated higher in the Catholic facility, despite more concerns about higher user fees.

On the contrary, a comparative cohort and cross-sectional study by Basu et al (2011) suggested that providers in the private sector more frequently violated medical standards of practice and had poorer patient outcomes, but had greater reported timeliness and

hospitality to patients. Reported efficiency tended to be lower in the private than in the public sector, resulting in part from perverse incentives for unnecessary testing and treatment. Public sector services experienced more limited availability of equipment, medications, and trained healthcare workers. When the definition of "private sector" included unlicensed and uncertified providers such as drug shop owners, most patients appeared to access care in the private sector; however, when unlicensed healthcare providers were excluded from the analysis, the majority of people accessed public sector care. "Competitive dynamics" for funding appeared between the two sectors, such that public funds and personnel were redirected to private sector development, followed by reductions in public sector service budgets and staff.

However, Makinen et al (2011) conducted a Household survey in Ghana health sector and found no significant difference between provider types in relation to patient satisfaction. Consumers usually choose self-financed private providers for quality services, customer service, and short waits; Ghana Health Service providers for quality services, low prices, and availability of doctors; and Christian Health Association of Ghana providers for quality services, availability of doctors, and more courteous service.

2.4.3. Responsiveness and Patient Satisfaction

According to Owens and Batchelor (1996) responsiveness in the context of a system can be defined as the outcome that can be achieved when institutions and institutional relationships are designed in such a way that they are cognizant and respond appropriately to the universally legitimate expectations of individuals. Responsiveness can be viewed from two angles. Firstly, the user of the health care system is often portrayed as a consumer, with greater responsiveness being perceived as a means of

attracting consumers. Secondly, responsiveness is related to the safeguarding of rights of patients to adequate and timely care.

On the relationship between responsiveness and patient satisfaction two other studies examined strategies involving how patients interacted with providers. The first involved the provision of personalized maternal care and follow up by assigning patients to one provider for the duration of their care (Marin et al. (2011), while the second examined the use of group ANC sessions rather than individual care (Jafari et al 2010). Both studies reported improvements in quality, and in outcome measures such as adherence.

A related study by Chen et al (2013) found that neither public nor private sector provided all 16 standardized services, but significantly more women in public sector received ANC procedures. Most women received ANC in county or higher-level hospitals (75%) and very few in township hospitals (8%). Significantly fewer women were weighed and tested for HIV/ AIDS in township than in county or higher-level hospitals. The study concludes that the quality of ANC in Hebei was poorer than required by China's national and World Health Organization norms. Although the public sector performed better than the private sector, the utilization and quality of care of ANC services in this sector varied and women generally visited county or higher-level health facilities.

Malhotra and Do (2013) assesses the magnitude of socio-economic disparities in health system responsiveness in India after correcting for potential reporting heterogeneity by socio-economic characteristics (education and wealth) the statistical models accounting for reporting heterogeneity revealed socioeconomic disparities in all health system responsiveness domains. Estimates suggested that individuals from the lowest wealth

group, for example, were less likely than individuals from the highest wealth group to report ‘very good’ on the dignity domain by 8% points (10% vs 18%). Stratified analysis showed that such disparities existed among users of both public and private health facilities. Socio-economic disparities exist in health system responsiveness in India, irrespective of the type of health facility used. Policy efforts to monitor and improve these disparities are required at the health system level.

On if there was any significant difference between NGO hospital and public facilities, Bazantand Koenig (2009) study on women’s satisfaction with delivery care in a cluster or informal settlements in Nairobi Women’s delivery care expenditures varied by facility type, with the cost of delivery at the mission hospital significantly higher (5 times the median expenditure at private facilities). However, dissatisfaction was greater among women who gave birth at government hospitals than at private facilities in the informal settlements. The mission hospital received the highest satisfaction ratings, most likely reflecting the high-cost provision of care that was affordable to few women.

Peltzer (2009) study to evaluate the degree of health care service responsiveness (both out-patient and in-patient) and comparing experiences of individuals who used public and private services in South Africa found that adherence was more among those who attended in-patient care; 72.2% attended a public and 24.3% a private facility, and of those who attended out-patient care; 58.7% attended a public and 35.7% a private facility. Major components identified for out-patient care responsiveness in this survey were highly correlated with health care access, communication and autonomy, secondarily to dignity, confidentiality and quality of basic amenities, and thirdly to health problem solution. The degree of responsiveness with publicly provided care was in this study

significantly lower than in private health care. Overall patient non-responsiveness for the public out-patient service was 16.8% and 3.2% for private care. Discrimination was also one of the principal reasons for non-responsiveness in all aspects of provided health care.

A local study by Babikako et al (2011) conducted a cross-sectional evaluation study (2007-2008) of satisfaction of adult TB patients attending public and private (Christian) hospitals for TB treatment in Kampala using the mixed-method found that Patients at public hospitals experienced significantly lower levels of satisfaction with technical quality of TB care, responsiveness to patient preferences and patients' understanding of potential problems of TB medicines. Differences in satisfaction suggest differences in public/private delivery with private healthcare possibly more patient-centered.

In support, Sabir et al (2014) examines the impact of Service Quality on Patient's Satisfaction using SERVQUAL in Combined Military, Private and Government Hospitals of Pakistan and found that private and combined military hospitals were more anxious about the responsiveness of the service offered, but, little attention has been paid on the responsiveness service quality dimensions by public health care centers. Sabir et al (2014) study based on the correlation and regression results confirm that actually responsiveness was a significant predictor of patient satisfaction.

2.4.4. Empathy and patient satisfaction

The role of empathy in patient satisfaction reveals mixed findings from the literature from different studies. Canale, (2012) examines physician empathy and how it is associated with clinical outcomes for patients with diabetes mellitus and concluded that physician empathy is significantly associated with clinical outcome for patients with

diabetes mellitus and should be considered an important component of clinical competence.

Chimbindi et al. (2014) study found that almost all patients (95% HIV, 97% TB) reported to be globally satisfied with the healthcare services received on the day of the interview. However, patient satisfaction with specific concrete aspects of the health services was substantially lower: 52% of HIV and 40% of TB patients agreed that some staff did not treat patients with sufficient respect yet the existence of long queues lead to dissatisfaction. Essiam (2013) study equally finds positive significant but moderate relationships perceived empathy and patient satisfaction and it predicted 16.0% of patient satisfaction. In support, Sabir et al (2014) study based on the correlation and regression results confirm that actually empathy was a significant predictor of patient satisfaction.

On if there was a significant difference between service provider and patient outcomes, ARHAP (2006) Mapping study of faith based health and HIV/AIDS activities in Lesotho and Zambia (2005-2006) using perceptions of community satisfaction gathered through participatory ranking, interviews and questionnaires found out that community focus groups consistently ranked local faith-based facilities higher – usually described as a result of additional quality of 'compassionate care'.

Gemignani and Wodon (2010) study in Burkina Faso to examine satisfaction with services and reasons for choosing faith-inspired providers, comparing public, Christian and Islamic facilities found that better relationships between clinic staff and patients in catholic facilities influenced patients choice of catholic facilities. Derken et al (2013) note that there is a good correlation between physician empathy and patient satisfaction

and a direct positive relationship with strengthening patient enablement. Empathy lowers patients' anxiety and distress and delivers significantly better clinical outcomes.

However, Riggs et al. (2012) study on Canada on facilitating access to MCH services; promoting continued engagement with the MCH service found perceived barriers for parents in using MCH services included access to transportation, lack of confidence in speaking English and making phone bookings. Service users and providers reported that continuity of nurse and interpreter is preferred for increasing client-provider trust and ongoing engagement. The study concluded that although participants who had children born in Melbourne had good initial access to, and experience of, using MCH services, significant barriers remain. A systems-oriented, culturally competent approach to service provision would improve the service utilization experience for parents and providers, including formalizing links and notifications between settlement services and MCH services.

Shojo et al (2012) study in Ghana on satisfaction with services and reasons for choosing faith-inspired providers, comparing public, Christian and Islamic facilities found no substantial differences between public and faith-inspired providers, but qualitative data suggested better satisfaction with faith-inspired providers, mostly due to better service and relationships between clinic staff and patients.

2.5. Summary of Literature Review

A review of existing literature reveals mixed experiences on the relationship between tangibility and patient satisfaction with no conclusive positions as some studies find tangibility to be a determinant of patient satisfaction while others find no relationship.

Similarly studies comparing the perception of tangibility and patient satisfaction with TB treatment services between public and private health facilities are still scanty.

Moreover, existing literature reveals mixed experiences on the relationship between responsiveness and patient satisfaction with no conclusive positions as some studies find tangibility to be a determinant of patient satisfaction while others find no relationship.

Studies comparing the perception of responsiveness and patient satisfaction with TB treatment services between public and private health facilities are still embryonic.

Furthermore, the literature not only points to an inconclusive position on the relationship between empathy and patient satisfaction, but it also suggests that there are few comparative studies on empathy and TB patient satisfaction between public and private health services.

This study will therefore strive to fill the knowledge gap on the relationship between tangibility, responsiveness, empathy and patient satisfaction with TB treatment services and also establish if there is any significant difference between public and private health providers.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter presents the study design, population of study, sample size and selection, sampling technique and procedure, data collection methods and instruments, reliability and validity of the study instruments, data collection procedure and analysis.

3.2. Research Design

The study used a cross-sectional study using a quantitative approach to compare service quality and TB patient satisfaction between private and public health facilities. In this study the cross-sectional survey method was used because it draws most of its data from the present, thus at that point in time and enables establishing the relationship between the variables (Creswell & Clark 2011). The quantitative approach was used to enable quantification of incidences on each study variables using gaps analysis based on mean and standard deviations, frequencies, chi-square tests and correlation and regression analyses (Amin, 2005).

3.3. Study Population

The study population included TB patients receiving treatment in Kampala district. According to national statistics, Kampala received and managed about 2000 cases of TB per quarter which translates to about 500 patients per month that were considered as the study population (Mohr, Health management information system, June, 2017). The study gathered data from a cross section of TB patients aged 15 years and above who have been

initiated on TB treatment in at least one month by the time of the study. The unit of analysis was the health facility

3.4. Study area

The study was carried out in 18 private and 11 public health facilities that provide TB control services in Kampala city private in the four divisions of Nakawa, Makindye, central, Rubaga and Kawempe which offer TB treatment in the city.

3.5. Sample size and technique

The study selected up to 320 respondents based on Krejcie and Morgan sampling guidelines (see appendix II) and as summarized in table 3.1 below.

Table 3.1: Population category and sample used in the study

Population category	**Population**	**Sample**
Government	295	167
NGO	160	113
Private	45	40
Total	**500**	**320**

Source: HMIS, June 2017

3.5.1. Sampling technique

A sampling technique is the name or other identification of the specific process by which the entities of the sample were selected. There broadly two sampling approaches thus probability and none probability sampling techniques. The probability sampling approach involves selecting a sample in such a way that all the elements in the population have some chances of being selected (Amin, 2005). Given that the users of the TB patients are diverse it was not possible to give each of them equal chances of being selected yet it was not possible to follow them in their homes.

The study therefore resorted to using non probability approach, where the elements in the population do not have a well-defined chance of being selected (Amin, 2005). This study therefore used convenience sampling that involves the consideration of the TB patients who could be easily accessible at the heath facility to the researcher at the point/area of data collection. The study considered patients who would have enrolled on TB treatment by the time of data collection at any time of the treatment duration as long as it's within the six (6) months treatment duration. A TB patient who would have turned up for review or medicine refills during the data collection period or attend a TB, or TB/HIV clinic were automatically enrolled for the study as along as he/she meets other eligibility requirements as stated. While for the review of records patients who were treated during the financial year 2015/16s records were reviewed

3.5.2. Inclusions and exclusion criteria

Patients were excluded from the study if they have transferred in from elsewhere while on treatment, if they have transferred out from the study facility while on treatment, if they are young below 15years of age, if they have defaulted from TB treatment according to facility records and in case they have very complicated forms of disease such as multidrug resistant Tuberculosis.

3.6. Data Collection Methods

This study used a questionnaire survey to gain quantitative data on TB services quality and patient satisfaction. The questionnaire was used to gain perceptions of TB patients on the service quality offered by the Health facility and their satisfaction with treatment services using the Serviqual questionnaire. The questionnaire was also used as it enables obtaining vast amounts of data in a short time using less resource (Sekaran & Bougie,

2010). The questionnaire was researcher administered since some respondents were presumed to have low level of education to interpret and answer the questionnaire.

3.7. Data Collection Instruments

A uniform researcher -administered close-ended questionnaire encompassing background information, tangibility, responsiveness, empathy and patient was developed and administered on all eligible participants. The questionnaire had two parts, one focusing on service quality expectation (E) and the other focusing on the perceived service quality after interacting with the TB treatment services (P). All items of the questionnaire were scored on a five point Likert scale ranging from 5 = strongly agree to 1 = strongly disagree.

3.8. Measurement of variables

Service quality was measured using the SERVQUAL framework (Parasuraman et al., 1985) but focusing on three dimensions of tangibility, responsiveness, and empathy.

- Tangibles focused on; physical facilities, equipment, availability of TB medicines, supplies, and personnel considerations used to deliver TB treatment (12 items).
- Responsiveness focused on; dignity, patient autonomy, confidentiality, waiting time, provision of information and Provider courtesy in offering TB services (6 items).
- Empathy focused on personalized care and individualized attention in providing TB treatment services (6 items).
- Overall satisfaction was measured using 6 items based on indicators of adherence and word of mouth measures.

3.9. Pre-testing of data collection instruments

3.9.1 Validity of the study instrument

The validity of the instrument was tested using the Content Validity Index (CVI) using expert judgment taking only variable scoring above 0.70 accepted for Social Sciences (Amin, 2005) and the findings are shown in table 3.2 below.

3.9.2 Reliability of the study instrument

The study questionnaire was pilot tested on a sample of 10 patients in facilities which are not part of the study but with similar setups in terms of ownership and adjustments made to enhance its reliability. The reliability of the instrument was measured using Cronbach's alpha coefficient taking only variables with an alpha coefficient value more than 0.70 accepted for social research (Amin, 2005) generated from SPSS and the findings are shown in table 3.2 below.

Table 3.2: Validity and Reliability Results

Variable	Content Validity Index	Cronbach's Alpha	No of items
Tangibility	0.857	0.864	14
Responsiveness	0.800	0.886	10
Empathy	0.833	0.880	06
Patient satisfaction	0.818	0.815	11

Source: Primary data

Table 3.2 above shows that all variables yielded CVI and Cronbach's Alpha values above 0.70 suggesting that the instrument was valid and reliable in measuring service quality and TB patient satisfaction.

3.10. Data collection procedure

After approval of the proposal a cover letter was obtained from the UMU. Another letter of introduction was got from Ministry of Health informing and introducing the researcher to the study facilities. Permission to conduct the study was sought from management of the TB treatment facilities to authorize the study. Anonymity and confidentiality of the respondents was strictly observed by not asking the respondents to put their names on the questionnaires. The covering letter and letter of introduction from UMU and MOH were used during the data collection process. The data collected was then edited, coded and later entered into the SPSS for analysis.

3.11. Data analysis techniques

Quantitative data was analyzed using descriptive statistics techniques of frequency and percentages, mean and standard deviations for each of the variables used in the study. The data were entered into SPSS version 22

The service quality gap was determined by establishing the difference between the perceived (P) and expectation/actual service experiences (E) and overall service quality gaps (P-E) in relation to the three dimensions of tangibility, responsiveness and empathy in TB treatment. A One-Way-Anova conducted to establish if there is any significant difference in the perceptions of tangibility, responsiveness, empathy and patient satisfaction with respect to the nature of health facility and patient characteristics.

Pearson's coefficient r and significance p tested at the 95 and 99% confidence limits was used to test if there was any significant relationship between the independent and dependent variable. A positive correlation coefficient r indicates a direct positive relationship between the variables while a negative correlation indicates an inverse,

negative relationship between the two variables. The Multiple regression analysis was used to test the extent to which the independent variables predicted the variance in the dependent variable using ANOVA statistics of adjusted R^2 values, beta, t values and significance values (Amin, 2005).

3.12. Ethical Considerations

Discussions about services received by patients and how they are perceived can be a very sensitive issue from the patient's side as there could be fears that the interviewer would talk about them. To overcome this kind of fear confidentiality was ensured and assured. Verbal consent was sought from each participant before the interview and the participants were explained to as to why we are collecting information. The interviewers were trained for two days and the names of respondents were not included in the data collection tools as an additional assurance to participants.

Authority was also attained from the Business administration department as well as a letter of introduction from the MOH to KCCA facilities introducing the researcher was delivered to assure the health service providers as well.

3.13. Study limitations

(i). Failure to include TB patients who were not regularly attending the TB clinics was a limitation as we missed the chance of getting their part of the story.

(ii). Not investigating other factors such as reliability and assurance was also a limitation.

(iii). Not being able to conduct a study in a rural and urban setting for comparison as also a study weakness.

However despite the above limitations, the researcher got the desired findings because a proper sampling technique was applied to come up with a representative sample that we

studied. It's also a fact that standard TB treatment is the same everywhere irrespective of the setting though the tangibility, responsiveness and empathy may differ.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

4.1. Introduction

This chapter presents analyses and discusses the study findings on Service quality and patient satisfaction with TB management in public and private health facilities of Kampala district based on the information provided in the questionnaire, and observations.

It specifically presents the response rate, characteristics of the respondents and a presentation of the empirical findings in relation to the objectives. The section also discusses the findings as well as comparisons with similar studies elsewhere.

4.2. Response Rate

A total of 375 patient questionnaires were targeted but 278 questionnaires were obtained giving a response rate of 74%. This was a good representation of the study sample. Amin (2005) highlights that a response rate of 20% for a survey study is a reliable sample to test the study hypotheses and generalize them to other related organizations.

4.3. Demographic Characteristics of the Respondents

4.3.1. Nature of health facility

The nature of the healthy facility was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.1: Nature of health facility

Description	Frequency	Percentages
Government	118	42.4
Private	30	10.8
NGO	130	46.8
Total	**278**	**100.0**

Source: Primary Data (2017)

Table 4.1 show that 42.4% of the respondents were from Government health facilities, Private (10.8%) and NGO (46.8%) TB patients in Kampala area. The results are therefore representative of TB patient expectations and perceptions from Government health facilities, Private and NGO

4.3.2. Class of health facility

The class of the healthy facility was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.2: Class of health facility

Description	Frequency	Percentages
Hospital	118	42.4
Health Centre	160	57.6
Total	**278**	**100.0**

Source: Primary data 2017

The results in table 4.2 shows that 57.6% received TB treatment from health centres while 42.4% received treatment from hospital. The implication was that TB patients in Kampala were more inclined to seek treatment from health facilities.

4.3.3. Gender of the respondents

The gender of the respondents was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.3: Gender of the respondents

Age	Frequency	Percentage
Male	156	56.1
Female	122	43.9
Total	**278**	**100.0**

Source: Primary data (2017)

Table 4.3 shows that majority of 56.1% of the respondents were male while 43.9% were female suggesting that TB incidence was slightly more prevalent among men.

4.3.4. Age group of the respondents

The age group of TB patient was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.4: Age of the respondents

Age	Frequency	Percentage
15 - 20 Years	12	4.3
21 - 25 Years	48	17.3
26 - 30 Years	62	22.3
31 - 35 Years	40	14.4
36 - 40 Years	44	15.8
41 - 45 Years	44	15.8
46+ Years	28	10.1
Total	**278**	**100.0**

The Patients age groups ranged from 15 to 46 years and above but it can be said that prevalence of TB was in the age group of 21 years and above since they constituted about 96% of the respondents accessed in the study.

4.3.5. Level of education

The level of education was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.5: Highest level of education of respondents

Description	Frequency	%
No education	36	12.9
Primary	98	35.3
Secondary	94	33.8
Certificate	8	2.9
Diploma	24	8.6
Degree and above	18	6.5
Total	**278**	**100.0**

Table 4.5 findings suggest that 8 in every 10 TB patients accessed in this study had low level of education as those who had attained a certificate and below constituted the majority of 84.9%.

4.3.6. Duration on treatment

The duration on TB treatment was one of the demographic characteristics on the TB patients that this study sought to establish and the findings are presented below.

Table 4.6: Duration on medication

Description	Frequency	%
<1 Month	28	10.1
1 - 3 Months	148	53.2
4 - 6 Months	102	36.7
Total	**278**	**100.0**

In relation to duration on medication, majority had adequate experience with TB treatment services since 90% had interacted with their TB treatments services for more than one mouth in TB treatment. The patients were therefore presumed to have adequate experiences of the TB services offered by the health facility.

4.4. Presentation and analysis of findings from the study objectives

Appropriate descriptive statistics of percentages, mean and standard deviation were used to establish patience adherence levels, and service quality gaps on tangibility, responsiveness and empathy.

4.4.1 TB treatment overall satisfaction in public and private health facilities in Kampala

Overall TB patient satisfaction was the dependent variable used in the study and was measured using six (6) items in the study questionnaire focused on TB treatment outcomes where respondents were asked to indicate the extent to which they agreed with the observation and the findings are presented in Table 4.7 below using frequency, percentage, mean and standard deviation results based on the 5 point Likert scale ranging from 5 = strong agreement, 4 = agreement, 3 = Not sure, 2 = disagreement and 1= strong disagreement with the adherence indicator.

Table 4.7: Descriptive results for patient adherence

	SDA		DA		UD		A		SA		Mean	S.D
	F	%	F	%	F	%	F	%	F	%		
1. I always take a full prescribed daily dose			4	1.4	4	1.4	24	8.6	246	88.5	4.84	.499
2. I take my drug regiments on time			18	6.5	8	2.9	68	24.5	184	66.2	4.50	.836
3. I always pick my TB pills on as scheduled	4	1.4	18	6.5	2	.7	58	20.9	196	70.5	4.53	.910
4. I always fulfill my appointments to the TB clinic	4	1.4	22	7.9			62	22.3	190	68.3	4.48	.949
5. I have not missed my dose for any one day of TB treatment.	14	5.0	30	10.8	4	1.4	54	19.4	176	63.3	4.25	1.214
6. I strictly follow TB home and community management instructions	2	.7	12	4.3	42	15.	100	36.0	122	43.9	4.18	.893

Source: Primary data, 2017
SDA = strongly disagree, A = agree, UD = Undecided, A= disagree, SA = strongly agree.

As indicated in table 4.7 above, a great majority (97.1%) of the respondents indicated that they always take a full-prescribed daily dose while only 1.4% disagree and 1.4% were not sure if they took a full dose. The standard deviation of these responses was 0.499 that indicated respondents had wide varying responses on the statements. The variation in responses arose due to the different perceptions based on demographic characteristics of the respondents. This study inferred that the adherence levels were generally high with respect to taking a daily dose. The fairly high adherence level has been reported in related study such as Mazinyo, et al. (2016) SA study that found a fairly high adherence level of

89% with only 11% non-adherence. An Ethiopian study by Tesfahuneygn et al (2015) found an overall adherence rate to anti-TB treatment of 88.5%.

In relation to timeliness of picking fulfillment of appointments to the TB clinic and taking of the drug regiments, the adherence level slightly dropped to 90% compliance and non-compliance increased to close to 10%. Thus about 1 in every 10 TB patients did not pick, fulfill appointment or took TB drug doses on time. The standard deviation of these responses was 0.836 that indicated that respondents had wide varying responses on the statements. The variation in responses arose due to the different perceptions based on demographic characteristics of the respondents. Fagundez, et al (2016) in their Equatorial Guinea study attribute low educational level, lack of family support and lack of medical advice risk factors to low adherence.

Furthermore, there was a drop in compliance level in relation to missing a day's dose as about 20% missed or where not sure if they missed. Adherence to TB home and community management instructions although satisfactory, it received the least level of adherence with 20% of the patients being non adherent.

The fairly high adherence level has been reported in related study such Ofoegbu and Odume (2015) Nigerian study which found a 78% adherence level and Fagundez, et al 78.57% of respondents. A South African study by Mazinyo, et al. (2016) found a fairly high adherence level of 89% with only 11% non-adherence while an Ethiopian study by Tesfahuneygn et al (2015) found an overall adherence rate to anti-TB treatment of 88.5%.

On the causes of non adherence, this study found that it was 10% of the TB patient in the Kampala area did not pick, fulfill appointments or took TB drug doses on time. Similarly, 20% of the patients did not adhere to TB home and community management instructions.

The study findings are supported by previous studies such as Kisambu et al (2014) study that attribute non-compliance of gaps in medication and supervision adherence as well as independent predictors of perceived drug side effects, running out of drugs, and DOT card not filled in. Tesfahuneygn et al (2015) report of forgetting to take medication, being away from home, drug side effects, being unable to go to the health facilities on the date of appointment and being hospitalized as key factors for non-compliance.

4.4.2. Tangibility on TB patient satisfaction in public and private health facilities in Kampala.

The first objective of the study was to establish the effect of tangibility on TB patient satisfaction in public and private health facilities in Kampala. Tangibility was measured using 14 items with items on expectations rated on scale of 5= very important, 4= important, 3= not sure, 2= less important and 1= not important while the items assessing perceptions after interacting with the service were rated on scale of 5= Excellent, 4= good, 3= not sure, 2= Not good and 1= not good at all while the same items. Table 6 shows the results for the service quality gaps (P-E) based on the variance in means results for perception and expectation on each tangibility item.

Table 4.8: Gaps analysis results for tangibility dimension of service quality

	Mean		S.D	Serviqual
	P	**E**		**Gap (P-E)**
1. Visually appealing TB clinic in terms of buildings compound and general Ambience	4.12	4.27	.819	-0.15
2. Availability of space for patient waiting and treatment	3.88	4.37	.992	-0.49
3. Cleanliness of toilet facilities within the facility	4.04	4.45	1.012	-0.41
4. Clear and informative signage or availability of TB posters	3.63	4.32	1.147	-0.69
5. Clean and well ventilated waiting area of the clinic	4.30	4.58	.803	-0.28
6. Quiet clinic environment	4.23	4.44	.753	-0.21
7. Availability of specialized professional	4.50	4.74	.800	-0.24
8. Availability of TB nurses	4.47	4.47	.714	0
9. Availability of Lab staff/technicians	4.30	4.45	.785	-0.15
10. Availability of specialized TB attendant/guides	4.11	4.40	.928	-0.29
11. Visibility of staff identity such as name tags	3.25	4.10	1.457	-0.85
12. Availability of modern TB diagnostic and Treatment equipment	3.77	4.37	1.116	-0.60
13. Availability of TB drugs in the TB clinic for a full dosage	4.63	4.91	.724	-0.28
14. Availability of facial masks given to patients	4.25	4.49	1.089	-0.24
Total	**57.48**	**62.36**		**4.88**
Mean	**4.11**	**4.45**		**-0.35**

Source: Primary data 2017

Table 4.8 shows that the overall, perceptions were rated at 4.11, expectations at 4.45 yielding a service quality gap of -0.35 suggesting that patient were not satisfied with some tangible aspect of service quality in TB treatment. The findings relate to Abro and Jalbani (2012) study which found out that overall patient dissatisfaction with the physical facilities provided by government Hospitals.

TB patients had the highest expectation (very important) on; - availability of TB drugs in the TB clinic for a full dosage (mean = 4.91), availability of specialized professional (mean =4.74), clean and well ventilated waiting area of the clinic (mean = 4.58). TB

patients had the highest rating (excellent) perception in the same areas of availability of TB drugs in the TB clinic for a full dosage (mean = 4.63) and availability of specialized personnel (mean = 4.50). The findings relate to Rehin and Raveendran (2013) study which found that pleasantness of rooms as well as nurses, drinking water and sanitation facilities and timely availability of patient mobility facility are the key factors influencing the satisfaction of patients with tangible elements.

The highest tangibility gap was experienced in visibility of staff identity such as name tags (-0.85), clear and informative signage or availability of TB posters (-0.69) and availability of modern TB diagnostic and Treatment equipment (-0.60). These need to be addressed for enhance TB patient satisfaction. The findings echo Asemahagn (2014) Ethiopian study which found that patients complained on failure to access lab diagnostic equipment, poor documentation and feedback mechanisms by the personnel.

According to table 4.8 availability of TB nurses received no service quality gap suggesting that TB patients readily accessed the Nurses. Other lowest tangibility gap where tangibility was almost tenable included visually appealing TB clinic in terms of buildings compound and general Ambien (-0.15) and availability of Lab staff/technicians (-0.15). These need to be sustained. Odebiyi, et al (2009) in their study evaluating patient satisfaction with physiotherapy services offered in private and public hospital found that on overall subjects were satisfied with the access to nurses compared to other TB professionals in TB clinics.

4.4.3. Responsiveness on TB patient satisfaction in public and private health facilities in Kampala

The second objective of the study was to establish the effect of responsiveness on TB patient satisfaction in public and private health facilities in Kampala. Responsiveness was measured using 10 items with items on expectations rated on scale of 5= very important, 4= important, 3= not sure, 2= less important and 1= not important while the items assessing perceptions after interacting with the service were rated on scale of 5= Excellent, 4= good, 3= not sure, 2= Not good and 1= not good at all while the same items. Table 4.9 shows the results for the service quality gaps (P-E) based on the variance in means results for perception and expectation on each tangibility item.

Table 4.9: Gaps analysis results for responsiveness dimension of TB service quality

	Mean P	E	Std. Dev	Serviqual (P-E) Gap
1. Welcoming me in the facility	4.19	4.18	1.019	0.01
2. Being talked to politely by the health worker	4.45	4.53	.752	-0.08
3. Telling me when I will be attended to or services will be offered	4.30	4.37	.728	-0.07
4. Receiving prompt services from the health worker	4.17	4.40	.896	-0.23
5. Being listened to/allowed to express myself about my disease, ask questions.	4.37	4.61	.771	-0.24
6. Prompt response to my requests	4.35	4.46	.776	-0.11
7. Being given full information on my disease and how to take my treatment	4.57	4.71	.636	-0.14
8. Proper TB drug administration, treatment administration	4.60	4.75	.572	-0.15
9. Convenient operating hours	4.26	4.39	.902	-0.13
10. The time devoted to me by the health worker	4.34	4.36	.811	-0.02
Total	**43.6**	**44.76**		**-1.18**
Mean	**4.36**	**4.48**		**-0.12**

Source: Primary data

Table 4.9 shows that the overall, responsiveness perceptions averaged to 4.36 while expectations averaged to 4.48 yielding a service quality gap of -0.12 suggesting that

although patient were not satisfied with some responsiveness attributes in TB service quality, the difference between perception and expectation was relatively insignificant. It can be said that on the overall, the TB services providers were responsive to patients needs and were tending towards service quality fulfillment. The findings relate to Mohebifar, et al (2016) study which found a low service quality gap on responsiveness and conclude that the negative gap in all dimensions of quality shows that quality improvement is necessary in all dimension.

Welcoming patients in the facility measured up and slightly surpassed expectation yielding a positive service quality gap of 0.01.

TB patients had the highest expectation (very important) on proper TB drug administration, treatment administration with a mean of 4.75 and it was also perceived to be excellent with a mean of 4.60. TB patients being given full information on their disease and how to take treatment was also rated very important with a mean of 4.71) and was perceived to be excellently done by the TB service providers with a mean of 4.57. Other very important responsive considerations include being listened to/allowed to express one's self about the disease, and asking questions with a mean of 4.61 and being talked to politely by the health worker with a mean of 4.53. This study findings echo Sabir et al (2014) study which found that actually tangibles such as equipment and personnel used were significant predictors of patient satisfaction. Rehin and Raveendran (2013) equally found that patients in government hospitals in Kerala found pleasantness of rooms as well as nurses, drinking water and sanitation facilities and timely availability were significant predictors of patient satisfaction.

Being listened to/allowed to express self about disease, ask questions and receiving prompt services from the health worker received the heighted service quality gap -0.24 and -0.23 respectively. These need to be addressed by the TB treatment providers for enhanced TB patient adherence and positive word of mouth. The gaps in responsiveness are equally reported by Babikako et al (2011) which found that Patients at public hospitals experienced significantly lower levels of satisfaction with responsiveness to patient preferences.

4.4.4. Empathy and TB patient satisfaction in public and private health facilities in Kampala

The third objective of the study was to establish the effect of empathy on TB patient satisfaction in public and private health facilities in Kampala. Empathy was measured using 6 items with items on expectations and the results are presented below.

Table 4.10: Gaps analysis results for empathy dimension of TB service quality

	Mean P	**E**	**Std. Dev**	**Serviqual (P-E) Gap**
1. Health workers understanding my emotions, feelings and concerns	4.19	4.40	.855	-0.21
2. Health workers giving me individual attention/privacy	4.20	4.53	.940	-0.33
3. Provision of adequate TB management information by the health worker	4.31	4.61	.749	-0.30
4. Words of hope and encouragement by the health workers	4.29	4.46	.845	-0.17
5. Health workers caring about my problems as their own	4.01	4.15	1.051	-0.14
6. Health workers doing their best to comfort me	4.18	4.32	1.100	-0.14
Total	**25.18**	**26.47**		**1.29**
Mean	**4.20**	**4.41**		**-0.21**

Source: Primary data

Table 4.10 shows that the overall, empathy perceptions averaged to 4.20 while expectations averaged to 4.41 yielding a service quality gap of -0.21 suggesting that although patient were not satisfied with some empathy attributes in TB service quality, the difference between perception and expectation was relatively negligible. This study inferred that on overall, the TB services providers were empathic to patients needs and where tending towards empathy service quality fulfillment. The study findings relate to Al-Momani Saudit (2016) Arabia study using gap analysis between perceptions and expectations of Medical-Surgical Patients in public Hospital in Saudi Arabia found a lowest gap on empathy.

TB patients had the empathy highest expectation (very important) on provision of adequate TB management information by the health worker (mean = 4.61) and health workers giving individual attention/privacy (mean = 4.53). TB management information and giving of individual attentions indicators of empathy actually manifested the highest service quality gaps of -0.30 and -0.33 respectively. These need to be addressed for enhanced TB patient adherence and positive word of mouth.

4.5. Correlation Analysis

To test if there was any significant relationship between, tangibility, responsiveness, empathy and TB patient satisfaction, and Pearson's correlation coefficient was conducted and the results are shown below.

Table 4.11: Correlation matrix between tangibility, responsiveness, empathy and TB patient satisfaction

		Tangibility	Responsiveness	Empathy	Patient Satisfaction
Tangibility	Pearson Correlation	1			
	Sig. (2-tailed)		.000		
	N	278	278		
Responsiveness	Pearson Correlation	.750**	1		
	Sig. (2-tailed)	.000		.000	
	N	278	278	278	
Empathy	Pearson Correlation	.672**	.856**	1	
	Sig. (2-tailed)	.000	.000		
	N	278	278	278	
Patient Satisfaction	Pearson Correlation	.549**	.635**	.561**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	278	278	278	278

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

Source: Primary data, 2017

4.5.1. Tangibility and TB patient satisfaction

The correlation analysis findings in Table 4.11 reveals as positive significant relationship ($r = 0.\ 549$; $p < 0.01$) between tangibility and TB patient satisfaction. This means that the tangible aspects of services positively affect TB patient adherence and word of mouth especially where the physical and personnel aspects of service quality are perceived to be excellent or good. This is in agreement with Sabir et al (2014) study that affirms that actually tangibility was a significant predictor of patient satisfaction. Rehin and Raveendran (2013) equally concluded patient satisfaction was derived from pleasantness of rooms and nurses, timely availability of mobility facilities and drinking water and

sanitation facilities. A TB study by Asemahagn (2014) in Ethiopia found that the presence of quality laboratory services in the study areas was reported by 53.0% of the study participants. Supportive supervision and timely feedback, internal and external quality assurance practices, equity in training and resource distribution were issues given less attention in the study areas.

4.5.2. Responsiveness and TB patient satisfaction

The correlation analysis findings in Table 4.11 reveals as positive significant relationship ($r = 0.635$; $p < 0.01$) between responsiveness and TB patient satisfaction. This means that TB patient adherence and word of mouth is positively affected by TB service responsiveness especially when proper TB drug administration, information, and questions are excellently effected by the service provider. The relationship between responsiveness and TB patient satisfaction in Kampala relates to a great extent to Marin et al. (2011), and Jafari et al (2010) studies which found that improvement in ANC sessions responsiveness resulted into improved ANC adherence. A Ugandan study by Babikako et al (2011) reports that TB Patients at public hospitals experienced significantly lower levels of satisfaction with technical quality of TB care, responsiveness to patient preferences and patients' understanding of potential problems of TB medicines. On the basis of the study findings and support by literature, this study observes that continuous improvement in responsiveness dimension of TB treatment will yield significant impact in patient satisfaction and treatment outcomes in Uganda.

4.5.3. Empathy and TB patient satisfaction

The correlation analysis findings in Table 4.11 reveals as positive significant relationship ($r = 0.561$; $p < 0.01$) between empathy and TB patient satisfaction. This means that TB

patient adherence and word of mouth is positively affected by how empathetic the personnel are in offering the TB services especially by understanding patient's emotions, giving individual attentions and care. These findings are supported by Canale (2012) who found that physician empathy was significantly associated with clinical outcome for patients with diabetes mellitus and should be considered an important component of clinical competence. Essiam (2013) study equally finds positive significant but moderate relationship between perceived empathy and patient satisfaction while Sabir et al (2014) study based on the correlation results confirm that actually empathy was a significant predictor of patient satisfaction. This study therefore infers that an improvement in empathy considerations of service quality in TB treatment results into an increase in patient adherence and positive word of mouth in Kampala-Uganda.

4.6. Regression Analysis

A multiple regression analysis was undertaken to establish the combined effect of service quality dimensions of tangibility, responsiveness and empathy on TB patient satisfaction using Analysis of Variance ANOVA statistics of adjusted R^2, beta-β, t-values, and significance p. The multiple regression was also used to establish which among the service quality variables of tangibility, responsiveness and empathy had the most significant effect on TB patient satisfaction. The multiple regression results are presented below.

Table 4.12: Regression model between service quality and patient satisfaction

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645[a]	.416	.409	.44067

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.432	.217		6.613	.000
Tangibility	.165	.070	.165	2.350	.019
Responsiveness	.473	.101	.471	4.693	.000
Empathy	.037	.071	.047	.522	.602

a. Predictors: (Constant), Empathy, Tangibility, Responsiveness
b. Dependent Variable: Patient Satisfaction

Primary data 2017

Table 4.12 indicated that the adjusted R^2 shows the variation in patient satisfaction that is explained by variation in the service quality. Thus according to regression results the variations in service quality explains variation in TB patient satisfaction up to 41% (0.409 x 100). This implies that service quality is a critical factor for explaining TB patient satisfaction especially in Kampala district capital. However, there are other variable factors not included in this study that account for the remaining variance of 59% in TB patient satisfaction. The Adjusted R^2 also indicates how well the independent variable influences the dependent variable.

$y=a+b_1x_1+b_2x_2+b_3x_3+b_4x_4+- - - e$

y= 1.432 +.165 (Tangibility) +.471 (Responsiveness) + .047 (Empathy)+- - - e

The regression results further show that responsiveness was the most significant predictor of the variance in TB patient's satisfaction in the study area as per the (β = 0.471, t = 4.693, Sig = 0.000) which is less than the common significance level of 0.05. This

implies that a significant change in responsiveness would result into a greater significant change in TB patient satisfaction than other aspects of service quality.

The standardized coefficient statistics further show that tangibility was the second most significant predictor of the variance in TB patient's satisfaction in the study area as per the ($\beta = 0.165$, $t = 2.350$, Sig = 0.019) which is less than the common significance level of 0.05. This implies that a significant change in tangibility would result into a significant change in TB patient satisfaction.

Empathy was not a significant predictor TB patient satisfaction as per the ($\beta = 0.047$, $t = 0.522$, Sig = 0.602). Thus a change in empathy would not result into any significant change in TB patient satisfaction. It was other factors of service quality which influenced patient satisfaction empathy exclusive. The lack of predictive effect of empathy on patient satisfaction could be explained by the fairly high psychological nature and patients' expectations were fairly low.

In summary, the high positive regression coefficients between the dimensions of the study and the value of $R^2 = 0.645$ indicate that service quality is strongly related with TB patient satisfaction in Kampala-Uganda.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter provides a summary of findings, conclusions, and recommendations of the study based on the study finding and discussions on service quality and patient satisfaction with TB treatment and management. The first section presents the summary of the study findings. This is followed by the conclusions and recommendations of the study findings.

5.2. Summary of Findings

5.2.1. Tangibility on TB patient satisfaction in public and private health facilities in Kampala

The first objective of the study was to; establish the effect of tangibility on TB patient satisfaction in public and private health facilities in Kampala. The study found that availability of TB drugs in the TB clinic for a full dosage, availability of specialized professionals such as doctors, clean and well ventilated waiting area of the clinic were the most important tangible expectations. Availability of TB drugs in the TB clinic for a full dosage and availability of specialized professional were rated excellent by the respondents. The highest tangibility gap was experienced in visibility of staff identity such as staff uniforms, name tags, clear and informative signage or availability of TB posters and availability of modern TB diagnostic and Treatment equipment. These need to be addressed to enhance TB patient satisfaction. The Availability of TB nurses received no service quality gap suggesting that TB patients readily accessed the Nurses.

The study finds a moderate positive significant relationship between tangibility and TB patient satisfaction ($r = 0.535^{**}$ and sig. $p = 0.000$) and it was the second most significant predictor of the variance in patient satisfaction ($\beta = 0.165$, $t = 2.350$, $Sig = 0.019$).

5.2.2. Responsiveness and TB patient satisfaction in public and private health facilities in Kampala

The second objective of the study was to establish the effect of responsiveness on TB patient satisfaction in public and private health facilities in Kampala. On responsiveness, it was found that although patient were not satisfied with some responsiveness attributes in TB service quality, the difference between perception and expectation was relatively insignificant. TB patients had the highest expectation (very important) on proper TB drug administration, treatment administration. TB patients being given full information on their disease and how to take treatment was also rated very important and was perceived to be excellently done by the TB service providers. Being listened to/allowed to express self about disease, ask questions and receiving prompt services from the health worker received the heighted service quality gap. The study found a moderate positive significant relationship between responsiveness and TB patient satisfaction ($r = 0.635^{**}$, $p = 0.000$) and it was the most significant predictor of the variance in patient satisfaction ($\beta = 0.471$, $t = 4.693$, $Sig = 0.000$).

5.2.3. Empathy and TB patient satisfaction in public and private health facilities in Kampala

The third objective of the study was to establish the effect of tangibility on TB patient satisfaction in public and private health facilities in Kampala. On empathy, the study found out that on overall, the TB services providers were empathic to patients needs and

where tending towards empathy service quality fulfillment. TB management information and giving of individual attentions indicators of empathy had the highest expectation and service quality gaps. It was found that although there was a significant relationship between empathy and TB patient satisfaction ($r = 0.561^{**}$, $p = 0.000$), empathy did not have any significant effect on patient satisfaction ($\beta = 0.047$, $t = 0.522$, $Sig = 0.602$) suggesting that it was other service quality indicators which significantly affect TB patient satisfaction.

5.3. Conclusion of the study

On the basis of the study findings and support by literature in the discussion, the study makes the following conclusions:

1. There is a high level of TB Patient adherence in Kampala district in as far as taking a full-prescribed daily dose among virtually all TB patients. However, the failure by TB patients from picking drugs, not fulfilling clinic appointments or taking daily doses as required by national guidelines is detrimental and adversely affects individual TB treatment outcomes that may result into overall low cure, completion rates and possibility of development of drug resistant TB. This downgrades the overall quality of TB management leading to overall poor treatment outcomes such as more than 10% loss to follow up and a higher national TB burden.
2. There was risk of continuous TB transmission in the Households and community due to non-adherence to TB home and community management instructions by the TB patients
3. Tangibility aspects of service quality significantly affects TB patient satisfaction in the both government, NGO and private TB health facilities in Kampala areas

implying that an improvement in tangibility, directly results into an increase in TB patient treatment adherence and positive word of mouth.

4. Responsiveness aspects of service quality has the most significant effect on TB patient satisfaction in government, NGO and private TB health facilities. Thus an improvement in responsiveness results into higher TB patient's satisfaction.
5. Empathy dimension of service quality has no significant effect on TB patient satisfaction in the study area. It was other variables of service quality that significantly affects TB patient satisfaction.

5.4. Recommendations of the Study

5.4.1. Strategic level recommendations

To enhance patient satisfaction with TB services,

1. I recommend the management, of MOH in collaboration with Ministry of education to; Introduce and establish a national policy for capacity building through training of doctors, Clinician, Nurses and Counselors of offer specialized TB personnel to offer high quality TB management services treatment.
2. I recommend management of MOH, to Equip TB clinics by procuring modern TB diagnostic and treatment monitoring equipment to cover most major TB diagnostic and treatment facilities. This action will increase patient satisfaction and treatment adherence.
3. Improve and avail waiting and treatment spaces in the infrastructure designs of health facilities.
4. Mainstream TB management training in the health workers-training curriculum so as to equip health staff with more TB case management knowledge.

5. Incorporate customer care training in the all health care trainings for improved provider responsiveness to clients. This will empower health workers to look at patients generally as customers and listen to them more as well as handle the more expeditiously while allowing them to express themselves hence good responsiveness

5.4.2. Operational level recommendations

On the basis of the study findings; I recommend the management of health facilities to;

1. Implement clear and informative signage in form of TB clinic signposts at all TB units.
2. Enforce the use of staff uniforms with name tags with professional designations.
3. Ensure cleanness of sanitary and waiting areas all the time
4. Deploy TB clinic patient attendants/guide to offer basic TB screening and provide basic information on TB disease as well as respond to inquiries and provide guidance required by the customers.
5. Train health staff in TB clinics in customer service and care to equip them with requisite knowledge, skills and attitudes for enhanced responsiveness to their clients
6. Enhance patient confidence and trust by ensuring more privacy, individual patient attention and provision of more information on TB treatment by service providers.

5.5. Areas for further Research

The study found that tangibility, responsiveness and empathy predicted up to 41% patient satisfaction. Other studies need to examine the effect of reliability and assurance on patient satisfaction since they are the two dimensions of service quality not considered in

the study. Another study could be done to compare an urban setting with a rural setting and test tangibility, responsiveness and empathy.

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WHO led Joint Monitoring Mission Report 2013 to Uganda TB program.

Appendices

Appendix I: Study Questionnaire

Questionnaire:

STUDY ON SERVICE QUALITY AND TB PATIENT SATISFACTION

Interviewer administered (questions are in reference to the TB patients views strictly and services)

Dear Respondents,

We are carrying out a study on Service Quality and TB patient satisfaction in public and private health facilities in Kampala as partial requirement for the award of Masters of Business Administration (MBA) degree of Uganda Martyrs University. The information obtained will be treated with utmost confidentiality and will be used specifically to meet academic objectives. You do not have to write your name.

Thank you for your cooperation and acceptance time.

SECTION A: Background information.

Instruction: Please tick/check where applicable.

1. Nature of health facility? Government [ ] Private [ ] Private–NGO-[ ]
2. Name of facility ----------
3. Class of facility : Hospital [ ] Health Centre [ ]
4. Gender: Male [ ] Female [ ]
5. Age: 15- 20 yrs. [ ], 21 – 25yrs [ ] , 26 – 30yrs [ ] , 31 – 35yrs [ ], 36 – 40 [ ] 41-45 [ ] and above [ ]
6. Education background: No Education [ ] Primary [ ] Secondary [ ] Certificate[ ] Diploma [ ] Degree and above [ ]

7. Duration of TB treatment so far < 1month > 1month; [ ] 1-3 months [ ] 4-6 months [ ]

Section B: TB patient service expectations (Patients expectations should be recorded according to the scale)-

This section of the survey deals with your service **quality expectation** from a TB clinic **before you visit it** You will be expected to show the extent to which you expect the services should possess the features described by each statement on a scale ranging from; 5 = Very important; 4 = Important; 3 = Undecided; 2= Less important; 1 = Not important at all based on what you regard as important to you as a service consumer or utilize

Tangibility					
1. Visually appealing TB clinic- in terms of buildings , compound and general ambience	5	4	3	2	1
2. Availability of space for patient waiting and treatment	5	4	3	2	1
3. Cleanliness of toilet facilities within the facility	5	4	3	2	1
4. Clear and informative signage or availability of TB posters	5	4	3	2	1
5. Clean and well ventilated waiting area of the clinic	5	4	3	2	1
6. Quiet clinic environment	5	4	3	2	1
7. Availability of specialized professional eg Medical Doctor or Clinical Officer	5	4	3	2	1
8. Availability of TB Nurses	5	4	3	2	1
9. Availability of Laboratory staff/ Technicians	5	4	3	2	1
10. Availability of specialized TB attendants/guides	5	4	3	2	1
11. Visible of Staff identity such as name tags	5	4	3	2	1
12. Availability of modern TB diagnostic and treatment equipment	5	4	3	2	1
13. Availability of TB drugs in the TB clinic for a full dosage	5	4	3	2	1
14. Availability of facial masks given to patients	5	4	3	2	1

Responsiveness					
15. Welcoming me in the facility	5	4	3	2	1
16. Being talked to politely by the health worker	5	4	3	2	1
17. Telling me when I will be attended to or services will be offered	5	4	3	2	1
Receiving prompt services from the health worker	5	4	3	2	1
18. Being listened to /allowed to express myself about my disease, ask questions or give suggestion	5	4	3	2	1
19. Prompt response to my requests	5	4	3	2	1
20. Being given full information on my disease and how to take my treatment	5	4	3	2	1
21. Proper TB drug administration, treatment administration	5	4	3	2	1
Empathy					
22. Convenient operating hours	5	4	3	2	1
23. The time devoted to me by the health worker	5	4	3	2	1
24. Health workers understanding my emotions, feelings and concerns	5	4	3	2	1
25. Health workers giving me individual attention/privacy	5	4	3	2	1
26. Provision of adequate TB management information or explanations	5	4	3	2	1
27. Words of hope and encouragement by the health workers	5	4	3	2	1
28. Health workers caring about my problems as their own	5	4	3	2	1
29. Health workers doing their best to comfort me	5	4	3	2	1

Section C: Perceptions of TB patients on quality of TB services provided (patients perceptions should be recorded according to the scale)

This section of the survey deals with your experiences from the TB clinic you seek treatment from. You will be expected to rate the quality of service based on your

perceptions using a scale ranging from 1 = Not good at all, 2 = Not good, 3 = Undecided, 4 =Good, 5 = Excellent

Tangibility					
1. Visually appealinginess of the TB clinic	5	4	3	2	1
2. Space for waiting and treatment	5	4	3	2	1
3. Cleanliness of toilet facilities	5	4	3	2	1
4. Clear and informative signage or availability of posters	5	4	3	2	1
5. Cleanliness and ventilation of waiting area and clinic	5	4	3	2	1
6. Noise level in the clinic	5	4	3	2	1
7. Availability of specialized/professional TB Doctor	5	4	3	2	1
8. Availability of specialized TB Nurse	5	4	3	2	1
9. Availability of specialized Lab Technicians	5	4	3	2	1
10. Availability of specialized TB attendants/guide	5	4	3	2	1
11. Visibility of Staff identity	5	4	3	2	1
12. Availability of modern TB treatment equipment	5	4	3	2	1
13. Availability of drugs in the TB clinic for a full dosage	5	4	3	2	1
14. Availability of facial masks	5	4	3	2	1
Responsiveness					
15. Welcoming me in the facility	5	4	3	2	1
16. Being talked to politely by the health worker	5	4	3	2	1
17. Telling me when I will be attended to or services will be offered	5	4	3	2	1
Receiving prompt services from the health worker	5	4	3	2	1
18. Being listened to /allowed to express myself about my disease, ask questions or give suggestion	5	4	3	2	1
19. Prompt response to my requests					
20. Being given full information on my disease and how to take my treatment	5	4	3	2	1
21. Proper TB drug administration, treatment administration	5	4	3	2	1

Empathy					
22. Convenience of operating hours	5	4	3	2	1
23. The time devoted to you by the health worker	5	4	3	2	1
24. Health workers understanding my emotions, feelings and concerns	5	4	3	2	1
25. Health workers giving me individual attention/privacy	5	4	3	2	1
26. Provision of adequate TB management information or explanations	5	4	3	2	1
27. Words of hope and encouragement by the health workers	5	4	3	2	1
28. Health workers caring about my problems as their own	5	4	3	2	1
29. Health workers doing their best to comfort me	5	4	3	2	1

Section D: Overall satisfaction of the TB patient -

Ask the respondent to Indicate the extent to which he/she agrees with the following observations on his/her level of satisfaction with TB treatment services using a scale ranging from **5 = strongly agree; 4 = agree; 3 = Undecided; 2= disagree 1 = strongly disagree.** The patient should freely respond in agreement or disagreement during the interaction

Overall satisfaction					
1. I always take a full prescribed daily dose	5	4	3	2	1
2. I take my drug regiments on time	5	4	3	2	1
3. I always pick my TB pills on as scheduled	5	4	3	2	1
4. I have not missed my dose for any one day of TB treatment.	5	4	3	2	1
5. I always fulfill my appointments to the TB clinic	5	4	3	2	1
6. I strictly follow TB home and community management instructions	5	4	3	2	1
7. I verbally appreciate the TB services offered to me by this clinic	5	4	3	2	1
8. I always tell good things to other people about this TB clinic	5	4	3	2	1
9. I recommend other TB patients to seek TB treatment from this TB clinic	5	4	3	2	1
10. I orally oppose anyone who speak bad of this TB clinic	5	4	3	2	1
11. There is no other better TB service provider than this TB clinic	5	4	3	2	1

Appendix II: Table for Determining Sample Size from a given Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size

"S" is sample size.

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

Appendix III: Letter of introduction of the student to the field.

Uganda Martyrs University

making a difference

Office of the Dean
Faculty of Business Administration and Management

Your ref.:
Our ref.:

Nkozi, 6th September 2017

Dear Sir/Madam,

Re: Research Work Assistance

Greetings from Uganda Martyrs University.

This is to introduce MUGABI FRANK RWABINOMU who is a student of this University. As part of the requirements for the award of the Master of Business Administration of this University, the student is required to carry out field research as part of the dissertation to conclude the programme.

I therefore request you to render the student such assistance as may be necessary and conduct the research.

Thank you in advance.

Yours Sincerely,

06 SEP 2017

Dr. Sr. Marie Nakitende
Dean

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