



MEASURING PATIENTS' PERCEIVED SERVICE QUALITY OF HEALTHCARE SERVICES DELIVERY IN PUBLIC HOSPITALS IN TANZANIA

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Abstract

The purpose of this study was to examine the influence of healthcare quality on patients' satisfaction in public hospitals in Tanzania. A convenient sample of 1100 patients was selected for the study at Tabora regional hospital and health centre in Tabora District. Out of the 1100 data collected, 865 were found usable after data cleaning. The data was analysed using the Structural Equation Modeling technique via SPSS and SmartPLS v3. Findings from this study revealed that, Healthcare Quality has a positive and significant effect on patients' satisfaction and patients' Expectation. Also, Expectation had a positive and significant effect on Patients' satisfaction. It is therefore important for hospital management to take all the necessary steps in ensuring that their facilities provide the best of care to patients at all times as it has the ability to lead to quick recovery of patients. This study contributes to extant literature on health service quality from a developing country perspective.

Keywords: Healthcare; Healthcare quality; Patients satisfaction; Patient Expectation



INTRODUCTION

Healthcare organizations are expected to improve on their healthcare quality and ensure adequate service delivery that meets patients' satisfaction (Mosadeghrad, 2014). This has resulted in healthcare organizations embarking on research projects to find ways of satisfying patients health needs. Medical care organizations may thus undertake consumer satisfaction research to ascertain patients' needs and to also improve on the healthcare quality of the health organisations (Lin & Kelly, 1995; Gill & White, 2009). This survey could also be as a result of a need to improve on the healthcare delivery processes or a quest to improve patients' satisfaction and as a result retain old clients and attract new ones (Nelson et al. 1992; Powers & Bendall-Lyon, 2003).

Healthcare quality from the patient's view point has only been researched in recent times and only few measuring instruments have been explicitly developed for measuring healthcare quality from patient's perspective. Patients are at the centre care; their opinion may provide important lessons into the quality of healthcare systems, which might lead customer satisfaction and long-term profitable relationship. LaVela and Gallan (2014) confirms that patients' satisfaction may lead to positive outcome for healthcare organizations such as "loyalty, positive word-of-mouth, referrals, and other behaviors that directly positively impact the bottom line" (LaVela & Gallan, 2014).

Patient satisfaction has been widely investigated subject in healthcare delivery literature aimed at improving healthcare organisations' quality. Patient's satisfaction with healthcare delivery has is very important for medical (healthcare) providers, patients (consumers) and other third party stakeholders in the healthcare sector. The healthcare industry is one of the most patronised sectors and one that has the most direct contacts between providers and receivers of the service. Day in day out you find a lot of people trooping to the healthcare facilities in search of remedies or solutions to their problems. Therefore, assessing patients' satisfaction can bring new changes in approach or modification in healthcare delivery to ensure service excellence.

This research is therefore important as it attempts to measure patients' perception of service quality delivery in the healthcare services in Tanzania. Specifically, the study seeks to achieve the following objectives;

1. Assess patients' perception of healthcare quality delivery in public hospitals in Tanzania
2. Examine the effect of healthcare quality on patients' satisfaction in public hospitals in Tanzania

REVIEW OF EXISTING LITERATURE

Service Quality

Service quality is very popular concept in the marketing literature where the notion of quality of service is the ability of service providers to satisfy the needs and wants of consumers. The most frequently used theoretical model for measuring the satisfaction of consumer service quality (SERVQUAL) model developed by Parasuraman et al. (1991). The SERVQUAL model was designed to measure service quality within services including the healthcare services.

Due to its subjective and intangible nature, there is a bit of difficulty to define what quality really is. The definitions depend on individual perspective and according to the context used. Quality, therefore, has been defined as “‘value’; ‘excellence’; ‘conformance to specifications’; ‘conformance to requirements’; ‘fitness for use’; ‘meeting and/or exceeding customers’ expectations’, and ‘consistently delighting the customer by providing products and services according to the latest functional specifications which meet and exceed the customer’s explicit and implicit needs and satisfy producer/provider” (Mosadeghrad, 2014).

Dimensions of Service Quality

Parasuraman, Zeithaml and Berry (1985) proposed ten dimensions of service quality and later revised them to five. Similar to Grönroos (1988) proposed model, Parasuraman et al. (1985) argued that these dimensions characterised what “consumers use in forming expectations about and perceptions of services” (p. 49). These ten dimensions of service quality as proposed by Parasuraman et al. (1998) was later reduced to five as a multi construct for measuring consumer perceptions of service quality (Ibrahim & Ssendiwala, 2014).

The most important dimension of the service quality attributes to the customer is reliability. Reliability has been explained to mean the ability of the service provider to deliver services as promised or as patients hope for. In other words, service providers should fulfill their communication claims about their services and the kind of services the facility communicates it performs. The ability of the service provider to deliver on their promises consistently is the most important aspect of quality of service according to customers (Ibrahim & Ssendiwala, 2014).

Responsiveness on the other hand, entails the readiness of service providers to assist customers and to offer quick service. Customers evaluate a service provider’s responsiveness by calculating the time it takes the service provider to respond to serve their service needs (i.e. requests, questions, complaints, and problems. In this case, for patients,

responsiveness means the care and attention given by healthcare givers during hospital visits by patients.

The third dimension assurance has been explained as knowledge of employees, courtesy and the ability of the firm to inspire trust and customer confidence. This dimension is of particular importance to service firms engaged in high levels of credence qualities, such as healthcare services. The assurance dimension is very important due to the perceived risk experienced by consumers and the need to give assurance to consumers of quality service delivery (Ibrahim & Ssendiwala, 2014). Since it is very difficult for patients to evaluate the outcome of the service prior to seeking it, healthcare workers need to give assurance of health delivery quality to reduce any perceived risk or doubt patients might have.

Empathy denotes the caring and personalized attention given to customers. Customers evaluate the service firm's empathy by the nature of individualised service they receive. Customers wish to receive personalised services and the service provider recognises and addresses individual needs (Ibrahim & Ssendiwala, 2014). When dealing with healthcare delivery, care givers must show empathy to patients by being friendly, polite and showing extra care as it aids in quick recovery of patients.

Tangibles, the fifth and the last dimension concerns the appearance of physical facilities, equipment, personnel and communication materials of the service firm. Since it is difficult for customers (patients) to evaluate the level of service they would receive at a particular health facility, healthcare facilities need to be of quality standard in terms of appearance of the building, equipment, healthcare stuff, and communication materials like folders and prescription forms.

Patients thus, would assess the overall healthcare quality by looking at these five quality dimensions during their service encounters. Healthcare facilities and workers must therefore keep in mind the importance of these dimensions of service quality when dealing with patients at all times to ensure a positive overall evaluation of their services.

Patients' Expectations

Consumer/patients' expectations are "the beliefs about a product or service that customers seek to receive from their service firms" (Olson & Dover, 1979). When patients/customers are not privy to any information about the service providers, prior expectation of service does not come to play. In reality, however, patients/customers are privy to vast amount of information about the service provider that influences their service expectations. The sources of information might come from different sources including "the firm itself, word of mouth, expert opinion, publicity, communication from the company, as well as prior exposure to competitive services" (Zeithaml,

Berry & Parasuraman, 1993). In the pre purchase situation for instance, brand name, type of product or service to buy would influence customers' expectations. Also, during service encounter, the attitude of service personnel and other customers might also influence the expectations of customers. Finally, in the post purchase era, evaluation of satisfaction would also influence customers' expectation (Oliver, 1993).

Consumers might use varying expectation types in their assessment of the satisfaction process (Tse & Wilton, 1988). Two types of expectations evaluations frequently used are the predictive expectation and normative expectation. Predictive expectation refers to "consumer's beliefs about the level of service a particular service firm would likely offer" (Churchill & Surprenant, 1982). These types of expectations are used as a benchmark to evaluate customer satisfaction. Normative expectations on the other hand, are explained as consumers' ideal level of service which can also be referred to as desires.

Service Quality in Healthcare delivery

According to the WHO documents on quality of care, quality has some key dimensions (WHO, 2006). These dimensions require that health care be "Efficient, Accessible, Acceptable/patient-centred, Equitable, and Safe" (WHO, 2016). According to Drain (2001) medical care organisations are expected to improve on their service quality delivery in tandem to consumer needs. Healthcare services unlike manufactured goods are difficult to evaluate due to its intangible nature. Service characteristics such as "intangibility, heterogeneity and simultaneity make it difficult to define and measure healthcare quality" (Ofili, 2014). Physical or tangible goods on the other hand due to their tangibility nature are easily assessed and evaluated before or after consumption. Assessment of healthcare quality is therefore only possible during the interactions in the service process.

According to Mosadeghrad (2014), healthcare services differ from service providers, patients, and even locations and time of service delivery. This is due to the "heterogeneity" in services which makes it difficult to provide similar services from different professionals (e.g. physicians, nurses, pharmacists). Evaluation of quality therefore becomes difficulty in such a situation as services are not standardised. Healthcare services are performed the same time as its being consumed and this makes it impossible to inventor services for later consumption. This makes it also difficult to control quality as patients or customers are not able to evaluate service until after consumption. Therefore, this makes healthcare quality a difficult task to achieve and measure (Mosadeghrad, 2014).

Again, the issue of healthcare quality is subjective, complex, and a multi-dimensional concept. Donabedian (1980) defined healthcare quality as "the application of medical science

and technology in a manner that maximises its benefit to health without correspondingly increasing the risk". He classified healthcare quality into three: technical quality, interpersonal quality, and amenities. Technical quality relates to how effective the healthcare is in achieving positive health outcome. Interpersonal quality on the other hand measures how patients' needs are being catered for. Also, amenities focus on physical facilities that are present in the hospital and which are used in providing service to patients (Mosadeghrad, 2013).

Øvretveit (2009) also defines quality care as the "provision of care that exceeds patient expectations and achieves the highest possible clinical outcomes with the resources available." He proposed a system for enhancing healthcare quality using three dimensions of quality, i.e. professional, client, and management quality. Professional quality assesses whether patients' needs have been met using the right techniques and procedures. Client quality evaluates whether patients or clients feel they receive the kind of services they requested for. Management quality on the other hand measures whether or not services are delivered in an efficient manner.

Schuster et al. (1988) also defined healthcare quality as "providing patients with appropriate services in a technically competent manner, with good communication, shared decision making and cultural sensitivity". For Lohr (1991), quality is "the degree to which healthcare services for individuals and population increases the likelihood of desired healthcare outcomes and is consistent with the current professional knowledge". Mosadeghrad (2013), defined quality healthcare as "consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patients' needs and satisfies providers". He identified 182 attributes of quality healthcare and grouped them into five categories: "environment, empathy, efficiency, effectiveness and efficacy. Quality healthcare includes characteristics such as availability, accessibility, affordability, acceptability, appropriateness, competency, timeliness, privacy, confidentiality, attentiveness, caring, responsiveness, accountability, accuracy, reliability, comprehensiveness, continuity, equity, amenities, and facilities" (Mosadeghrad, 2013).

Czepiel et al. (1985) opined that service quality consists of two dimensions. These are technical (output quality) and functional (process quality). These dimensions were assessed according to "attitudes and behaviour, appearance and personality, service mindedness, accessibility and approachability of customer contact personnel" (Jafarpour, 2006). Furthermore, Czepiel et al. (1985) mentioned three dimensions of the service encounter; customer perceptions, provider characteristics and production realities. They argued that these

dimensions cover important aspect of service delivery and each of these factors contributes the same way in attaining satisfaction (Jafarpour, 2006).

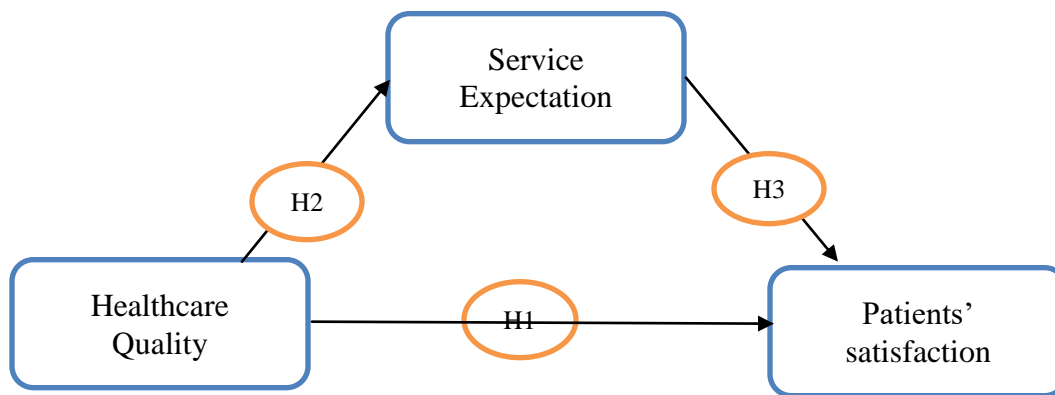


Figure 1. Conceptual model of the study and hypothesis

Hypotheses

H1: There is positive relationship between healthcare quality and patient's satisfaction

H2: Healthcare quality would influence Patient's expectation of services positively

H3: Patient expectation of services would have a positive influence on patients' satisfaction

METHODOLOGY

Study Design and Instrument

This study adopted the survey methodology using the quantitative techniques for data collection and data analysis. Data for the study was obtained through structured questionnaire using the Patient Satisfaction Questionnaire III (PSQ3) developed by Ware, Snyder & Wright (1976) and the SERVQUAL model developed by Parassuraman et al. (1988). The PSQIII is a patient satisfaction questionnaire items which contains 50 items. The short form of the PSQ contains 18 items measuring seven main items under the PSQIII instrument: "General satisfaction, technical quality, interpersonal manner, communication financial aspects, time spent with doctor and accessibility and convenience" (Ware, Snyder & Wright, 1976). In this regard, we adopted and adapted the modified version of the PSQ18 instrument as it fits our current study.

Data Collection and Sampling Technique

The research population for this current study involved all patients in public hospitals at Tabora Urban District in Tanzania. The regional hospital at Tabora Urban District was chosen as the sampling frame for this study. The selection of this region as the sampling frame was largely

due to convenience and accessibility. Also, the region was selected based on the availability of patients at the health facilities. Additionally, it is the only public hospital in the region that receives lots of patients daily. Aside the main public hospital, some other health centres in the district were also included in the sample.

Using simple random and accidental sampling technique, 1100 respondents were selected as the sample for the study. It took a month to conduct the interviews with the respondents using structured questionnaire. Out of the 1100 questionnaire collected, 865 questionnaires were found useful after the data cleaning.

Analytical Approach

Collected data was subject to descriptive statistics followed by measurement model testing and structural model testing.

Ethical Approval

The approval of the medical officer in charge was obtained prior to conducting this research and the questionnaire item provided for vetting. Also, patients were informed about the purpose of the research and their consent sort before proceeding with the interviews.

RESULTS

Demographic characteristics of respondents

Table 1 shows the demographic characteristics of the respondents. This includes gender, age, marital status, level of education and occupation. Out of the total of 865 respondents, 488 were females representing 56.5% and 377 were males representing 43.5%. This means that there were more female respondents than males. Also, with regards to the age category of respondents, 24.9% of the respondents were between 18 and 29 years; 35.9% were between 30 to 44 years; 25.1% were between the ages of 45 to 59 years; and 13.9% were above 60 years. This means that majority of the respondents were in the age group 30-44 years. On the issue of marital status, 51.8% are married; 5.3% are divorced; 17.7% are widows; 15.6% are single; 7.5% cohabiting; and 2.1% are separated. With regards to the level of education, 3.3% had Postgraduate qualifications; 7.7% Tertiary qualification; 32.1% Secondary education qualification; 51.9% Primary level education; and 4.9% had other qualifications. Majority of the respondents thus had Primary level education. Also, with regards to employment status, 50.8% are employed; 37% are self-employed; 5.2% are unemployed; and 6.9% are students. This means that majority of the respondents in this category are employed (see Table 1).

Table 1: Demographics of respondents

Variable	Category	Frequency(%)
Gender	Male	377(43.5)
	Female	488(56.5)
Age (years)	18 - 29	216(24.9)
	30 – 34	311(35.9)
	45 - 59	217(25.1)
	60 +	121(13.9)
Marital status	Married	448(51.8)
	Divorced	46(5.3)
	Widow	153(17.7)
	Single	135(15.6)
	Cohabiting	65(7.5)
Level of education	Separated	18(2.1)
	Postgraduate	29(3.3)
	Tertiary	67(7.7)
	Secondary	278(32.1)
	Primary	449(51.9)
Employment status	Other	42(4.9)
	Employed	440(50.8)
	Self-employed	320(37)
	Unemployed	45(5.2)
	Student	60(6.9)

Measurement model reliability and validity

An assessment of the study's model was carried out using reliability and validity analyses. In verifying the internal consistency and reliability the variables should load more than 0.70 and this study achieved that as the items loaded 0.70 or more. Additionally, the average variance extracted (AVE) estimates are required to be greater than 0.50 to reach convergent validity (Fornell & Larcker, 1981; Ringle, Wende & Becker, 2015). This study also achieved convergent validity as the items had value greater than 0.50 (see Table 2).

Table 2: Item loading, construct reliability and validity

	FL	CA	rho_A	CR	AVE
exp1	0.876	0.802	0.820	0.882	0.715
exp2	0.861				
exp3	0.798				
hsq1	0.771	0.696	0.696	0.832	0.622
hsq2	0.826				
hsq3	0.768				
psat1	0.748	0.728	0.731	0.830	0.550
psat2	0.705				
psat3	0.772				
psat4	0.740				

Notes: FL – Item Loadings, EXPEC – Expectation, HSQ – Health Service Quality, PSAT – Patients Satisfaction, AVE-Average variance extracted, CR- Composite reliability, CA – Cronbach's alpha

Table 3. Discriminant validity

	EXPEC	HSQ	PSAT
EXPEC	0.845		
HSQ	0.136	0.789	
PSAT	0.148	0.574	0.742

The Table 3 above shows the outcome of the discriminant validity analysis. According to Messick (1988) a factor must correlate higher than with any other construct on its scale to be valid. The scales in Table 3 indicate construct loadings higher than factor on their scales. EXPEC on its scale had a value of about (0.85) which is higher than any other construct on that scale. HSQ also had a value of about (0.80) which is higher than any other construct on that scale. PSAT also had a value of (0.74).

Results of Structural Model Testing

Figure 2 shows the structural model's assessment regarding the relationship between the variables. The assessment was done to assess the relationship between endogenous and exogenous variables. From Figure 2, Health service quality (HSQ) related positively with Patient satisfaction and Expectation 0.565 and 0.136 respectively. Also, Expectation related positively

with Patients' satisfaction (0.071). It is therefore important for hospitals to ensure quality service delivery during service encounters with patients. This means that expectation during hospital visits influences on the satisfaction of patients.

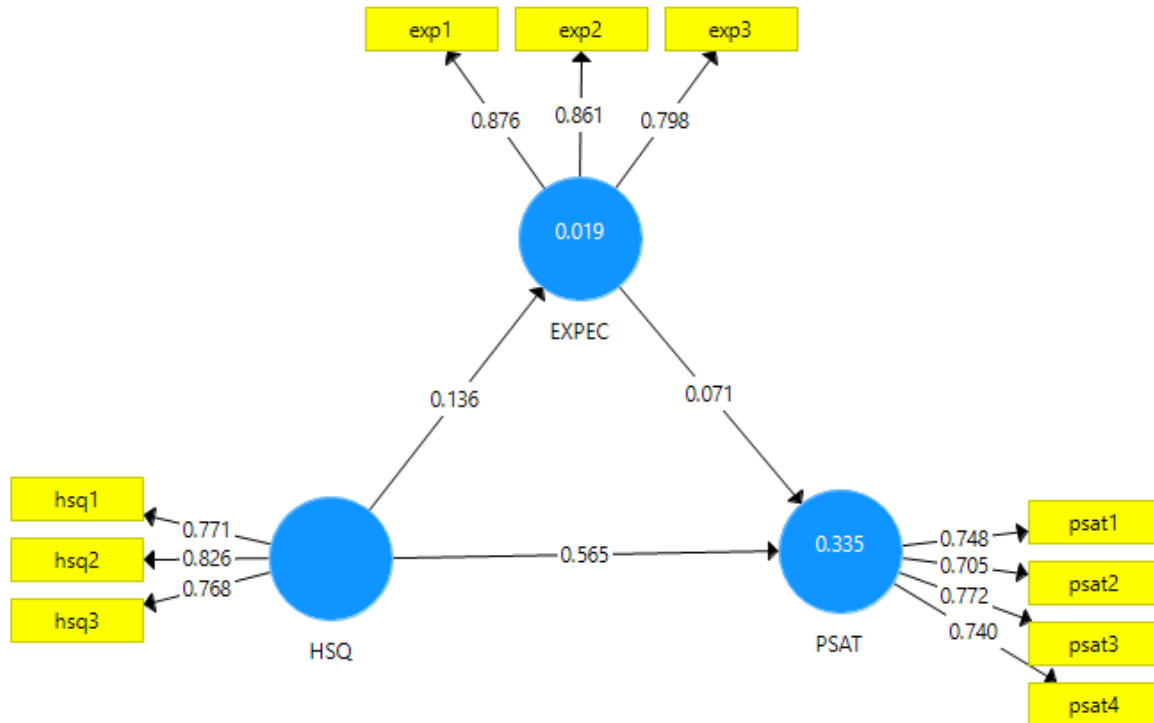


Figure 2 Structural model of the study

Table 4 Results of Hypothesis Test

Paths	Beta	SD	t-value	p-value
EXPEC -> PSAT	0.071	0.030	2.369	0.018
HSQ -> EXPEC	0.136	0.036	3.785	0.000
HSQ -> PSAT	0.565	0.566	20.897	0.000

We carried out bootstrapping using 5000 samples to estimate the path coefficients and also to establish the relationship between the variables. The results in Table 4 shows that all the three hypotheses tested were supported (H1, H2 and H3; $p < .001$). First and foremost, the direct effect of Healthcare quality on patients' satisfaction was supported ($\beta = 0.569$; $t = 19.35$, $p < .001$) this led to the acceptance of H1. The Beta score means that, when health service quality is improved by 1%, patient satisfaction also increases by about 56%. Also, HSQ had a positive and significant effect on patients expectations ($\beta = 0.136$; $t = 3.785$, $p < .05$) and this led to the acceptance of H2. This means that expectation of patients is influenced by the quality of service

they perceive to receive during healthcare delivery. Additionally, Expectation had a positive and significant influence on Patients' satisfaction ($\beta = 0.071$; $t = 2.369$, $p < .001$); this led to the acceptance of H3.

Mediation Test

To establish how much of the direct path is absorbed, variation accounted for (VAF) is calculated.

$$\text{VAF} = (C12 * C23) / (C13 + C12 * C23).$$

To calculate the value of VAF, the following conditions are given (Hair et al., 2013, p.224).

- i) If $0 < \text{VAF} < 0.20$, then No Mediation.
- ii) If $0.20 < \text{VAF} < 0.80$, then Partial Mediation.
- iii) If $\text{VAF} > 0.80$, then Full Mediation.

From figure 2,

$$\text{Total effect} = 0.565 + 0.00966 = \mathbf{0.5747}$$

$$\text{Indirect effect} = \mathbf{0.00966}$$

$$\text{Therefore: } 0.00966 / 0.5747 = \mathbf{0.0168 \text{ or (No mediation)}}$$

The mediation analysis was tested to evaluate the effect of Expectation in the relationship between Health service quality and Patients' satisfaction. The result from figure 2 shows that the mediator (Expectation) does not mediate the relationship between the exogenous and endogenous variables. The variation accounted for (VAF) shows that the mediator only explains about 1.8% of the total effect of HSQ on PSAT.

DISCUSSION

This study sought to examine the effect of health service quality on patients' satisfaction in public hospitals in Tanzania. Findings from the results show that Health service quality (HSQ) has a positive relationship with Patients' satisfaction. Also, Health service quality was found to influence patient expectation positively. Patient Expectation was also found to influence Patient's satisfaction positively.

With regards to the hypothesis stated in this study, findings from this study revealed that health service quality has a positive and significant influence on Patient's' satisfaction. Health service quality is paramount to the satisfaction and recovery of patients. Failure to ensure quality of service delivery would mean that patients would be dissatisfied with the level of care given them and would result into longer recovery time. To aid the quick recovery of patients, healthcare delivery care givers must provide quality of service to patients by being empathetic,

friendly, polite and show extra care as it aids in quick recovery of patients (Ibrahim & Ssendiwala, 2014). This finding supports earlier findings which found a positive relationship between health service quality and patients' satisfaction (Al-Abri & Al-Balushi, 2014; Kim et al., 2017; Ramez, 2012).

Secondly, the findings of this study revealed that, health service quality had a positive and significant influence on Patients' satisfaction. Patients hold certain perception during or before service encounters about the level of service they hope to achieve. It is up to the service providers to ensure that these wished for level of service patients are expecting is provided at all cost. Failure to do that would lead to dissatisfaction and disappointment with the entire service and delay patient recovery as well as patronage of the particular care giver. This finding agrees with (Berry et al., 2006; Ofir & Simonson, 2007) who mentioned expectation as an important factor that can be used by service providers to measure service experience and loyalty.

The study further found a positive and significant relationship between Service Expectation and Patient's satisfaction. This finding suggests that service expectations of patients would influence the satisfaction of patients. That is, the level of service a patient wishes to receive would have a positive influence on whether he or she would be satisfied or not. For instance, when a patient expects a good service delivery it would have positive effect on his or her satisfaction after the completion of the service. This finding confirms previous studies findings that expectations are used to measure standard of service upon which judgment of satisfaction are made (Churchill & Surprenant, 1982).

CONCLUSION

This study found that health service quality affects patient's satisfaction as well as patients' expectations with regards to healthcare delivery service. It is important therefore that hospital management takes all the necessary steps in ensuring that their facilities provide the best of care to patients at all times. Doing this would ensure that patients are satisfied at all times and are likely to return to the same facility subsequently. Health workers must therefore be trained to provide professional services to patients during service encounters to boost the confidence of patients in health delivery system. This would go a long way to establish the facility as very caring and responsive to patient's needs which would eventually impact on the long term success of the health facility.

LIMITATIONS OF THE STUDY

The study was not without some limitations. First, the study used one region in Tanzania for the study and this might affect the generalisability of the study's findings. There is the need

therefore for other studies in the other regions to be able to generalize this study's findings nationwide. Another limitation was the inability to get data from in-patients who might be the best people to provide good judgment on the issue of quality of service. The in-patients spend longer hours in the facilities and have more interactions with the health care givers than the out-patients who might only have limited encounter and experience with the service provision and service providers.

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