DETERMINANTS OF CLIENT SATISFACTION WITH OUTPATIENT HEALTHCARE SERVICES AT BUSIA DISTRICT HOSPITAL, KENYA

By

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DECLARATION

I, the undersigned, declare that this thesis is my original work, has never been presented in this or any other university, and that all resources and materials used herein have been dully acknowledged.

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May God bless you all!

DEDICATION

To my loving wife Dolly, sons Tevin and Eddie, for holding the fort, for having the patience and understanding, for sacrificing time and energy, for inspiring and motivating me during the long walk and to my loving parents Stephen and Mary Kimani for having instilled in me the spirit of hard work and for having given me a good foundation.

ABSTRACT

Patients have explicit desires or requests for services when they visit hospitals. However, inadequate attention to their needs may result in patient dissatisfaction. Preliminary reports indicated patients' dissatisfaction with outpatient healthcare services provided at Busia District Hospital. This facility also lacked a routine system for assessing patients' satisfaction with the services rendered. The study aimed to assess the levels and determinants of client satisfaction with outpatient healthcare services at Busia District hospital. A cross-sectional study was conducted from 7th January to 1st February 2013. A sample of 400 respondents from the target population of 6,554 was selected using systematic random sampling method with a response rate of 99%. A pre-tested structured questionnaire was used to conduct interviews. Descriptive statistics, analysis of variance and multiple linear regressions were performed using computer software (SPSS 18.0). Approximately 84% of the respondents were satisfied with outpatient healthcare services. Patients' perceived reasonable waiting time, perceived providers' technical competency, patient health education and perceived adequacy of consultation duration were strong determinants of satisfaction. Other important predictors of satisfaction included perceived effective communication by healthcare providers, perceived doctors' empathy, respect for patients and observing privacy and confidentiality. Accessibility, availability, convenience and affordability of healthcare services also emerged as strong predictors of satisfaction. Although majority of respondents reported satisfaction with outpatient services, the hospital should work to improve the competencies of their employees, particularly health professionals, to win the interests of the clients and have a physical structure that better fits the expectations of the patients. There is also need to strike a balance between waiting time and consultation time, and to provide sufficient health education. Results from this study would serve as a basis for management to ensuring cost effective, efficient and quality health care services are offered at the hospital, a significant step in the direction of evidence based health care service practice.

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LIST OF ABBREVIATIONS

AIDS- Acquired Immune Deficiency Syndrome

BDH- Busia District Hospital

CSI - Customer Satisfaction Index

HIV - Human Immunodeficiency Virus

MCH/FP- Maternal and Child Health/ Family Planning

MDGs- Millennium Development Goals

MOH- Ministry of Health

MOMS- Ministry of Medical Services

MOPHS - Ministry of Public Health and Sanitation

MPH- Master of Public Health

OPD- Out Patient Department

WHO- World Health Organization

OPERATIONAL DEFINITION OF TERMS

Faith-based healthcare facility: an institution owned by a group of individuals who have come together voluntarily around a stated spiritual or belief system that informs and guides their work together, and which offers healthcare services.

Healthcare service dimension: factors that come into play in the provision of healthcare**,** including availability, accessibility and convenience of services, technical competence of providers, interpersonal skills and the physical environment where services are delivered.

Level of patient satisfaction: a quantification of the extent to which an individual regards the healthcare service or the manner in which it is delivered by the provider as useful, effective or beneficial.

Patient: any recipient of healthcare services.

Patient: any recipient of healthcare services.

Public healthcare facility: a government-owned institution that provides healthcare services.

Quality: the ability of a healthcare institution or system to offer service that satisfies patient' needs.

Quality of healthcare: Proper performances of interventions that are known to be safe and have the ability to produce an impact on morbidity, mortality, disability and malnutrition.

Services: healthcare activities delivered in a healthcare system or institution.

Service providers: facilities providing medical care as well as the staff directly involved in the work, including doctors, nurses, counselors, laboratory technicians and managers.

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CHAPTER ONE: INTRODUCTION

This chapter describes the background of the study, the statement of the problem and the purpose of the study. It also describes the objectives of the study, research questions, significance of the study, basic assumptions of the study and limitations of the study.

1.1. Background Information

Patient satisfaction is a key criterion by which the quality of health care services is evaluated (Young *et al*., 2000). It can be defined as a state of pleasure or contentment with an action, event or service, especially one that was previously desired (Hornsby and Crouther, 2000). In medical care, patient satisfaction can be considered in the context of patients' appraisal of their desires and expectations of health care.

Patient satisfaction data are routinely collected and used for continuous quality improvement by health care institutions and hospitals (Donabedian, 1988, and Cleary and McNeil, 1988). According to Otani *et al*. (2005), there are several motivations for surveying patient satisfaction. It may influence health care utilization, can be a predictor of subsequent health-related behavior and whether patients are willing or not to recommend their health care provider to others. Patient satisfaction is measured over a wide range of healthcare service dimensions, including availability, accessibility and convenience of services, technical competence of providers, interpersonal skills and the physical environment where services are delivered (Grogan *et al*., 2000). A number of studies on patient satisfaction with healthcare services have reported high levels of patient satisfaction (Schoenfelder *et al*., 2011

and Meredith *et al.*, 2008). Other studies have, however, reported low levels of patient satisfaction with healthcare services (Sekandi *et al.*, 2011). However, it remains controversial whether patients' ratings reflect anything about technical quality or simply the interpersonal skills of the healthcare service provider (Pascoe, 1983).

Various studies have shown diverse factors that are thought to influence the level of patient satisfaction. A study in Germany identified ten determinants of patient satisfaction to be: outcome of treatment, kindness of hospital nurses and physicians, organization of procedures and operations, quality of food, accommodation, individualized medical care, discharge procedures and instructions, physicians' competence and cleanliness (Schoenfelder *et al.*, 2011). Other studies have shown that patients' perceptions of quality are often influenced by their interaction with the healthcare provider; the thoroughness with which the providers examine and communicate with their patients (Meredith *et al.*, 2008, and Marcinowiz *et al.*, 2009). This therefore shows that the determinants of patient satisfaction varies from one setting to another and the key determinants should be altered in order to improve patient satisfaction with quality of health care services.

Kols and Sherman (1998) observed that for health services to satisfy patients' needs, health care systems need to undergo continuous transformation in accordance to priority needs of clients. This can only be achieved by continuously determining these needs through patient's satisfaction surveys to ensure quality health care services.

In Kenya, one of the aims of the Ministry of Medical Services' Strategic Plan 2008-2012 is to ensure that public hospitals provide appropriate, high quality medical services to meet the 21st century medical care needs of Kenyans. The ministry plans to

achieve this by improving efficiency in the management and delivery of medical services in public hospitals. The ministry also aims to improve quality of hospital services by at least 50% as measured technically, and by clients, and also seeks to understand patient and institution characteristics that determine satisfaction with care (MOMS, Strategic Plan 2008-2012). There are few published studies on patient satisfaction or perceptions of quality with services that are delivered in Kenyan public or private hospitals, and the practice of assessing patient satisfaction is rare. At Busia District Hospital, the proposed Busia County referral hospital, there is no routine system for assessing patient satisfaction. Preliminary reports from the hospital's social worker reveals patients' dissatisfaction with the services offered. The outpatient department (OPD) is the first point of contact with a patient and serves as the window to any healthcare services provided to the community. The care in OPD indicates the quality of services of a hospital and is reflected by patients' satisfaction and their perception about the services.

A visit to Busia District Hospital reveals a number of issues that need to be addressed. According to the facility's social worker, preliminary reports indicate patients' dissatisfaction with healthcare services. Moreover, with the introduction of the civil servants' outpatient National Hospital Insurance (N.H.I.F.) scheme, preliminary reports indicate that a significant number of civil servants working in the district prefer private health facilities over Busia District Hospital. This is despite the fact that Busia District Hospital boasts of a significant number of medical specialists. At Busia District Hospital, there is no routine system for assessing patient satisfaction with health care services. This is one of the largest level 4 hospitals in Kenya and it is the

proposed Busia County referral hospital. It is important to ensure that high quality healthcare services, responsive to patients' needs, are provided in this facility.

1.2. Statement of the Problem

Patient satisfaction data are routinely collected and used for continuous quality improvement by health care institutions and hospitals in developed countries. Globally, a critical aspect in the patient satisfaction's measurement is that models and instruments sometimes reflect the providers' perspective rather than the patients' one.While this is gaining momentum in a number of developing countries especially in Asia, the practice is, however uncommon in African settings. In this respect a population satisfaction level of 50% was assumed since there were no prior published studies on outpatient satisfaction in Busia or any other similar setting in Kenya.. In order for Busia district hospital to ensure that high quality healthcare services, responsive to patients' needs, are provided in the facility, there is need for continuous evaluation of these services. Preliminary reports indicated patients' dissatisfaction with healthcare services at the Busia District Hospital (BDH), with no routine system in place for patients to assess the perceived quality of these services. Lack of adequate healthcare resources, understaffing and poor working conditions of healthcare workers are thought to compromise the quality of care given to patients at Busia District Hospital. Other factors include management related challenges occasioned by devolution of the healthcare docket in Kenya. The researcher therefore set out to undertake a study with the aim of determining the levels and determinants of patients' satisfaction with healthcare services in outpatient clinics at Busia District Hospital. The outcome of this research would serve as a basis for management to ensuring cost effective, efficient and quality health care services are offered at the hospital and it

would be a significant step in the direction of evidence based health care service practice.

1.3. Study Justification

The aim of this study was to provide information which would form a link of understanding between the hospital management and the clients based on the latter's experience and perceptions of the health care services. Hence, its outcome would serve as a basis for management to ensuring cost effective, efficient and quality health care services are offered at the hospital. The researcher felt that the outcome of the study would be a significant step in the direction of evidence based health care service practice.

1.4. Study Objectives

1.4.1. Main Objective

To assess the determinants of patients' satisfaction with health-care services in outpatient clinics at Busia District Hospital

1.4.2. Specific Objectives

1. To assess the perceived importance of healthcare service attributes.
2. To determine the general level of patient satisfaction with outpatient healthcare services at Busia District Hospital, Kenya.
3. To identify the factors associated with the level of patient satisfaction with outpatient healthcare services at Busia District Hospital, Kenya.

4. To determine the relationship between factors associated with patient satisfaction and levels of patients' satisfaction with outpatient healthcare services at Busia District Hospital.

1.5. Research Questions

1. What is the perceived importance of healthcare service attributes?
2. What is the general level of patient satisfaction with outpatient healthcare services at Busia District Hospital?
3. What factors are associated with the level of patient satisfaction with outpatient healthcare services at Busia District Hospital?
4. What is the relationship between factors associated with patient satisfaction and the levels of patients' satisfaction with outpatient healthcare services at Busia District Hospital?

1.6. Assumption of the Study

That the respondents would provide accurate and truthful information based on services offered at the facility.

1.7. Conceptual Framework

The researcher developed a conceptual framework which was adapted from Dagger *et al.* (2007), and was based on various variables (Figure 1.7). These were divided into independent and dependent variables. The first group of independent variables was individual determinants including socio-demographic variables and patient health characteristics. These include gender, age, place of residence, employment status, highest level of education attained, marital status, health condition treated for, nature of visit- first or return visit and physical disability- whether disabled or not. The second group of independent variables was provider interpersonal aspects. These include receiving adequate attention from healthcare providers, being served with passion, being respected by staff, provision of personalized care, empathy and understanding from hospital staff and effective communication. The third group in this category was technical quality and provider competence. These include staff knowledge and skills, adequate supervision of care process, observance of privacy and confidentiality, duration of waiting time before service and the length of consultation time. Hospital milieu was the final group in this category. It entailed the hospital environment and includes accessibility of medical care, affordability of care, convenience, cleanliness, appearance of physical facilities, presence of supplies and services and hospital accreditation.

Patient satisfaction was taken to represent the outcome variable and aspects including patient loyalty, recommendation of service to others and perceived service quality were the operational dependent variables in this category.

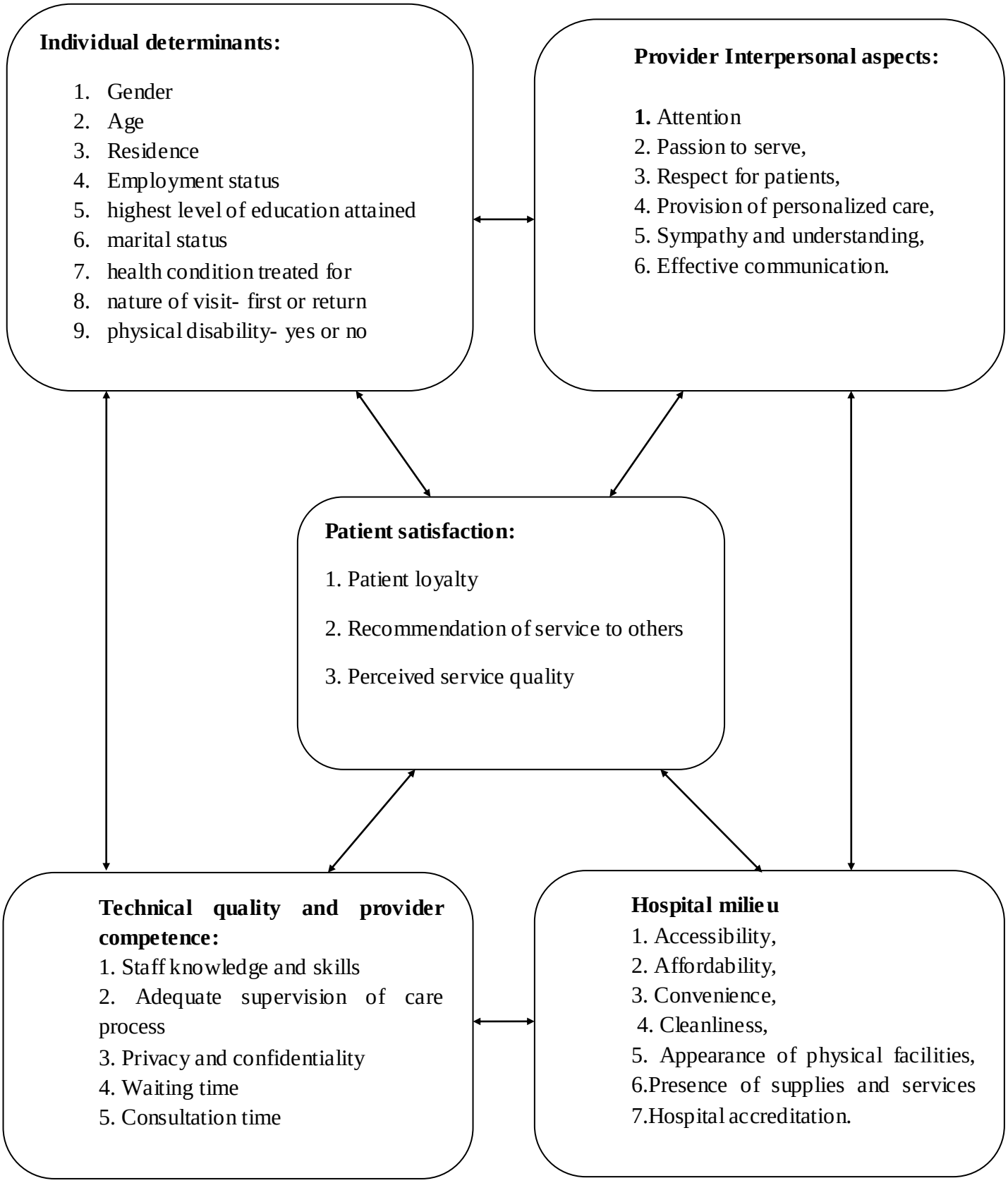

Figure 1.7: Conceptual framework

Source: Dagger *et al.* (2007)

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Patient satisfaction is a key criterion by which the quality of health care services is evaluated (Young *et al.*, 2000). It can be defined as a state of pleasure or contentment with an action, event or service, especially one that was previously desired (Hornsby and Crouther, 2000). In medical care, patient satisfaction can be considered in the context of patients' appraisal of their desires and expectations of health care. It is the subjective evaluation of the service received against the individual's expectations (Sitzia and Wood, 1997). Patients' judgment of hospital service quality and their feedback are essential in quality of care monitoring and improvement (Boyer *et al.*, 2006). There are two main dimensions of quality of care – access of care and patient-centeredness. Accessibility can be defined as the opportunity or ease which consumers or communities are able to use services in proportion to their need (Whitehead, 1990). Patient centred care is defined as a deliberate attempt to understand and flexibly respond to the patients' perspective – their concerns and their priorities as a whole person (Stewart, 2001). Patient satisfaction data are routinely collected and used for continuous quality improvement by health care institutions and hospitals in developed countries. While this is gaining momentum in a number of developing countries especially in Asia (Andaleeb *et al.*, 2007) the practice is, however uncommon in African settings. Healthcare is the diagnosis, treatment, and prevention of diseases, illness, injury, and other physical and mental impairments in humans. Healthcare is delivered by practitioners in medicine, dentistry, nursing, pharmacy, allied health and other care providers. It refers to the work done in providing primary care, secondary care and tertiary care, as well as in public health

(Wikipedia contributors, 2012). Healthcare services consists of hospital care, family or other physical care, community based care and tele-health services.

This literature review looks at patient satisfaction measurement, importance of healthcare service attributes, patient satisfaction levels in various settings and some of the significant factors that have been shown to influence patient satisfaction.

2.2. Patient satisfaction measurement

A critical aspect in the patient satisfaction's measurement is that models and instruments sometimes reflect the providers' perspective rather than the patients' one (Calnan, 1988). For example, the patient capability to evaluate health services and professionals' skills is frequently questioned (Ben-Sira, 1976; Rao *et.al.* 2006), even when these items receive high satisfaction rates. According to Hopkins *et al.* (1994), patients are less capable of judging technical competence because of a real informative asymmetry and in any case they are more reserved in expressing critical comments with regard to the abilities of doctors. As a consequence, the high satisfaction scores observed may depend on the confidence in doctors' capabilities. Instead, Coulter (2006) argued that well designed questionnaires allow assessing both the technical competence and interpersonal skills of health professionals. The patient satisfaction measurements have been generally used in order to provide researchers, health managers and professionals with valuable information for understanding patients' experience, promoting patient's compliance with treatment, identifying the weaknesses in services and evaluating health service performance (Sitzia and Wood, 1997). Although the debate on the use of patient satisfaction as an outcome measure is still open (Reker *et al.* 2002; Norquist, 2009), it has been observed that satisfied patients are more compliant and more likely to participate in their treatment

(Guldvog, 1999). In fact, a satisfied patient is more aware of his care pathway and more willing to follow the physician prescriptions.

The level of satisfaction depends on several and different elements. For instance, healthy people tend to be more satisfied when they receive general information on health services and on their quality; on the contrary, people with a chronic condition may be more satisfied if involved in the decision-making process (Cleary and McNeil, 1997). Thus, the improvement of patient compliance requires adopting different actions depending on the patient's profile. The assessment of patient satisfaction with the process of care is an important measure of the care quality and it allows identifying the phases of the process to be improved. Questionnaires using report style questions allows observation of how the care is delivered (Wensing *et al.*, 2003; Leeper *et al.*, 2003). Some studies have highlighted that satisfaction strongly increases when care is provided in accordance with the clinical standard procedures (Lantz *et al.*, 2005; Marchisio *et al.*, 2006). Furthermore, the patients' point of view may help managers to evaluate activities such as the purchase of new technologies or the test of new medical treatments (Hopkins *et al.*, 1994; Dunlop *et al.*, 2003; Ahmad *et al.*, 2008; Van Koulil *et al.*, 2009). It is therefore critical that well designed questionnaires should be used in the assessment of patient satisfaction. Moreover, necessary testing should be carried out so as to ensure reliability and validity of the data collection instruments.

2.3. Perceived importance of healthcare service attributes

In order to assess the level and determinants of client satisfaction with outpatient care, it is important to know what attributes of healthcare quality are of importance to the

patients. Various studies have shown diverse health care service attributes that are thought to be of great to clients.

A study in Germany identified ten such attributes as: outcome of treatment, kindness of hospital nurses and physicians, organization of procedures and operations, quality of food, accommodation, individualized medical care, discharge procedures and instructions, physicians' competence and cleanliness (Schoenfelder *et al.*, 2011). Other studies have shown that patients' perceptions of quality are often influenced by their interaction with the healthcare provider; the thoroughness with which the providers examine and communicate with their patients (Meredith *et al.*, 2008, and Marcinowiz *et al.*, 2009). Although the attributes are general in nature and do not apply to any particular healthcare institution, they are an important indicator of what patients expect from healthcare providers. They form a basis for the formulation and design of instruments that assist in the assessment of client satisfaction with healthcare services.

2.4. Patient satisfaction levels

Various studies have been done to ascertain levels of satisfaction with healthcare services. Studies by (Schoenfelder *et al.*, 2011; Meredith *et al.*, 2008; Muhondwa *et al.*, 2008; Birhanu *et al.*, 2010), have shown that most patients report satisfaction with the care they receive both in public and private hospitals. However, contrary to the findings of the researchers mentioned above, a client satisfaction study at Mulago hospital in Uganda reported lower than normal clients' general satisfaction (Sekandi *et al.*, 2011). Furthermore, a number of studies have sought to establish if there exists a satisfaction level gap between public and private health facilities. A study carried out in Hong Kong, (Wong *et al.*, 2011) sought to look at the levels of client

satisfaction with public and private hospital care. The researchers presented results of a population survey of 1,264 respondents in which the mean global satisfaction score for public and private hospital care were 7.3/10 and 7.8/10 respectively. In the Gambia, a cross-sectional study was done by Isatou *et al.* (2012) among 502 pregnant women in six public and six private health facilities in a bid to assess women's perception of antenatal care services. The researchers reported satisfaction rates of 79.9% for public health facilities and 97.9% for private health facilities. A study looking at client satisfaction with general health services in Uganda reported that clients of private health facilities expressed higher satisfaction than users of government health facilities (Jitta *et al.*, 2008). These findings are in agreement with those of a patient satisfaction survey carried out by the ministries of health in Kenya, in which a total of 2,018 patients sampled from both government health facilities and faith based health facilities were interviewed. It was noted that government health facilities had an overall lower score of 74% compared to 80% for faith based health facilities. The disparity could be explained by a number of factors, for example, less waiting time, availability of supplies and personalized care offered in private health facilities. It is believed that patient satisfaction levels may vary from one setting to another, and is a product of the determinants of satisfaction. There seems to be a systematic trend in which the levels of patient satisfaction are lower in public hospitals compared to those in private ones.

2.5. Factors influencing patient satisfaction with healthcare

Various studies have been carried out worldwide to ascertain factors that influence patients' satisfaction with healthcare services. This section of literature review looks

at the various determinants of patient satisfaction as portrayed in the conceptual framework.

2.5.1. Individual determinants

According to Zwier and Clarke (2001), who carried out a survey in New Zealand, age, gender, ethnicity, place of residence, occupation, level of education and socio-economic status are some of the important variables that predict patients' satisfaction. In another study done by Hall and Dornan (1990), the researchers reported that certain patient demographic and clinical characteristics including age, health status and severity of illness are associated with satisfaction scores more than the technical quality of the care provided.

Older patients were found to be more satisfied than younger ones. Results of a study carried out in Sweden (Rahmqvist and Bara, 2010), shows that younger patients in emergency care were the least satisfied group and older patients with excellent health status were the most satisfied group. Patients with perceived better health status and those with less education were more satisfied than those with more education or poorer health status. It is thought that in this era of information technology, more educated patients are able to easily access health information on the internet. The ideal kinds of treatment availed to such patients on the internet may not necessarily be available in the health facilities that they seek treatment from, hence their dissatisfaction. In a study conducted by Da Costa *et al. (*1999), educational level was found to be the main socio-demographic factor associated with patient satisfaction. They proposed that less educated patients – in contrast to patients having a higher level of education – were not familiar with the diverse aspects of medical care, and

thus applied less demanding criteria when judging the attention received. However, contrary to the findings of the authors quoted above, a study done at Uganda's Mulago hospital showed that average satisfaction was higher among clients with a primary or secondary education compared to those with none.

As regards patients' socio-economic status, those who are well-off have been shown to rate satisfaction about 5% higher than those with lower socio-economic status (Zwier and Clarke, 2001). Myburgh *et al.* (2005), who carried out a study in South Africa agrees with these findings. According to the researchers, both race and socio-economic status are significant predictors of levels of satisfaction with the services of a healthcare provider, after adjusting for age, gender and type of facility visited. White and high socio-economic status respondents were about 1.5 times more likely to report excellent service compared with black and low socio-economic status respondents, respectively. There is a possibility that patients who are well-off can afford care both in public and private health facilities unlike the poor. This means that cost of care may be a dissatisfaction variable only among the poor.

Levinton *et al.* (2011) carried out a study in Toronto, Canada, to investigate the importance of place of residence in patient satisfaction. From the results, patients who lived outside Toronto were consistently more satisfied than patients who lived inside Toronto when both types of patients were hospitalized in Toronto. In contrast, patients who lived inside Toronto were usually and substantially more satisfied than patients who lived outside Toronto when they were hospitalized in facilities outside Toronto. In another study by Sitzia and wood (1997), patients hailing from a rural background expressed satisfaction at about 20% higher than those coming from an urban

background. This suggests that where patients live has a small but potentially important impact on how they rate their care.

As far as gender is concerned, satisfaction depends on what aspect of care is in question. According to Zwier and Clarke (2001), female patients are more prone to be dissatisfied with nursing care. Meredith *et al.* (2008) observed that for female patients, being seen by a female healthcare provider is associated with higher perceived quality, while for male patients; time and money spent for travel to the health facility are negatively associated with perceived quality. This could be due to the fact that female patients feel free to open up to female healthcare workers on issues affecting their health especially reproductive health. However, for overall patient satisfaction, gender has not been found to correlate with the patient satisfaction indices (Rahmqvist, 2001).

Persons with disabilities generally have significantly higher adjusted odds of dissatisfaction (Iezzoni *et al.*, 2002). It can be concluded that the greatest dissatisfaction among persons with disabilities are anticipated, given the nature of disabling conditions. Redesigning hospital settings and procedures, and changing payment policies could offer solutions to some of these problems.

The relationship between physical health and satisfaction with medical attention varies according to whether an individual's physical health is self-evaluated or whether it is medically evaluated using symptoms of pain (Da Costa *et al.*, 1990). In this study – among patients suffering from systemic lupus erythematosis – the researchers found that those who had self-evaluated their physical health as diminished displayed greater satisfaction than those who were evaluated by

physicians. Interestingly, the factor that was most associated with satisfaction in the former group was the perception of good social support.

Average satisfaction has been found to be high among clients attending HIV treatment and research clinics compared with the general outpatient clients; and returning relative to new clients (Sekandi *et al.*, 2011). It is believed that free treatment including free food supplementation availed to patients undergoing HIV treatment contributes to their higher satisfaction levels. On the other hand, patients attending research clinics may feel important being part of programs aimed at making scientific breakthroughs. Patients who have been to a health facility more than once may be comfortable finding their way around the institution unlike new patients who may find it difficult to access care.

2.5.2. Provider interpersonal aspects

Some of the provider interpersonal factors addressed in this section include respect from health workers, sympathy, understanding, effective communication and personalized care, explanations about illnesses and test results, and attention by healthcare providers. In Germany, Schoenfelder *et al.* (2011) carried out a study on the determinants of patient satisfaction in 39 hospitals in Germany. A total of 8,428 respondents were interviewed with the results showing that there are 10 determinants of global patient satisfaction, with kindness of nurses and physicians, individualized medical care, and provision of proper instructions being key determinants. The researchers found out that those variables measuring patients' perceptions of care are more important determinants of global patient satisfaction in comparison to demographics and visit characteristics. Although this study was carried out in an in-patient setting, determinants such as kindness of nurses and physicians and of

physicians, provision of proper instructions and individualized care would apply in an outpatient setting. These findings are consistent with those of the same authors in a different study on ophthalmology patients (Schoenfelder *et al.*, 2011). The authors observed that factors associated with patient satisfaction concern medical aspects like organization of procedures and operations but also aspects not directly related to technical care such as kindness of nurses. They also noted that patient subjective experiences of received care and services relate more strongly and consistently to overall satisfaction than patient demographic data or visit characteristics.

Communicating effectively with patients, respecting them and engaging them in the provider-patient relationship are some of the strongest determinants of client-perceived quality (Meredith *et al.*, 2008 and Wong *et al.*, 2011). Providing patient education during the visit on how to prevent or control diseases may also relate to improved patient satisfaction and recommendation (Tung and Chang, 2009). In a study carried out in Ethiopia, it was observed that perceived empathy, non-verbal communication, patient enablement and being told the name of one's illness were some of the main independent predictors of patient satisfaction (Birhanu *et al.*, 2010). According to another study in Ethiopia in five public and five private hospitals (Tateke *et al.*, 2012), perceived welcoming approach and perceived body signaling were found to be strong determinants of patients' satisfaction at both public and private hospitals. Results of a Tanzanian study by Muhondwa *et al.* (2008) are in agreement with other researchers, that patients were dissatisfied with the negative attitude of hospital staff towards patients. A client may feel appreciated when he or she is treated with respect and kindness, and is involved in the treatment process through effective communication.

2.5.3. Technical quality and provider competence

Marley *et al.* (2004) differentiates between process quality and technical quality. Technical quality refers to the quality of "what" the patient receives and process quality to the quality of "how" healthcare services are delivered to the patient. Process quality has a major influence on the way the customer perceives the technical quality. The authors found that both technical and process quality were important to patients.

According to Schoenfelder *et al.* (2011), out of the ten determinants of global patient satisfaction identified, outcome of treatment was overall, the most salient predictor. Elsewhere in Taiwan, Tung and Chang (2009) observed that doctors' technical skill was most related to overall patient satisfaction and their recommendation of a primary care provider. Moreover, being seen by a doctor and not any other health worker has been associated with higher patient-perceived quality. In a study carried out at Mulago hospital in Uganda, client-perceived technical competence of the healthcare service provider was found to be one of the strongest predictors of general patient satisfaction (Sekandi *et al.*, 2011). These findings are in agreement with the opinions of other researchers that some of the strongest determinants of client-perceived quality include health worker thoroughness in taking patients' histories and conducting physical examinations (Meredith *et al.*, 2008). In many countries, hospitals are undergoing accreditation as mandatory or voluntary measures. Sack *et al.*, (2011), in a study in Germany, sought to ascertain whether there was an association between hospital accreditation and patient satisfaction with hospital care. Four weeks after discharge, 78,508 patients from 328 departments in 73 hospitals were given a validated questionnaire, with a response rate of 36,777(55%). About 66.3% of all the respondents recommended their hospital to others, but this

recommendation was not related to the accreditation status of such hospitals. It is believed that accreditation positively influences quality of care but it is not linked to measurable better quality of care as perceived by patients. Hospital accreditation may represent a step towards total quality management but may not be a key factor to quality of care measured by the patient's willingness to recommend.

Longer waiting times have been associated with lower patient satisfaction. However, time spent with the physician and the perceived adequacy of the consultation, have been shown to be one of the strongest predictors of patient satisfaction (Anderson *et al.*, 2007 and Tateke *et al.*, 2012). The decrement in satisfaction associated with long waiting times is substantially reduced with increased time spent with the physician. Importantly, the combination of long waiting time to see the doctor and having a short doctor visit is associated with very low overall patient satisfaction. The influence of waiting time on satisfaction-loyalty relationship was explained in depth by Bielen and Demoulin (2007) in Belgium, on radiological outpatients. The results confirm that waiting time is not only a service satisfaction determinant, but it also moderates satisfaction-loyalty relationship. Moreover, determinants of patient waiting time include the perceived waiting time, the satisfaction with information provided in the case of delays and the satisfaction with the waiting environment. The authors suggest that investment in improving services might be better on information and communication, rather than on physical facilities. In a study done in Tanzania, Muhondwa *et al.* (2008) noted that patients were dissatisfied with the long waiting time before receiving services. The time spent with the physician is, therefore, a stronger predictor of patient satisfaction than is the time spent in the waiting room. These results suggest that shortening patient waiting times at the expense of time

spent with the patient to improve patient satisfaction scores would be counter-productive. In a Kenyan customer satisfaction survey (MOMS and MOPHS, 2009), 2,018 respondents from both government and faith based health facilities were interviewed. The survey identified one of the determinants of patient satisfaction to be waiting time. Unlike other studies, the Kenyan study failed to assess the importance of time spent with the clinician. It is noted that waiting time is an important determinant – in some cases, the most important. However, in different settings, the importance would vary. This study therefore explored the impact of both waiting time before service and consultation time on patient satisfaction.

2.5.4. Hospital milieu

Several studies have explored the physical environments in healthcare settings. For example, Woodside *et al.* (1988) found that location, equipment, and facility were important factors that hospital patients sought to optimize. For dental offices, organization, neatness, comfort of seating, magazine selection, and music all had a significant impact on dental service satisfaction (Chakraborty *et al.*, 1993). Gotlieb (2000) found that patients' perceptions of their hospital rooms could influence patients' perception of hospital quality. A study done in the Gambia among 502 antenatal mothers (Isatou *et al.*, 2012), reported women's poor perception with public health facilities due to their unhappiness with inadequate space and untidiness in those facilities, among other reasons. In a study carried out in Uganda, accessibility, convenience and availability of services especially prescribed medicines, were the strongest predictors of general satisfaction (Sekandi *et al.*, 2011). According to Muhondwa *et al.* (2008), the high cost of treatment and investigations charged were found to be major causes of dissatisfaction. This is in agreement with results from a

study by Sekandi *et al.* (2011) in which satisfaction was found to be lower among clients incurring costs of at least $ 1.5 during the visit. The high cost of healthcare has also been identified as a source of dissatisfaction in a client satisfaction survey carried out by the two ministries of health in Kenya (MOMS and MOPHS, 2009). It is evident that, besides a physically attractive hospital environment, it is important to ensure that the services offered in healthcare facilities are affordable. However, the healthcare providers should not compromise on quality of healthcare in an attempt to provide cheap medical care.

2.6. Summary of literature review (gaps)

A number of patient satisfaction studies have been carried out. However, in Kenya, there is limited literature on patient satisfaction studies. Moreover, at the Busia District Hospital there were no previous surveys on patient satisfaction and the hospital lacks a system for routine evaluation of patient satisfaction with the healthcare services offered. The study therefore aimed at making a contribution to the scientific body of knowledge as regards patient satisfaction in Busia and other similar settings in Kenya. Furthermore, it was thought that its' outcome would provide a benchmark for subsequent patient satisfaction assessments at Busia District Hospital and in other similar settings. Studies on patient satisfaction more often focuses on waiting time before service. The time spent with the healthcare provider was thought to be equally important. In this context, the study aimed at assessing the influence of both waiting time and service time on patient satisfaction.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter described the research methodology that was used in the study. These included study setting, study design, target population, the sample size and sampling procedure to be used. It further explained the data collection methods and tools employed in the study and data management and analysis methods. Finally, the chapter specified the ethical requirements followed throughout the period of data collection and after data collection and the study limitations.

3.2. Study Setting

The study was carried out at Busia District Hospital. It is located in Busia town, in Busia district, in Kenya's Western province, approximately 268 miles (431 kilometers), by road west of Nairobi, Kenya's capital city. It is located near the Kenya-Uganda border. The district has a population of 488,075 (Ministry of Planning, National Development and Vision 2030, 2009), but this has reduced following the curving out of 3 more districts out of the larger Busia district. Busia district hospital is the largest district hospital in Busia County, with a bed capacity of 164 and also serves a considerable number of patients from the neighboring Uganda. The hospital is one of the largest level 4 hospitals in Kenya. Some of the services offered at this hospital include antenatal care, basic emergency obstetric care, caesarean section, comprehensive emergency obstetric care, curative inpatient services, curative outpatient services, family planning, growth monitoring and promotion, HIV counseling and testing, home based care, immunization, integrated management of childhood illnesses, prevention of mother to child transmission of HIV, radiology

services, laboratory services, and youth friendly services. According to the hospital's health records information officer, an average of 4,988 patients were served monthly at the various outpatient clinics and service delivery points. Over the last 2 years, the highest number of patients served in the outpatient department was 6,554.

3.3. Study design

An institution based cross- sectional study design was utilized. This is a descriptive study that involves measuring different variables in the population of interest at a single point in time. This design was suited for this study since the study was descriptive in the form of a survey to describe a subgroup within the hospital's patient population with regard to determinants of patients' satisfaction. Among the study design's advantages include the following:

(i) Ease of data gathering and assessment even for large target populations.

(ii) The low to moderate cost makes it possible to conduct more thorough investigations of the population's overall condition.

Some of its disadvantages include the following:

(i) Questionnaires introduce a previous incidents' bias called Neyman bias. Even if a researcher uses a completely objective questionnaire, the respondent cannot answer questions involving past events with perfect accuracy. This either magnifies or minimizes the effects of certain variables, thereby affecting the study's results.

(ii) Confounding factors. Additional variables may affect the relationship between the variables of interest but not affect those variables themselves.

3.4. Study population

The study population comprised of all patients who visited the Busia district hospital for treatment during the study period. The patients who attend the hospital come from the entire Busia County as well as the neighboring Uganda. The highest number of patients served in the outpatient section over the last 2 years was 6,554, which was taken to be the target population.

3.5. Inclusion Criteria

Respondents who met the following criteria were included in this study:

i. Those of legal age (18 years and above), who were able and willing to provide written or verbal consent in English or Kiswahili.
ii. Parents or guardians of patients below the age of majority (18 years), who gave consent to the interview.
iii. Parents or guardians of patients who were incapacitated, who gave consent to the interview.

3.6. Exclusion criteria

Respondents who met the following criteria were excluded from the study:

i. Patients who were critically ill.
ii. Patients in the in-patient section of the facility.

3.7. Sample size determination

Fisher's method was used in sample size determination using the formula (Fisher, 1998), based on the following assumptions:

i) That 50% of the patients would report being satisfied with the outpatient services provided (this is because there were no prior published studies on patient satisfaction at Busia District Hospital or any other similar setting).

ii) A 5% level of statistical significance.

iii) A target population of approximately 6,554 patients, the highest number treated in a month over the last 3 years.

iv) A 10% non-response rate adjustment.

The formula was:

$$\mathbf{n = z^2pq \div d^2}$$

Where;

n=desired sample size (if the target population is greater than 10,000)

z = the standard normal deviation at the required confidence level (in this case 1.96)

p= the proportion in the target population estimated to have the existing variable being measured.

q = 1-p

d = the level of statistical significance set.

The sample size for a population more than 10,000 would thus be;

$$n = (1.96)^2(0.5)\ (0.5) \div (0.05)^2$$

$$= 384$$

Since the targeted population was below 10,000 (the highest number of patients attended to in a month over the last two years was 6,554), the final sample size (nf) was then calculated as follows:

$$\mathbf{n\,f = n \div \{1 + (n/N)\}}$$

Where;

n f = desired sample size (when target population is less than 10,000)

n = desired sample size (when target population is greater than 10,000)

N = the desired sample size (target population)

Therefore, $n\,f = 384 \div \{1 + (384/6554)\}$

$= 362.75$

Adjusting for non-response at 10% (Abraham *et al.*, 2006) gave a required sample size of 399, which was approximated to 400.

3.8. Sampling procedure

Systematic random sampling method was used to select respondents. The approximate target population of 6,554 patients was divided by the required sample size, 400 to get the sampling interval of 16. The first patient was selected at random and every 17th patient who met the inclusion criteria was interviewed until the total number of 400 patients was reached.

3.9. Data collection procedures

The researcher utilized a structured questionnaire. This was divided into sections that included background information of the respondents, general patient satisfaction, satisfaction with specific services received, importance of service attributes, and

assessment of technical quality and provider competence, provider interpersonal aspects, hospital milieu/environment and patient's loyalty to the health facility.

3.10. Measurement of variables

a) Dependent variable

The dependent variable was "Client satisfaction with outpatient healthcare services at Busia District Hospital". The level of patient satisfaction was measured based on key outpatient service areas of the health facility's OPD, as well as the general patient satisfaction with OPD services. In this context, a 5-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1), was used and this was done for all the key outpatient services offered in the health facility.

b) Independent variables

In this study, variables considered as potential independent predictors of the outcome were divided into two groups, namely;

i) **Individual determinants;** including age, gender, place of residence, employment status, highest level of education attained, marital status and health status.

1. Gender; was recorded as either male or female.
2. Age; was recorded into clusters of 18-25 years, 26-35 years, 36-45 years, 46-55 years, 56-65 years and over 65 years. There was also a record for those who did not know their age.
3. Highest level of education attained; was indicated as no formal schooling, primary education, secondary education, post-secondary education, college education or university education.

4. Employment status; was indicated as permanent employment, casual employment, self employed or unemployed.
5. Place of residence; a record of respondents' place of residence was done in an attempt to approximate the distance from the health facility and whether it was within Busia town or outside.
6. Health status; a record of the diagnosis (if known to the respondent) and whether the respondent was physically disabled or not.
7. Nature of visit; whether it was a first visit or a return visit.

ii) **Service provider related determinants;** including

1. Technical quality and provider competence e.g. skill and knowledge of health workers, availability of medicines and other supplies, waiting and service time, and provision of medical education to patients. This was measured using 7 items assessed on a 5-score Likert scale and 2 items to record waiting time and service time.
2. Provider interpersonal aspects e.g. communication with patients, respect, observing privacy and confidentiality, sympathy and understanding, and involvement of patients in decision-making. These were measured using 11 items assessed on a 5-score Likert scale.
3. Hospital milieu e.g. accessibility, availability and convenient of care, affordability of care, cleanliness and the physical appearance of the facility. These were measured using 9 items assessed on a 5-score Likert scale and 2 items to record payments made at various service points and whether patients thought they were affordable or expensive.

3.11. Quality Assurance

The questionnaire was examined by the research sponsors who provided suggestions for correction. A pilot test was done to check its adaptability. A preliminary study was conducted prior to the main study and the data collected statistically analyzed to establish reliability and validity. The questionnaire was found to be psychometrically sound across multiple tests of reliability and validity. The instrument was validated on tests of content, construct and criterion validity and was found to be internally consistent. The questionnaire consisted of five internally consistent scales – level of patient satisfaction, perceived importance of healthcare service attributes, perceived technical quality, perceived interaction quality and perceived environment quality. The internal consistency of each scale was assessed by item-total correlations and Cronbach's Alpha. All the questions using the 5–point Likert scale exceeded the criterion 0.70 Cronbach's alpha standard for reliable measures. The Cronbach's Alpha coefficient for the entire questionnaire was 0.910.

Pre-testing of the questionnaire involved a trial run with a group of respondents with the aim of detecting problems in the questionnaire's instructions or design. The questionnaire was evaluated at this stage for evidence of ambiguous questions, potential misunderstandings, and evidence that the question meant the same thing to all respondents. At the end of each day, questionnaires were checked for errors and missing data in order to rectify this while still at the study site.

3.8. Data management and Analysis

3.8.1. Data management

Data collected was cleaned, edited and coded to avoid incompleteness during entry. Minor mistakes committed during data collection were corrected in the field. Upon the completion of data collection and editing in the field, systematic organization of raw data was done to facilitate data analysis. Questionnaires with missing variables, information or mistakes were left out. This resulted in the exclusion of 4 questionnaires (1%). Data collected was always in the custody of the trained research assistants when in the field before surrendering them to the researcher. The administered questionnaires were presented to the researcher every day after each day's work. To ensure that all the questionnaires were returned back to the researcher, every research assistant had to account for all the issued questionnaires and the spoilt questionnaires were to be given back to the researcher.

3.8.2. Data analysis

Data were cleaned, edited, coded and entered into SPSS version 18. Using SPSS version 18, descriptive statistics were used to determine indices. Factor analysis was done to identify factors that explained most of the variance observed in the population with regard to each scale. Multiple linear regression analysis for identifying determinants of outpatient satisfaction at the healthcare facility was done. A significance level of 0.05 was used in all cases.

Factor analysis was employed for all Likert scale instruments to extract factor(s) representing each of the scales and have factor scores, which facilitate treatment of the variables as continuous during further analysis. During all factor analysis

procedures, principal axis factoring with Eigen value greater than or equal to one extraction and Varimax rotation methods were employed. Whenever the scales had more than one factor extracted the factors were renamed using appropriate abbreviations according to the items contained in the factor extracted.

3.9. Ethical Considerations

The study was approved by the Kenyatta National Hospital/University of Nairobi Ethics and Research Review Committee. Further approval was obtained from Busia District Hospital's medical superintendent and finally informed consent from the participants themselves. Participants were guaranteed confidentiality of the information collected. Non-participation would not have a negative effect on care given to patients. Confidentiality of data was maintained by use of identification numbers rather than names and limiting access to the data. The study involved minimal risks and privacy was maintained by carrying out interviews in an area separate from where the other clients were waiting for services.

3.10. Limitations of the study

a. The study relied on questionnaires which are susceptible to response bias. However, attempts were made to minimize this potential source of bias by testing the tool, training field assistants on its administration, and amending it to make the wording familiar.
b. This study also relied upon respondents' recorded morbidity/ diagnosis. Hence the data did not capture biomedical variables such as the perceived severity of the illnesses reported, which might influence significantly, the patients' satisfaction with care given.

c. The last week of data collection coincided with the start of a two month long nurses' strike and this could have influenced patients' satisfaction with care given.
d. Patients may experience a relatively short-lived 'halo effect' whereby they feel more satisfied immediately after their consultation than they do afterwards.
e. The reliance on the response of parents or caregivers for their children might introduce surrogate bias.

CHAPTER FOUR: RESULTS

4.1. Introduction

This chapter presents findings of the study under thematic areas namely respondents' characteristics, importance of healthcare service attributes, general outpatient satisfaction, service quality perspective and finally, the relationship among respondents' characteristics, service quality perspective and general outpatient satisfaction. Factor analysis was employed for all Likert scale instruments. Principal axis factoring with Eigen value greater than or equal to one extraction and Varimax orthogonal rotation methods were employed. Factors extracted were renamed using appropriate abbreviations according to the items contained in the factor extracted. Multiple linear regression analysis for identifying determinants of outpatient satisfaction at the healthcare facility was done. A significance level of 0.05 was used in all cases. In regression analysis, beta (standardized) coefficient was used since it uses a standard unit that is the same for all the variables in the equation.

4.2. Characteristics of Study Participants

This section presents the personal data of 396 clients, who visited Busia district hospital outpatient department between 7th January and 1st February, 2013. In this study, 400 respondents were sampled. However, 4 of the filled questionnaires were faulty and only 396 were included in the analysis. In the study population, there were 160(40.4%) males and 236(59.6%) females as indicated in table 4.20. Majority of the respondents were between the ages of 18 and 25 years (34.6%). A significant proportion of the respondents had post-secondary schooling education (36.1%), while the unemployed were the majority at 49%. Respondents who were on a return visit

were the majority at 68.2% and a significant number of them lived within approximately two kilometers radius of the healthcare facility (66.9%). Respondents who were treated for acute illnesses and injuries comprised the majority at 72.7%.

Table 4.21 Characteristics of respondents

Respondents' characteristics		Frequency	Percentage
Gender:	Male	160	40.4
	Female	236	59.6
Age:	18-25 years	137	34.6
	26-35 years	132	33.3
	36-45 years	58	14.6
	46-55 years	27	6.8
	56-65 years	26	6.6
	Over 65 years	11	2.8
	Do not know	5	1.3
Highest education:	No formal education	24	6.1
	Primary education	123	31.1
	Secondary education	106	26.8
	Post- secondary education	143	36.1
Employment status:	Permanent employment	59	14.9
	Casual employment	49	12.4
	Self employed	94	23.7
	Unemployed	194	49.0
Marital status:	Married	248	62.6
	Single	135	34.1
	Divorced	13	3.3
Physically disabled:	Yes	34	8.6
	No	362	91.4
Nature of visit:	First visit	126	31.8
	Return visit	270	68.2
Place of residence:	Within 2km radius of hospital	265	66.9
	Beyond 2km radius of hospital	131	33.1
Nature of illness:	Enquiries, screening, MCH/FP visits	31	7.8
	Acute illnesses and injuries	288	72.7
	Chronic illnesses	77	19.4

4.3. Perceived Importance of Healthcare Service Attributes

In order to address specific objective one which sought to assess the importance of healthcare service attributes, twelve items were tested as measures of perceived importance of healthcare service attributes. These items were subjected to hierachical regression to establish which attributes best explained the importance of healthcare service attributes. Descriptive statistics were run for all the items to assess for the accuracy of entry of data, mean score for each item and normality as shown in Table 4.31. High means above average were recorded across all item measures with three items, attribute 4, attribute 7 and attribute 10 registering the lowest means.

Table 4.31 Descriptive Statistics for importance of healthcare service attributes

Attributes	Mean	Standard Deviation	Skewness
Friendly staff	4.46	.694	-1.361
Knowledge and competence	4.72	.574	-2.396
Respect from staff	4.38	.765	-1.383
Guidance and information	3.49	1.619	-.538
Cleanliness and tidiness	4.35	.711	-.996
Appearance of staff	4.43	.614	-.848
Cost of healthcare	3.98	1.180	-.835
Privacy and confidentiality	4.22	.901	-.875
Accessibility and availability	4.01	1.170	-.863
Waiting time before service	3.33	1.321	-.151
Availability of medical supplies	4.53	.901	-2.243
Consultation time	4.17	.913	-.798

The twelve items were then subjected to hierachical regression to establish which healthcare service attributes were most important to patients. The initial analysis focused on test for sampling adequacy using K.M.O's test of sampling adequacy and

Bartlett's test of sphericity for all attributes. KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed. The results indicated that the sample size was adequate (KMO=0.887; χ^2=2189.012; df=66; $p<0.05$). Bartlett's test is an indication of the strength of the relationship among variables. It tests the null hypothesis that the correlation matrix is an identity matrix. This was found to be significant since its associated probability is less than 0.05. Further analysis was done to determine and extract factors that would explain the importance of healthcare service attributes based on the twelve attributes. A total of twelve factors were possible to be extracted but only two factors met the criteria of eigen values set at one, namely HCSA1 and HCSA2. The rest of the factors were not valid. Eleven out of twelve attributes emerged as measures of importance of healthcare service attributes, accounting for 48.6% of the variance. HCSA1 which constituted items related to the friendliness of hospital staff, knowledge and competence of staff, treating patients with respect, cleanliness and tidiness of the health facility, and overall appearance of the staff accounted for 24.56 % of the variance, followed by HCSA2 which accounted for 23.99% and consisted of seven items measuring the perceived importance of friendliness of hospital staff, guidance and information provided on patients' health needs, cost of healthcare, privacy and confidentiality, accessibility and availability of healthcare, waiting time before service and time spent with the healthcare provider. This has been displayed in Table 4.32 and Figure 4.32.

Table 4.32 Rotated factor matrix for Importance of healthcare service attributes

	Attributes	Factor	
		SA1	SA2
1	Friendliness of hospital staff	.690	
2	Knowledge and competence of staff	.630	
3	Treating you with respect	.787	
4	Guidance/information provided on health issues		.685
5	Cleanliness and tidiness of health facility	.689	
6	Overall appearance of the staff	.614	
7	Cost of healthcare		.534
8	Privacy and confidentiality during treatment		.557
9	Accessibility and availability of healthcare		.713
10	Waiting time before service		593
11	Availability of medicines and other medical supplies		
12	Time spent with the healthcare service provider		.597

Overall variance explained was 48.6%

In order to show the distribution of the rotated factors, all the items were loaded into a factor space and displayed in Figure 4.31.

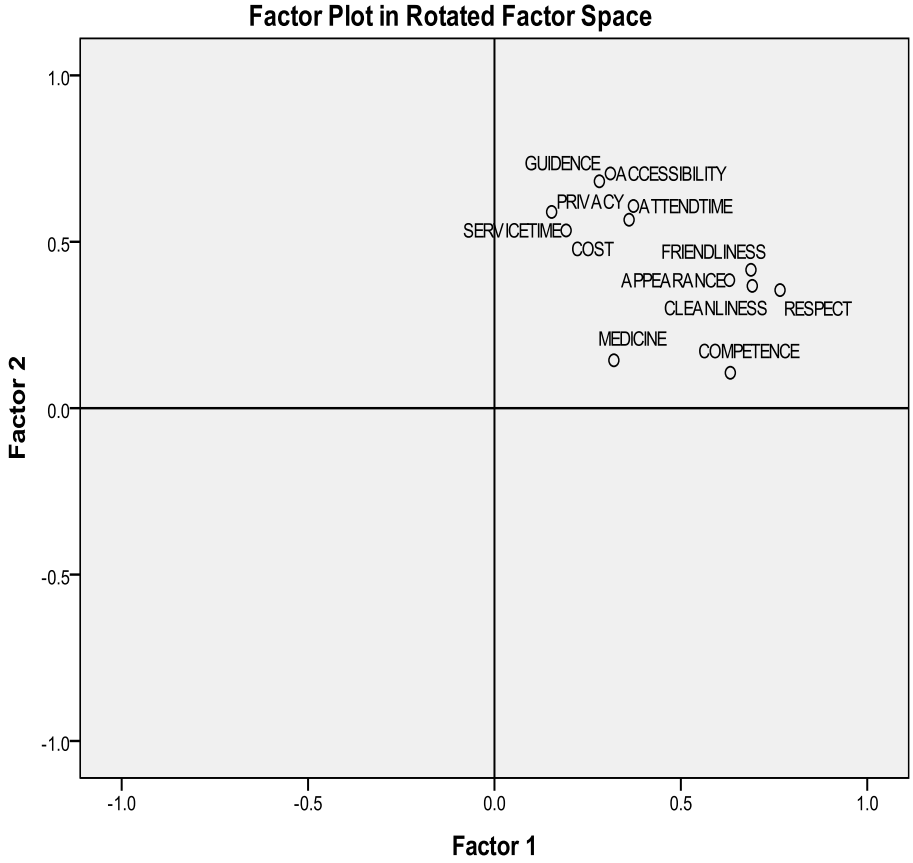

Figure 4.31 Distribution of importance of healthcare service attributes items into factor space

Further analysis was done to show the magnitude of predictors of Factor 1. The results indicated that the five items including friendliness of hospital staff, knowledge and competence of staff, staff treating you with respect, cleanliness and tidiness of health facility, and finally overall appearance of the staff significantly explained up to 89.8% of the total variance in importance of healthcare service attributes category-1 ($R=0.898$, $F=325.606$, $p<0.05$) as shown in Table 4.33. It emerged that being treated with respect by hospital staff was the best predictor of importance of healthcare service attributes category- 1 ($\beta=0.401$, $t=10.483$, $p<0.05$). This was followed by knowledge and competence of staff ($\beta=0.317$, $t=11.363$, $p<0.05$) which was then followed by cleanliness and tidiness of the facility ($\beta=0.214$, $t=6.390$, $p<0.05$) and finally friendliness of hospital staff ($\beta=0.099$, $t=2.835$, $p<0.05$). The overall appearance of hospital staff was not a significant predictor of importance of healthcare service attributes category-1($\beta=0.051$, $t=1.656$, $p=0.098$).

Table 4.33 Regression Analysis of importance of healthcare service attributes category-1

Factor1 Model		Unstandardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.285	.246		-33.714	0.000
	Attribute1	.164	.058	.099	2.835	0.005
	Attribute2	.634	.056	.317	11.363	0.000
	Attribute3	.601	.057	.401	10.483	0.000
	Attribute5	.346	.054	.214	6.390	0.000
	Attribute6	.096	.058	.051	1.656	0.098

Similarly, analysis was done to display the strength of predictors of factor 2. The six measures of importance of healthcare service attributes category-2 significantly accounted for up to 91.2 % of the variance (R=0.912, F=320.291, P< 0.05). Table 4.34 shows that the most powerful predictor of importance of healthcare service attributes category -2 was accessibility and availability of healthcare (β=0.341, t=11.886, p<0.05), followed by guidance and information provided on health issues (β=0.286, t=10.293, p < 0.05). This was followed by waiting time before service (β=0.244, t=9.613, p < 0.05), the followed by cost of healthcare (β=0.159, t=6.381, p<0.05), followed by time spent with the healthcare provider (β=0.097, t=3.610, p<0.05) and finally, maintaining privacy and confidentiality during treatment (β=0.074, t=2.832, p<0.05).

Table 4.34 Regression analysis of importance of healthcare service attributes category-2

	Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.385	.140		-31.356	0.000
	Attribute4	.208	.020	.286	10.293	0.000
	Attribute7	.159	.025	.159	6.381	0.000
	Attribute8	.096	.034	.074	2.832	0.005
	Attribute9	.343	.029	.341	11.886	0.000
	Attribute10	.217	.023	.244	9.613	0.000
	Attribute 12	.125	.035	.097	3.610	0.000

4.4. General Satisfaction with Outpatient Healthcare Service

In order to address specific objective two which sought to determine the general level of patient satisfaction with outpatient healthcare services in Busia District Hospital, Kenya, four items were tested as measures of overall satisfaction. These included attribute 1 (the service I have received is excellent), attribute 2 (I am satisfied with the medical care I received), attribute 3 (I have received the best healthcare as I expected) and attribute 4 (I feel satisfied by the way I was treated by staff). These items were subjected to hierachical regression to establish which items best explained general satisfaction with outpatient healthcare services. Descriptive statistics were run for all the items to assess for the accuracy of entry of data, mean score for each item and normality. High means above average were recorded across all item measures (Table 4.41).

Table 4.41 Descriptive statistics for general outpatient satisfaction

Attributes	Mean	Standard Deviation	Skewness
Excellent service	4.21	.875	-1.179
Satisfied with medical care	4.20	.919	-1.253
Received best healthcare	4.16	1.051	-1.382
Satisfied with treatment by staff	4.20	1.024	-1.455

The initial analysis focused on test for sampling adequacy using K.M.O's test of sampling adequacy and Bartlett's test of sphericity for all attributes. The results indicated that the sample size was adequate (KMO=0.789; χ^2=1086.563; df=6; $p<0.05$). Further analysis was done to determine and extract factors that would explain the nature of satisfaction based on the four attributes. A total of four factors

were possible to be extracted but only one factor met the criteria of eigen values set at one as shown in Figure 4.41.

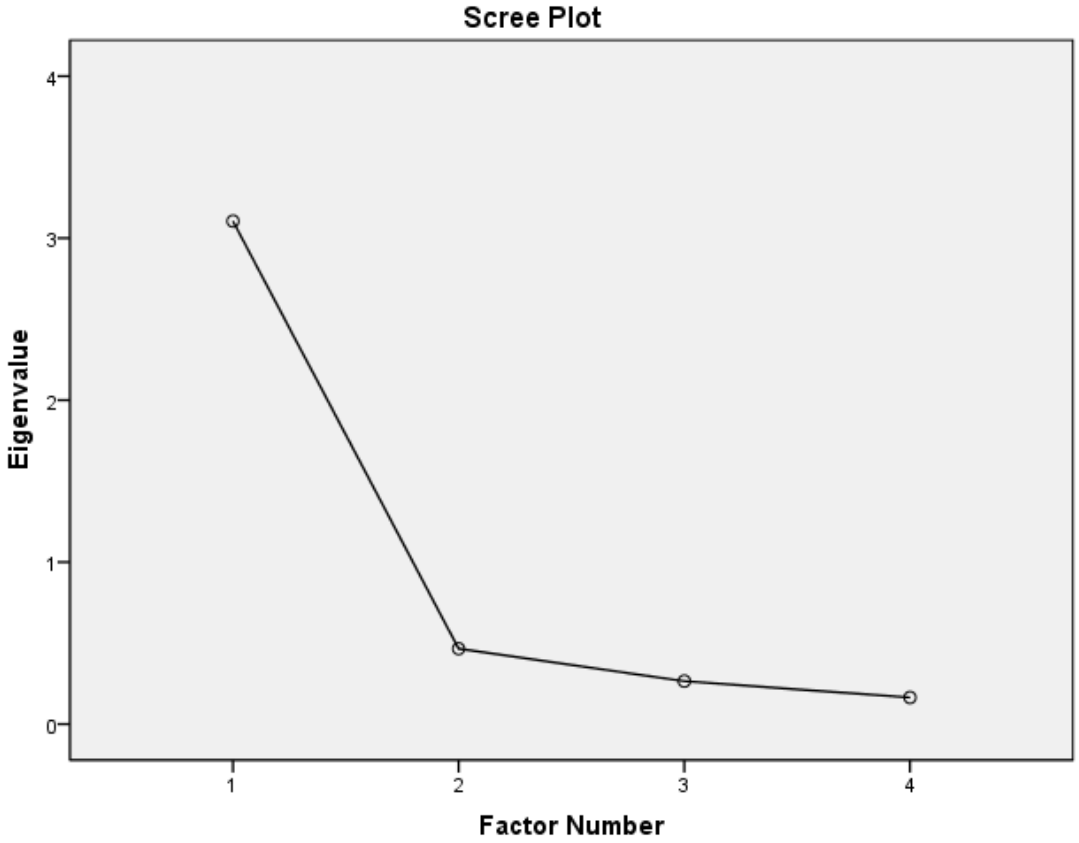

Figure 4.41: Scree plot for general outpatient satisfaction

The above scree plot is a graph of the eigenvalues against all the factors. It is useful in deternining how many factors to retain. The curve begins to flatten from factor 2 all the way to factor 4. Factors 2, 3 and 4 have eigenvalues less than 1, so only factor 1 has been retained. The rest of the factors were not valid. All the attributes emerged as measures of satisfaction, accounting for 70.3% of the variance of satisfaction as shown in Table 4.42.

Table 4.42 General outpatient satisfaction rotated factor matrix

Attributes	Factor1
All things considered, the service I have received from the health facility is excellent	.876
I am satisfied with the medical care I have received	.868
I have received the best healthcare as I expected from the health facility today	.774
I feel satisfied with the way I have been treated by the health providers at the facility	.833

Overall variance explained was 70.3%

Finally the extracted factors that depicted satisfaction were subjected to linear regression to determine which of the attributes were the best significant predictors of satisfaction. During this analysis, attribute 3 was dropped as it was similar to attribute 1. The three predictors could account for 99.3% variance of satisfaction ($R=0.993$; $F=9164.946$; $p<0.001$). For the three attributes, the best area of satisfaction was found in attribute 1 ($\beta=0.399$; $t=35.619$; $p<0.001$), followed by attribute 4 ($\beta=0.352$; $t=40.822$; $p<0.001$) and finally attribute 2 ($\beta=0.341$; $t=30.019$; $p<0.001$). Table 4.43 shows that the level of patient satisfaction depended on attributes 1,4 and 2.

Table 4.43 Regression Analysis of general outpatient satisfaction category - 1

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-5.171	.032		-161.651	0.000
Attribute1	.479	.013	.399	35.619	0.000
Attribute2	.390	.013	.341	30.019	0.000
Attribute4	.361	.009	.352	40.822	0.000

Further analysis was done on the extracted items measuring level of general satisfaction with healthcare service to determine whether there was any significant difference between respondents who agreed and those who disagreed with each of the items. Scores of “agree” and “strongly agree” were taken to imply satisfaction. Similarly, scores of “disagree’ and “strongly disagree” were taken to imply dissatisfaction. A two-tailed z-test at 5 percent level of significance (p-value< 0.05) was carried out as shown in Table 4.44.

Table 4.44 General level of satisfaction with outpatient healthcare services

	Attributes	Proportion Satisfied (n)	Proportion Dissatisfied (n)	z-test	p-value
1	The service I have received is excellent	84.6(335)	6.1(24)	9.2	0.0000
2	I am satisfied with the medical care I have received	84.6(335)	7.8(31)	9.9	0.0000
4	I feel satisfied the way I was treated by the staff	84.4(334)	10.1(40)	10.5	0.0000

According to the results, there was significant difference for all the items extracted as key measures of general satisfaction with outpatient healthcare services. Majority of the respondents were significantly satisfied as regards items 1, 2 and 4.

Further analysis was done to determine whether there was any significant difference between the observed proportion of respondents who reported satisfaction and the expected level of satisfaction among the study population. It was assumed that approximately 50% of the study population was satisfied with outpatient healthcare services. A 1-sample z-test for a population proportion at 5 percent level of significance (p-value< 0.05) was used and the results are as shown in table 4.45

Table 4.45 General level of satisfaction with outpatient healthcare services in comparison to the expected population satisfaction

	Attributes	Observed Proportion Satisfied (n)	Expected population satisfaction	z-test	p-value
1	The service I have received is excellent	84.6(335)	50.0	12.7	0.000
2	I am satisfied with the medical care I have received	84.6(335)	50.0	12.7	0.000
4	I feel satisfied the way I was treated by the staff	84.4(334)	50.0	12.6	0.000

From the results on Table 4.45, it is evident that there is significant difference between the expected level of satisfaction in the study population and the observed level of satisfaction with outpatient healthcare services. This implies a much higher level of satisfaction than expected.

4.5. Patients' Perceived Service Quality

In order to address specific objective three which sought to identify the factors associated with the level of patient satisfaction in Busia District Hospital, Kenya, factor analysis technique was also employed to achieve this objective. This involved the use of pricinple axis factoring which utilized Varimax as the mode of rotation. Besides socio-demographic factors and patients' health characteristics, some three other variables were conceptualized to be determinants of the level of patient satisfaction with outpatient healthcare services, namely;

4.5.1. Technical Quality and Provider Competence perspective

In order to assess patients' perception of technical quality and healthcare provider competence, a total of seven items were evaluated. These included attribute 1 (the hospital has the resources needed to provide complete medical care), attribute 2 (hospital staff are qualified to serve adequately), attribute 3 (doctors and nurses give me advice on ways to avoid illnesses), attribute 4 (generally, I waited for reasonable time before being served), attribute 5 (doctors and nurses spent sufficient time with me), attribute 6 (I received all drugs prescribed to me by the clinician) and attribute 7 (all the treatments/therapies recommended by the clinicians are available in the facility). These items were subjected to hierachical regression to establish which items best explained general satisfaction with outpatient healthcare services. Descriptive statistics were run for all the items to assess for the accuracy of entry of data, mean score for each item and normality. According to Table 4.51, high means above average were recorded across all item measures with three items, attribute 3, attribute 4 and attribute 5 registering the lowest means.

Table 4.51 Descriptive Statistics for technical quality and provider competence

Attributes	Mean	Standard Deviation	Skewness
Medical resources are available	4.36	.876	-1.743
Staff are qualified	4.69	.594	-2.033
Doctors and nurses give advice	3.35	1.632	-.352
Reasonable waiting time	3.47	1.334	-.393
Sufficient consultation time	3.93	1.158	-.952
Received all prescribed drugs	4.37	1.226	-1.746
All treatments/therapies available	4.00	1.451	-1.074

The initial analysis focused on test for sampling adequacy using K.M.O's test of sampling adequacy and Bartlett's test of sphericity for all attributes. The results indicated that the sample size was adequate (KMO=0.728; χ^2=634.089; df=21; $p<0.05$).Further analysis was done to determine and extract factors that would explain patients' perceived technical quality and provider competence based on the seven attributes. A total of seven factors were possible to be extracted but only two factors met the criteria of eigen values set at one, namely technical quality 1 (TQ1) and technical quality 2 (TQ2). The rest of the factors were not valid. Table 4.52 shows that six out of the seven attributes emerged as measures of technical quality and healthcare provider competence, accounting for 44.1% of the variance of technical quality and provider competence. TQ1 which constituted items related to whether doctors and nurses often gave advice on ways to avoid illnesses and stay healthy, whether waiting time before service was reasonable, and whether service time was

sufficient, accounted for 30.64%. TQ2, which constituted items related to whether the health facility had the resources needed to provide complete medical care, whether the hospital staff were qualified to serve adequately, and whether respondents received all the drugs prescribed by the clinicians, accounted for 13.46% of the variance.

Table 4.52 Rotated factor matrix for Technical quality and provider competence

Attributes	Factor 1	Factor 2
The hospital has the resources needed to provide complete medical care		.715
Hospital staff are qualified to serve adequately		.556
Doctors and nurses give me advice on ways to avoid illnesses	.699	
Generally, I waited for reasonable time before being served	.763	
Doctors and nurses spent sufficient time with me	.594	
I received all the drugs prescribed to me by the clinicians		.632
All the treatments/therapies recommended by clinicians are available in the facility		

Overall variance explained was 44.1%

In order to show the distribution of factors, all the items were loaded into a rotated factor space and displayed as shown in Figure 4.51. The idea of rotation is to reduce the number of factors on which the variables under investigation have high loadings, thereby making the analysis easier.

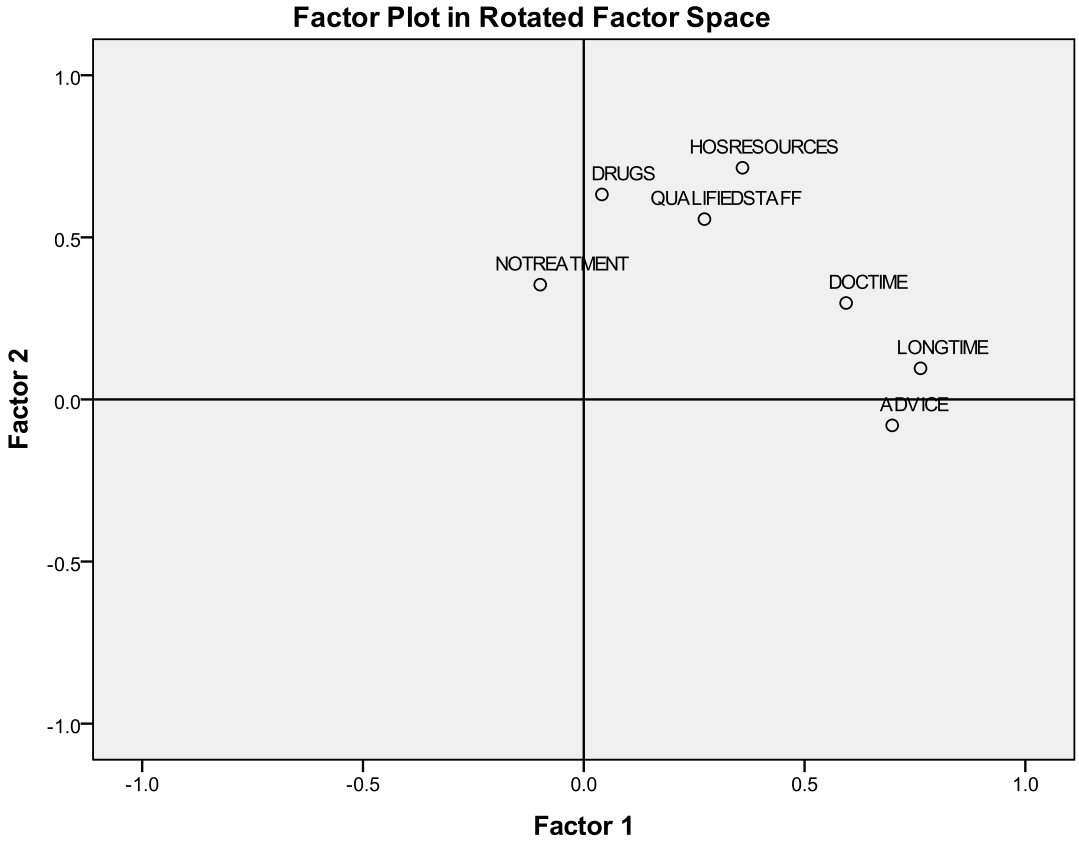

Figure 4.51: Factor plot in rotated factor space for technical quality and provider competence

Finally each of the extracted factors were subjected to linear regression to determine which of the attributes were the best significant predictors of technical quality and provider competence. In this regard, analysis was done to show the magnitude of predictors of Factor 1(TQ1). According to Table 4.53, the results indicated that three items including giving advice on ways to avoid illnesses, waiting time before service and time spent with the healthcare provider significantly explained up to 98.8% of the total variance in patients' perceived technical quality and provider competence category-1 ($R=0.988$, $F=5540.858$, $p<0.05$). It emerged that reasonable waiting time before service was the best predictor of patients' perceived technical quality and provider competence category- 1 ($\beta=0.535$, $t=56.311$, $p<0.05$). This was followed by

doctors and nurses giving advice on ways to avoid illnesses (β=0.467, t=51.187, p<0.05) and finally spending sufficient time with the healthcare provider (β=0.197, t=21.844, p<0.05).

Table 4.53 Regression Analysis of technical quality category - 1

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-3.500	.033		-106.118	0.000
Doctors and nurses give advice	.332	.006	.467	51.187	0.000
Waited for reasonable time before service	.465	.008	.535	56.311	0.000
Sufficient consultation time	.197	.009	.197	21.844	0.000

Analysis was also done to show the magnitude of predictors of Factor 2(TQ2). From the results the three items including availability of resources in the hospital to offer complete medical care, presence of qualified hospital staff and having received all prescribed drugs significantly explained up to 92.7% of the total variance in patients' perceived technical quality and provider competence category-2 (R=0.927, F=801.499, p<0.05) as shown in Table 4.54. It was noted that having resources necessary for complete medical care was the best predictor of patients' perceived technical quality and provider competence category- 2 (β=0.470, t=19.677, p<0.05). This was followed by receiving all drugs prescribed by the clinicians (β=0.449, t=20.935, p<0.05) and finally presence of qualified hospital staff (β=0.234, t=10.404, p<0.05).

Table 4.54 Regression Analysis of Technical quality category - 2

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-6.880	.181		-38.070	0.000
Resources for medical care available	.637	.032	.470	19.677	0.000
Hospital staff qualified	.469	.045	.234	10.404	0.000
Received all prescribed drugs	.436	.021	.449	20.935	0.000

4.5.2. Provider Interpersonal Aspects perspective

A total of eleven items were investigated to assess the respondents' perception of the healthcare provider's interpersonal aspects. These items included attribute 1 (the doctor who treated me has an interest in me as a person), attribute 2 (the hospital staff are friendly), attribute 3 (the hospital staff treated me with respect), attribute 4, (the hospital staff adhered to privacy and confidentiality while treating me), attribute 5 (during my visit I was allowed to say what I thought was important), attribute 6 (doctors were good in explaining the reasons for medical tests), attribute 7 (doctors were good in explaining the diagnosis to me), attribute 8 (doctors used medical terms and explained what they meant), attribute 9 (hospital staff always listened to me), attribute 10 (I received explanation for any delay in getting a service) and attribute 11 (I was involved in making decisions concerning my treatment). These attributes were subjected to hierarchical regression to establish which attributes best explained patients' perceived personal interpersonal aspects. Descriptive statistics were run for all the items to assess for the accuracy of entry of data, mean score for each item and

normality. Table 4.55 shows that means above average were recorded across all item measures with two items, attribute 8 and attribute 10 registering the lowest means.

Table 4.55 Descriptive Statistics for provider interpersonal aspects

Attributes	Mean	Standard Deviation	Skewness
Doctors concerned	4.14	.974	-1.283
Friendly hospital staff	4.34	.770	-1.426
Treated with respect by staff	4.04	1.136	-1.331
Privacy and confidentiality	4.00	1.130	-1.038
Allowed time to talk	4.23	.923	-1.137
Good explanations for tests	3.82	1.179	-.646
Explanation of diagnosis ok	3.26	1.470	-.250
Explanation of medical terms	2.74	1.572	.223
Being listened to by staff	4.05	.924	-.729
Explanation for delayed service	2.61	1.508	.325
Involvement in decision making	3.09	1.457	-.318

The initial analysis focused on test for sampling adequacy using K.M.O's test of sampling adequacy and Bartlett's test of sphericity for all attributes. The results indicated that the sample size was adequate (KMO=0.824; χ^2=1644.941; df=55; $p<0.05$).Further analysis was done to determine and extract factors that would explain patients' perceived interpersonal aspects (interaction quality) based on the eleven attributes. A total of eleven factors were possible to be extracted but only two factors met the criteria of eigen values set at one, namely provider interpersonal aspects 1 (

PIA1) and provider interpersonal aspects 2 (PIA2). The rest of the factors were not valid. According to Table 4.56, all the eleven attributes emerged as measures of patients' perceived interpersonal aspects, accounting for 48.47% of the variance of interpersonal aspects. PIA1 which constituted items related to whether doctors were concerned about their patients' well being, whether the hospital staff were friendly, whether respondents were treated with respect by hospital staff, whether hospital staff adhered to privacy and confidentiality during treatment, whether respondents were allowed to say everything they thought were important, whether doctors were good in explaining the reasons for medical tests, and whether hospital staff always listened to respondents, accounted for 30.42%. PIA2 which accounted for 18.05%, consisted of four items related to whether doctors were good in explaining the diagnosis to respondents, whether doctors used medical terms and explained what they meant, whether respondents received any explanation for delayed service delivery, and whether respondents were involved in making decisions concerning treatment.

Table 4.56 Provider interpersonal aspects Rotated Factor Matrix

Attributes	Factor 1	Factor 2
The doctor who treated me has an interest in me as a person	.749	
Hospital staff are friendly	.786	
The hospital staff treated me with respect	.551	
The hospital staff adhered to privacy and confidentiality while treating me	.568	
During my visit, I was allowed to say everything I thought was important	.704	
Doctors were good in explaining the reason for medical tests		
Doctors were good in explaining the diagnosis to me	.562	
Doctors used medical terms and explained what they meant		.617
Hospital staff always listen to me		.688
I received explanation for any delays in getting a service	.828	
I was involved in making decisions concerning my treatment		.760
		.699

Overall variance explained was 48.47 %

In order to show the distribution of factors, all the items were loaded into a factor space and displayed as shown in Figure 4.52.

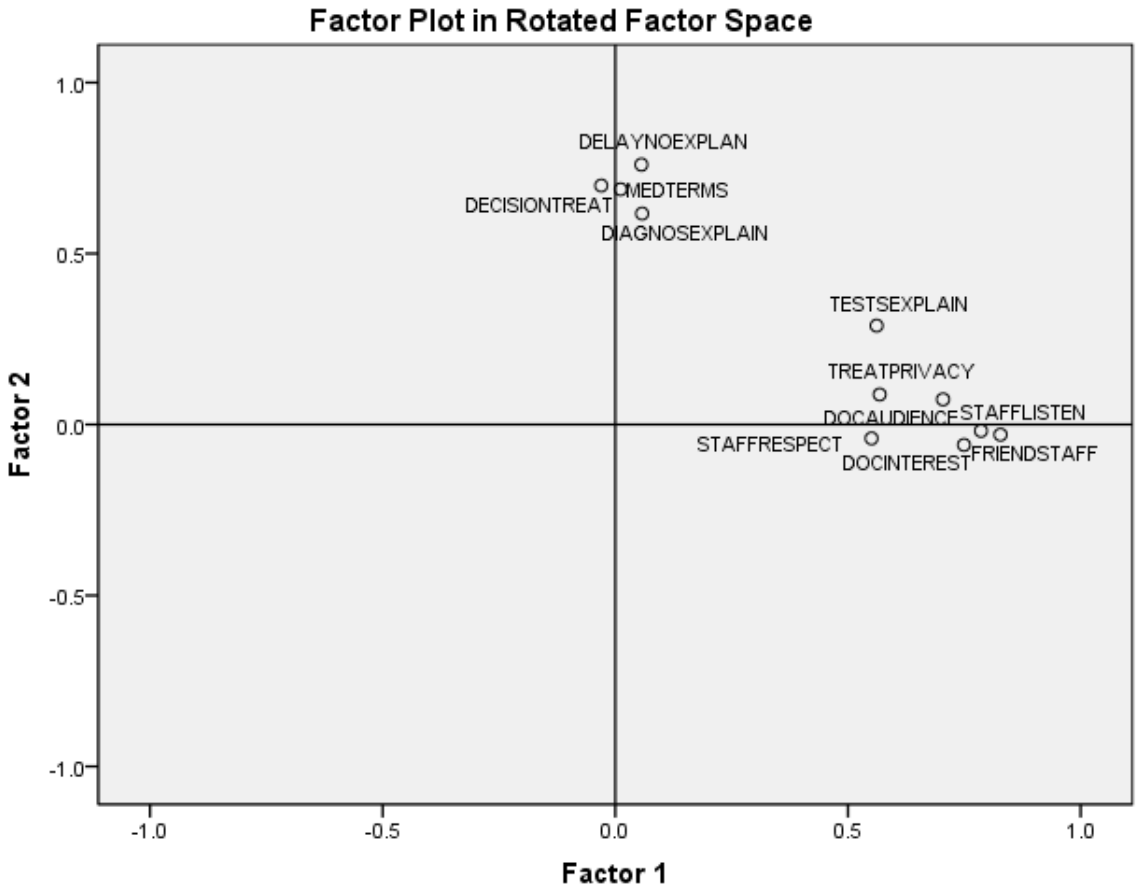

Figure 4.52: Factor plot in rotated factor space

Finally each of the extracted factors were subjected to linear regression to determine which of the attributes were the best significant predictors of patients' perceived interpersonal aspects. In this regard, analysis was done to show the magnitude of predictors of Factor 1(PIA1). Under PIA1, attribute 5 was dropped since it was similar to attribute 9. The results indicated that six items significantly explained up to 99.1% of the total variance in patients' perceived interpersonal aspects category-1 ($R=0.991$, $F=3606.021$, $p<0.05$) as shown in Table 4.57. It emerged that having hospital staff listen to patients was the best predictor of patients' perception of interpersonal aspects category- 1 ($\beta=0.380$, $t=37.037$, $p<0.05$). This was followed by friendly hospital staff ($\beta=0.273$, $t=27.433$, $p<0.05$), followed by doctors being concerned about patients' well being ($\beta=0.251$, $t=25.689$, $p<0.05$), then followed by

adherence to privacy and confidentiality during treatment (β=0.145, t=18.054, p<0.05). This was followed by doctors being good at explaining reasons for various medical tests (β=0.119, t=14.844, p<0.05) and lastly patients being treated with respect by hospital staff (β=0.100, t=12.403, p<0.05).

Table 4.57 Regression Analysis of interpersonal aspects category - 1

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-5.882	.043		-137.246	0.000
Attribute 1	.275	.011	.251	25.689	0.000
Attribute 2	.378	.014	.273	7.433	0.000
Attribute 3	.094	.008	.100	2.403	0.000
Attribute 4	.137	.008	.145	8.054	0.000
Attribute 6	.107	.007	.119	14.844	0.000
Attribute 9	.438	.012	.380	37.037	0.000

Similarly, regression analysis was done to show the magnitude of predictors of Factor 2(PIA2). From the results displayed in Table 4.58, four items significantly explained up to 99.5% of the total variance in patients' perception of interpersonal aspects category-2 (R=0.995, F=8954.945, p<0.05). Receiving explanations for any delay in getting a service was the best predictor of patients' perception of interpersonal aspects category- 2 (β=0.406, t=56.294, p<0.05). This was followed by involving patients in decision making concerning their treatment (β=0.314, t=45.168, p<0.05), followed by doctors using medical terms and explaining what they meant (β=0.307,

t=46.409, p<0.05 and finally doctors being good at explaining the diagnoses to their patients (β=0.236, t=37.253, p<0.05).

Table 4.58 Regression Analysis of interpersonal aspects category - 2

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.718	.017		-163.721	0.000
Attribute 7	.180	.005	.236	37.253	0.000
Attribute 8	.218	.005	.307	46.409	0.000
Attribute 10	.301	.005	.406	56.294	0.000
Attribute 11	.241	.005	.314	45.168	0.000

4.5.3. Hospital Milieu perspective

A total of nine items were investigated as measures of respondents' perception of the hospital milieu. These included attribute 1 (the hospital being conveniently located), attribute 2 (being able to get medical aid whenever needed), attribute 3 (being able to easily reach a doctor if one has a medical question), attribute 4 (being able to easily access medical specialists in the hospital), attribute 5 (having to pay more than one could afford for medical care), attribute 6 (the cost of healthcare services in this facility), attribute 7 (proper maintenance of the health facility's buildings), attribute 8 (cleanliness of the health facility) and finally attribute 9 (the physical appearance of facilities in the hospital). Descriptive statistics were run for all the items to assess for the accuracy of entry of data, mean score for each item and normality. Most attributes recorded means above average except for attribute 5 and attribute 9 which registered means below average as indicated in Table 4.59.

Table 4.59 Descriptive statistics for hospital milieu

Attributes	Mean	Standard Deviation	Skewness
Hospital conveniently located	3.91	1.171	-.797
Able to get medical aid any time	3.64	1.308	-.388
Can easily reach a doctor	3.14	1.606	-.077
Easily access medical specialists	2.73	1.712	.269
Paid more than could afford	2.45	1.446	.470
Cost of healthcare reasonable	3.99	1.208	-.883
Proper maintenance of buildings	4.31	.721	-.958
Cleanliness of health facility	4.36	.662	-.916
Physical appearance of hospital	2.24	1.324	.881

The initial analysis focused on test for sampling adequacy using K.M.O's test of sampling adequacy and Bartlett's test of sphericity for all attributes. The results indicated that the sample size was adequate (KMO=0.817; χ^2=2451.259; df=36; $p<0.05$).Further analysis was done to determine and extract factors that would explain patients' perception of the hospital milieu based on the nine attributes. A total of nine factors were possible to be extracted but only three factors met the criteria of eigen values set at one, namely hospital milieu (HM1, HM2 and HM3). The rest of the factors were not valid. All the nine attributes emerged as measures of patients' perception of hospital milieu, accounting for 70.41% of the variance of hospital milieu as shown in Table 4.510. HM1 which constituted items including the hospital being conveniently located, ability to get medical aid whenever needed, ability to easily reach a doctor when one has a medical question, ability to easily access medical specialists in the hospital, cost of healthcare in the facility being reasonable and finally appearance of the hospitals physical facilities, accounted for 49.23%. HM2

which accounted for 10.92% of the variance consisted of two items namely proper maintenance of the health facility's buildings and cleanliness of the health facility. HM3 which accounted for 10.26% of the overall variance constituted two items related to whether respondents had to pay more than they could afford for medical care and whether the overall cost of healthcare services in the facility was reasonable.

Table 4.510 Hospital milieu Rotated Factor Matrix

Attributes	Factor 1	Factor 2	Factor 3
The hospital is conveniently located	.703		
I am able to get medical aid whenever I need it	.813		
If I have a medical question, I can reach a doctor for help without any problem	.830		
I can easily access medical specialists in the hospital	.775		
I had to pay more than I could afford for medical care			-.880
Overall cost of healthcare in the facility is reasonable	.411		.575
The health facility's buildings are well maintained		.835	
Generally, this health facility is clean		.910	
The facilities in this hospital are old fashioned	.461		

Overall variance explained was 70.41%

In order to show the distribution of factors, all the items were loaded into a factor space and displayed in Figure 4.53.

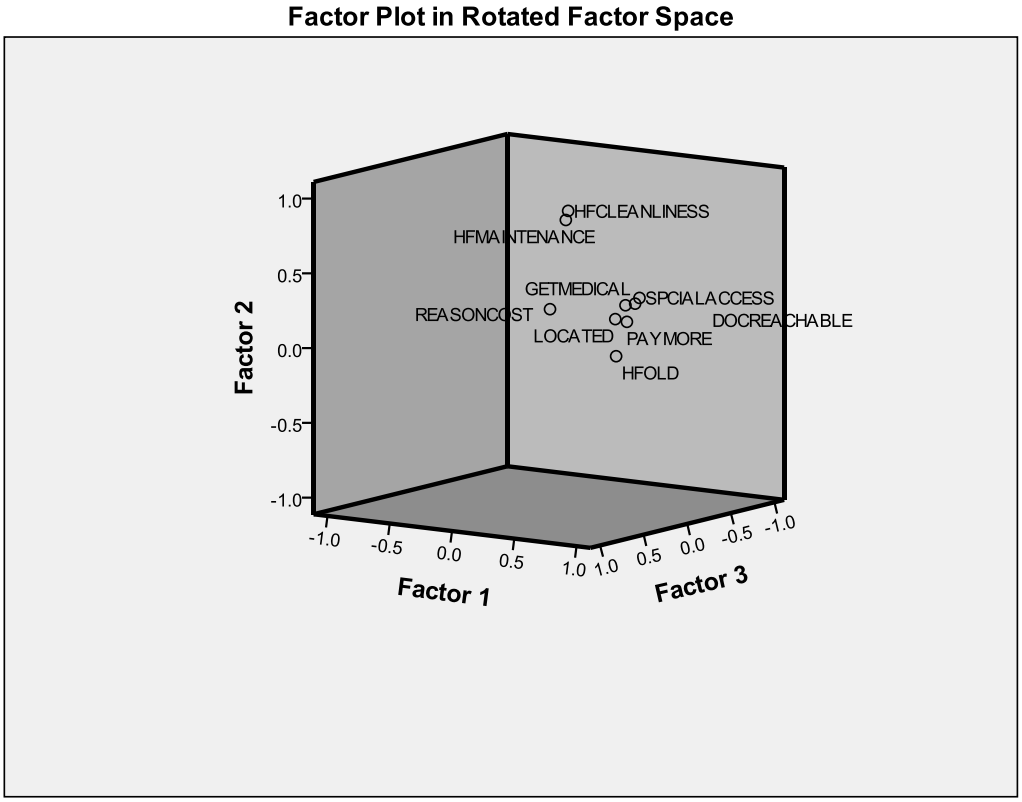

Figure 4.53: Factor plot in rotated factor space for hospital milieu

Eventually each of the extracted factors were subjected to linear regression to determine which of the attributes were the best significant predictors of patients' perception of hospital milieu. Analysis was therefore done to show the magnitude of predictors of Factor 1(HM1). From the results displayed in Table 4.511, it emerged that six items significantly explained up to 92.7% of the total variance in patients' perception of the hospital milieu category-1 ($R=0.927$, $F=395.925$, $p<0.05$). An attempt to establish the most powerful predictor of Factor 1 (HM1) revealed that being able to reach a doctor when one has a medical question was the best predictor of patients' perception hospital milieu category- 1 ($\beta=0.387$, $t=8.529$, $p<0.05$). This was followed by being able to get medical aid whenever needed ($\beta=0.281$, $t=6.320$, $p<0.05$), followed by the cost of healthcare in the facility being reasonable ($\beta= -0.236$,

t= -9.716, p<0.05), then followed by the appearance of the hospital facilities (β=0.209, t=10.290, p<0.05), then followed by the hospital being conveniently located (β=0.190, t=5.800, p<0.05) and finally ability to easily access medical specialists in the health facility (β=0.183, t=4.832, p<0.05).

Table 4.511 Regression Analysis of hospital milieu category - 1

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.518	.086		-25.077	0.000
Attribute 1	.171	.030	.190	5.800	0.000
Attribute 2	.228	.036	.281	6.320	0.000
Attribute 3	.255	.030	.387	8.529	0.000
Attribute 4	.113	.023	.183	4.832	0.000
Attribute 6	-.207	.021	-.236	-9.716	0.000
Attribute 9	.167	.016	.209	10.290	0.000

Similarly, regression analysis was done to show the magnitude of predictors of Factor 2(HM2). From the results, two items significantly explained up to 96.5% of the total variance in patients' perception of hospital milieu category-2 (R=0.965, F=2635.838, p<0.05) as shown in Table 4.512. Cleanliness of the health facility emerged as the best predictor of patients' perception of hospital milieu category-2 (β=0.698, t=31.248, p<0.05). This was followed by proper maintenance of the health facility's buildings (β=0.309, t=13.831, p<0.05).

Table 4.512 Regression Analysis of hospital milieu category - 2

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-6.833	.095		-71.799	0.000
Attribute 7	.454	.033	.309	13.831	0.000
Attribute 8	1.118	.036	.698	31.248	0.000

Finally, regression analysis was done to show the magnitude of predictors of Factor 3(HM3). From the results, two items significantly explained up to 98.9% of the total variance in patients' perception of hospital milieu category-3 ($R=0.989$, $F=8620.335$, $p<0.05$), as shown in Table 4.513. Having to pay more than one could afford emerged as the best predictor of patients' perception of hospital milieu category-3 ($\beta= -0.898$, $t= -102.498$, $p<0.05$). This was followed by the overall cost of healthcare services being reasonable ($\beta=0.160$, $t=18.245$, $p<0.05$).

Table 4.513 Regression Analysis of hospital milieu category - 3

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.106	.044		25.155	0.000
Attribute 5	-.692	.007	-.898	-102.498	0.000
Attribute 6	.147	.008	.160	18.245	0.000

4.6. Relationship among Socio-Demographic Factors, Patients' Health Characteristics, Perceived Technical Quality, Perceived Interaction Quality, Perceived Hospital Milieu and General Outpatient Satisfaction

In order to address specific objective four which sought to determine the relationship among factors associated with levels of patient satisfaction with outpatient care, a simple regression analysis was performed. The aim was to determine the importance of each element/variable in the factor structures. Regression coefficients, R square value and model fit statistics were obtained for each factor in the three study constructs. The results are presented in the sub-sections that follow.

4.6.1 Relationship between Socio-Demographic factors and overall Outpatient satisfaction

Simple regression analysis was performed in order to determine the importance of each element/variable in the factor structures as indicated in Tables 4.61 and 4.62.

Table 4.61 Model summary for socio-demographics

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.132[a]	.017	.015	1.04126006
2	.200[b]	.040	.035	1.03046938
3	.209[c]	.044	.036	1.02991392
4	.210[d]	.044	.035	1.03082866
5	.227[f]	.052	.040	1.02813091
6	.296[g]	.088	.074	1.00977984

Table 4.62 ANOVA for socio-demographics

	Model	Sum of squares	Df	Mean square.	F	Sig.
1	Regression	7.555	1	7.555	6.968	0.009[a]
	Residual	427.184	394	1.084		
	Total	434.739	395			
2	Regression	17.425	2	8.712	8.205	0.000[b]
	Residual	417.314	393	1.062		
	Total	434.739	395			
3	Regression	18.935	3	6.312	5.950	0.001[c]
	Residual	415.803	392	1.061		
	Total	434.739	395			
4	Regression	19.259	4	4.815	4.531	0.001[d]
	Residual	415.480	391	1.063		
	Total	434.739	395			
5	Regression	22.488	5	4.498	4.255	0.001[e]
	Residual	412.251	390	1.057		
	Total	434.739	395			
6	Regression	38.093	6	6.349	6.226	0.000[f]
	Residual	396.646	389	1.020		
	Total	434.739	395			

a. Predictors: (Constant), Gender

b. Predictors: (Constant), Gender, Age

c. Predictors: (Constant), Gender, Age, Highest Level of Education

d. Predictors: (Constant), Gender, Age, Highest Level of Education, Employment Status

e. Predictors: (Constant), Gender, Age, Highest Level of Education, Employment Status, Marital Status

f. Predictors: (Constant), Gender, Age, Highest Level of Education, Employment Status, Marital Status, Place of residence

g. Dependent Variable: General outpatient satisfaction BART factor score

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Tables 4.61 and 4.62 above, shows that gender of the respondent (G) could only account for 1.7% (R^2=0.017, F=6.968, p<0.05) of the variation in general outpatient satisfaction. The difference between R^2= 0.017 and adjusted R^2=0.015 is 0.002 and shows that the suggested model generalizes quite well as the adjusted R^2 is too close to R^2. Shrinkage of less than 0.5 depicts that the validity of the model is very good (Field, 2005). The other variations in general outpatient satisfaction i.e. 98.3% were explained by other external factors outside the model. After addittion of the second predictor, age of the respondent (A), the model explained 4.0% (R^2=0.040, F=8.205, p<0.05) of the variation in general outpatient satisfaction. The other variations in general outpatient satisfaction i.e. 96.0% were explained by other external factors outside the model. The difference between R^2=0.040 and adjusted R^2= .035 is 0.005, again showing that the suggested second model can be used to generalize quite well as the adjusted R^2 is too close to R^2. This further confirms the goodness of the

validity of the model as this shrinkage of 0.005 is well below the recommended shrinkage cut off value of 0.5 by Field (2005). After inclusion of the third predictor variable, highest level of education (HLE), the model explained 4.4 % (R^2=0.044, F=5.950, p<0.05) of the variation in general outpatient satisfaction. The difference between R^2 and adjusted R^2 is 0.008 which was well below the recommended shrinkage cut off value of 0.5. After the addition of the fourth predictor, employment status (ES), the R^2 value was still at 0.044 which explained 4.4% of the variation in general outpatient satisfaction. The difference between R^2 and the adjusted R^2 is 0.009 and this was way below the recommended shrinkage cut off value of 0.5. Upon the inclusion of the fifth predictor variable, marital status (MS), the model explained 5.2%(R^2=0.052, F=4.255, p<0.05) of the variation in general outpatient satisfaction. The other variations in general outpatient satisfaction i.e. 94.8% were explained by other external factors outside the model. The difference between R^2 and adjusted R^2 was 0.012, again showing that the suggested fifth model can be used to generalize quite well as the adjusted R^2 is too close to R^2. This further confirms the goodness of the validity of the model as this shrinkage of 0.012 is well below the recommended shrinkage cut off value of 0.5 by Field (2005). When the last predictor variable was included, i.e. place of residence (POR), the model could explain 8.8%(R^2= 0.088, F=6.226, P<0.05) of the variation in general outpatient satisfaction. The other variations in general outpatient satisfaction, i.e. 91.2% were explained by other external factors outside this model. The difference between R^2 and adjusted R^2 was 0.014, suggesting that the sixth model can be used to generalize quite well as the adjusted R^2 is too close to R^2. This again confirms the goodness of the validity of the model as this shrinkage of 0.014 is well below the recommended shrinkage cut off value of 0.5 by Field (2005).

Table 4.63: Regression Coefficients for the model for socio-demographics model

	Model	Un-standardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.449	.178		2.523	.012
	Gender	-.281	.107	-.132	-2.640	.009
2	(Constant)	.156	.201		.775	.439
	Gender	-.258	.106	-.121	-2.443	.015
	Age	.111	.037	.151	3.049	.002
3	(Constant)	-.003	.241		-.011	.991
	Gender	-.252	.106	-.118	-2.379	.018
	Age	.114	.037	.155	3.119	.002
	Highest education	.043	.036	.059	1.193	.233
4	(Constant)	-.152	.362		-.420	.675
	Gender	-.256	.106	-.120	-2.408	.017
	Age	.117	.037	.158	3.162	.002
	Highest education	.058	.045	.080	1.286	.199
	Employment status	.033	.059	.034	.552	.581
5	(Constant)	-.287	.369		-.776	.438
	Gender	-.252	.106	-.118	-2.377	.018
	Age	.131	.038	.178	3.473	.001
	Highest education	.038	.046	.053	.827	.409
	Employment status	.004	.061	.005	.072	.943
	Marital status	.175	.100	.093	1.748	.081
6	(Constant)	.198	.383		.515	.607
	Gender	-.254	.104	-.119	-2.437	.015
	Age	.152	.037	.206	4.056	.000
	Highest education	.041	.045	.056	.893	.372
	Employment status	.002	.060	.002	.028	.978
	Marital status	.203	.099	.108	2.059	.040
	Place of residence	-.428	.109	-.192	-3.912	.000

The model (Table 4.63) suggests that all the variables except highest level of education and employment status make a significant contribution to the model as they have significant values of less than 0.05 and t-values greater than 0.893. The regression equation can be written as follows

GOPS = 0.198-0.254G+1.52A+0.041HLE+0.002ES+0.203MS-0.428POR

Key:

GOPS- general outpatient satisfaction; G- gender; A- age; HLE- highest level of education; ES- employment status; MS- marital status; POR- place of residence

4.6.2 Relationship between Patient's Health Characteristics and General Outpatient Satisfaction

A regression analysis was performed to test the degree to which general outpatient satisfaction can be predicted by the three dimensions of patients' health characteristics. The regression analysis revealed an insignificant effect as shown in Tables 4.64 and 4.65. All the three dimensions offered insignificant contributions. Physical disability or not (PDN) dimension predicted 0.6%, nature of visit (NOV) 0.1% and condition treated for (CTF) 0.0%.

Table 4.64 Model summary for Regression model for patients' health characteristics

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.079[a]	.006	.004	1.04713514
2	.084[b]	.007	.002	1.04808977
3	.084[c]	.007	-.001	1.04942209

Table 4.65 ANOVA for patients' health characteristics

	Model	Sum of squares	Df	Mean square.	F	Sig.
1	Regression	2.721	1	2.721	2.481	.116[a]
	Residual	432.018	394	1.096		
	Total	434.739	395			
2	Regression	3.031	2	1.516	1.380	.253[b]
	Residual	431.707	393	1.098		
	Total	434.739	395			
3	Regression	3.034	3	1.011	.918	.432[c]
	Residual	431.704	392	1.101		
	Total	434.739	395			

a. Predictors: (Constant), Physically Disabled or Not

b. Predictors: (Constant), physically Disabled or Not, Nature of visit

c. Predictors: (Constant), physically Disabled or Not, Nature of visit, Condition treated for

d. Dependent Variable: General outpatient satisfaction BART factor score

All the three patient health characteristics variables are all insignificant in predicting general outpatient satisfaction as they all have significant values of more than 0.05 as shown in Table 4.66. The regression equation can be written as follows;

GOPS= 0.686-0.300PDN-0.060NOV-0.005CTF

Key:

GOPS- general outpatient satisfaction; PDN- physically disabled or not; NOV- nature of visit; CTF- condition treated for

Table 4.66: Regression coefficients for the model for patients' health characteristics model

	Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.566	.363		1.559	.120
	Disabled or not	-.296	.188	-.079	-1.575	.116
2	(Constant)	.674	.416		1.619	.106
	Disabled or not	-.299	.188	-.080	-1.591	.112
	Nature of visit	-.060	.113	-.027	-.532	.595
3	(Constant)	.686	.471		1.456	.146
	Disabled or not	.300	.188	-.080	-1.590	.113
	Nature of visit	-.060	.114	-.027	-.526	.599
	Condition treated for	-.005	.104	-.003	-.052	.958

4.6.5 Relationship between Service Quality Dimensions (i.e. Technical Quality and Provider Competence, Provider Interpersonal Aspects, and Hospital Milieu) and General Outpatient Satisfaction

Regression analysis done shows that Technical quality and provider competence could account for 53.0% (R^2=0.530, F=221.029, $p<0.05$) of the variation in general outpatient satisfaction. The difference between R^2 and adjusted R^2 is 0.002 and shows that the suggested model generalizes quite well as the adjusted R^2 is too close to R^2 (Tables 4.67 and 4.68)

Table 4.67: Model Summary for Regression Model for service quality dimensions

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.728[a]	.530	.528	.72113002
2	.751[b]	.564	.559	.69664358
3	.762[c]	.581	.574	.68515931

Table 4.68 ANOVA for service quality dimensions

	Model	Sum of squares	Df	Mean square.	F	Sig.
1	Regression	229.883	2	114.942	221.029	.000[a]
	Residual	203.851	392	.520		
	Total	433.734	394			
2	Regression	244.462	4	61.116	125.930	.000[b]
	Residual	189.272	390	.485		
	Total	433.734	394			
3	Regression	252.060	7	36.009	76.705	.000[c]
	Residual	181.675	387	.469		
	Total	433.734	394			

a. Predictors: (Constant), Technical quality and provider competence 2 BART factor score, Technical quality and provider competence BART factor score

b. Predictors: (Constant), Technical quality and provider competence 2 BART factor score, Technical quality and provider competence BART factor score, Provider interpersonal aspects 2 BART factor score, Provider interpersonal aspects BART factor score

c. Predictors: (Constant), Technical quality and provider competence 2 BART factor score, Technical quality and provider competence BART factor score, Provider interpersonal aspects 2 BART factor score, Provider interpersonal aspects BART factor score, Hospital milieu 3 BART factor score , Hospital milieu BART factor score, Hospital milieu 2 BART factor score

d. Dependent Variable: General outpatient satisfaction BART factor score

Shrinkage of less than 0.5 depicts that the validity of the model is very good (Field, 2005). The other variations in general outpatient satisfaction i.e. 47.0% were explained by other external factors outside the model. After the addition of the second predictor variable, i.e. Provider interpersonal aspects, the model could account for 55.9% (R^2=0.559, F=125.930, p<0.05) of the variation in general outpatient satisfaction. The difference between R^2 and adjusted R^2 is 0.005 and again this shows that the suggested model generalizes quite well as the adjusted R^2 is too close to R^2. Shrinkage of less than 0.5 depicts that the validity of the model is very good (Field, 2005). The other variations in outpatient loyalty i.e. 46.1% were explained by other external factors outside the model. The addition of the third predictor under service quality, i.e. hospital milieu, saw the model account for 58.1% (R^2= .581, F=76.705, p<0.05) of the variation in general outpatient satisfaction. The difference between R^2 and adjusted R^2 is 0.007, indicating that the suggested model generalizes quite well as the adjusted R^2 is too close to R^2. The regression model indicates that all the variables except PIA2 and HM2 are significant in predicting general outpatient as they have significant values of less than 0.05 with t-values greater than 1.289 as shown in Table 4.69. The regression equation can be written as follows;

GOPS=-0.001+0.352TQ1+0.258TQ2+0.198PIA1+0.018PIA2+0.144HM1+0.060HM2+0.113HM3

Key:

GOPS-general outpatient satisfaction; TQ- technical quality; PIA- provider interpersonal aspects; HM- hospital milieu

Table 4.69: Regression coefficients for service quality dimensions model

	Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.001	.036		-.031	.975
	TQ1	.576	.032	.638	18.301	.000
	TQ2	.381	.031	.432	12.387	.000
2	(Constant)	-.002	.035		-.045	.964
	TQ1	.432	.042	.478	10.364	.000
	TQ2	.258	.038	.292	6.864	.000
	PIA1	.267	.049	.271	5.468	.000
	PIA2	.006	.034	.006	.181	.857
3	(Constant)	-.001	.034		-.027	.978
	TQ1	.352	.046	.390	7.638	.000
	TQ2	.258	.040	.292	6.393	.000
	PIA1	.198	.055	.201	3.596	.000
	PIA2	.018	.037	.019	.500	.617
	HM1	.144	.046	.146	3.156	.002
	HM2	.060	.047	.061	1.289	.198
	HM3	.113	.036	.120	3.154	.002

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1. Introduction

This chapter presents a detailed discussion of the study findings, as per the research objectives.

5.2. Discussion of Research Findings

The first objective of the study was to assess patients' perceived importance of healthcare service attributes. Out of the twelve healthcare service attributes investigated, eleven emerged as key measures of importance of healthcare service delivery attributes. These included friendliness of hospital staff, knowledge and competence of staff, treating patients with respect, cleanliness and tidiness of the health facility, overall appearance of the staff, guidance and information provided on patients' health needs, cost of healthcare, privacy and confidentiality, accessibility and availability of healthcare, waiting time before service and time spent with the healthcare provider. It was also noted that all the eleven item measures extracted were significant. The findings revealed that being treated with respect by the hospital staff, presence of friendly and competent staff and cleanliness of hospitals were the best predictors of importance of healthcare service attributes. These findings support other researchers' findings that kindness of nurses and physicians, communicating with patients and offering individualized care among others, are important healthcare service attributes (Schoenfelder *et al.*, 2011; Tung and Chang 2009; Sekandi *et al.*, 2011). Accessibility and availability of healthcare, provision of health education, waiting time, cost of healthcare, service time and finally adherence to privacy and confidentiality during treatment was the second most important predictor-category of patient perceived importance of healthcare service attributes.

The second objective of this study was to determine the level of patients' satisfaction with outpatient healthcare services at Busia district hospital. The perceived level of patient satisfaction with outpatient services in the health facility was measured as an outcome variable. Four items were investigated in order to assess the level of overall satisfaction with outpatient healthcare services offered at Busia district hospital. Item number 3 was however dropped since it was similar to item 1.There was significant difference for all the three items extracted as key measures of general satisfaction with outpatient healthcare services between the respondents who were satisfied and those who were dissatisfied. The study assumed that the expected level of satisfaction with outpatient services was at 50% in the study population. Further analysis indicated that there was significant difference between the expected level of satisfaction and the observed level of satisfaction for all the three attributes. This implies a much higher level of satisfaction with outpatient healthcare services at Busia district hospital than expected. This is in agreement with several studies, (Schoenfelder *et al.*, 2011, Meredith *et al.*, 2008, Muhondwa *et al.*, 2008 and Birhanu *et al.*, 2010), that most patients report satisfaction with the care they receive both in public and private hospitals.

The third study objective was to identify factors associated with satisfaction with outpatient healthcare services at Busia district hospital. Besides socio-demographic factors and patients' health characteristics, some three other variables, namely; patient-perceived technical quality and provider competence, provider interpersonal aspects and hospital milieu were conceptualized to be determinants of patient satisfaction with outpatient healthcare services. The results of the study suggested that most factors measured had a significant impact on general outpatient satisfaction

although not all the sub-factors made a significant contribution. Socio-demographic factors accounted for 8.8% of the variation in general outpatient satisfaction Furthermore, age of the respondents emerged as the most important predictor of general outpatient satisfaction since it had the highest beta value. Place of residence of the respondents was the second most important predictor followed by gender and finally, marital status. These findings are in line with those of other researchers that socio-demographic factors are important determinants of patient satisfaction (Zwier and Clarke 2001; Myburgh *et al.*, 2005 and Levinton *et al.*, 2011). Highest level of education and employment status did not make a significant contribution in determining general outpatient satisfaction since the two had significant values of more than 0.05. Patients' health characteristics accounted for only 0.7% of the variation in general outpatient satisfaction. All the sub-dimensions namely; physically disabled or not, nature of visit and condition treated for did not make significant contribution in predicting general outpatient satisfaction since they all had significant values of more than 0.05. These findings are in contrast with the opinions of other researchers that nature of hospital visit, illness treated and the physical health status of patients are critical determinants of patient satisfaction (Sekandi *et al.*, 2011 and Da Costa *et al.*, 1990).

Overall, service quality dimensions accounted for 58.1% of the variation in general outpatient satisfaction, with technical quality and provider competence accounting for 53%, interpersonal aspects 6.9% and hospital milieu 2.2%. For technical quality, out of the seven item measures evaluated, six emerged as key measures of patients' perception of technical quality and healthcare provider competence, accounting for

44.1% of total variability. It was also noted that all the six item measures extracted were significant. The findings revealed that reasonable waiting time before service, patient health education and spending sufficient time with the healthcare service provider were the best predictors of patient perceived technical quality. It is thought that through health education, patients get an improved understanding of various medical conditions, their diagnosis, management and ways of preventing them. It could also be that patients feel that the health care provider has provided the information that they need and this may lead them to more effective use of medical services. Patients come to health care institutions with different health problems and they seek remedy for their problems. This puts them in need to be well heard whilst they are talking about their problems. To have adequate consultation duration may allow health care providers to do so and know about their client and their health problems for consequent decision and effective consultation. In order to make the services easy to get by the patients, health care providers may hurry to the next case without giving enough consultation time for the patients at hand. However, this fashion of addressing the problem of the service has its own impact on the receiver of the services and causes dissatisfaction. It is therefore important for the healthcare provider to balance between consultation time and waiting time. More-over, hurry may undermine health care providers' empathy, perceived technical competency and other important characteristics of the services. Availability of adequate resources in the health facility, presence of qualified healthcare service providers and availability of prescribed drugs emerged as the second most important predictor-category of patient perceived technical quality. This could be because patients come to health care institutions with different health problems and they seek remedy for their problems. It is therefore important to them that they should be handled by the right personnel who

have the relevant skills to solve their problems. The effect of qualified healthcare providers can only be felt by their clients if the prescribed modes of treatment especially medicines are available.

For provider interpersonal aspects, all the eleven item measures evaluated emerged as key measures of patients' perception of interaction quality, accounting for 48.4% of total variability. It was also noted that all the eleven item measures extracted were significant. The findings revealed that being allowed to speak about their illnesses was the best predictor of patient perceived interaction quality. Other important predictors in this first category included friendly hospital staff, doctors being concerned about their patients' well being, adherence to privacy and confidentiality during treatment, good explanations on the reasons for medical tests, and being respected by hospital staff. There are a lot of interactions between patients and healthcare service providers during the process of service delivery. Patients have special characteristics, which makes them differ from a regular customer who wants to receive a service. They are not in their best physical or mental condition, making communication with this type of customer unique. It is thought that patients would be more willing to open up to health service providers who are concerned about their well being, are respectful and are friendly. More-over, being allowed to talk about your ailment puts the client at ease with the health service provider, and this may result in optimal utilization of healthcare services. Observing privacy and confidentiality could be important since it fulfills patients' sense of dignity and honor. Item measures in the second category included receiving explanations for delayed services, patients' involvement in decision making concerning their treatment, doctors

using and explaining meanings of medical terms and finally, good explanation of the diagnoses.

Under hospital milieu, all the nine item measures evaluated emerged as key measures of patients' perception of the hospital milieu, accounting for 70.41% of total variability. It was also noted that all the nine item measures extracted were significant. Items related to accessibility, affordability, convenience and availability of healthcare services emerged as the most important predictors of patient perception of hospital milieu These findings on service quality sub-dimensions support several researchers' opinions that service quality is a predictor of patient satisfaction (Schoenfelder *et al.*, 2011; Tung and Hang, 2009 and Sekandi *et al.*, 2011).

Patient loyalty and recommendation of services to others was thought to be a resultant of patient satisfaction. The results showed that general outpatient satisfaction accounted for 20.9% of the variation in patient loyalty and recommendation of service to others. General outpatient satisfaction proved to be a significant predictor of patient loyalty and recommendation of service to others since it had a significant value of less than 0.05. This finding is in agreement with the opinions of other researchers that overall patient satisfaction is an important determinant of patient loyalty are positively correlated (Mortazavi *et al.*, 2009)

The final objective of this study was to determine the relationship between factors associated with patient satisfaction with outpatient healthcare services and the level of outpatient satisfaction. The conceptual model developed by the researcher postulated that "individual determinants" and ''service quality determinants'' directly impacts on

"outpatient satisfaction" which in turn impacts directly on "patient loyalty and recommendation of service to others". Results from the model tests indicated that there is both negative and positive influence of socio-demographic factors and service quality sub-dimensions on general outpatient satisfaction. The socio-demographic sub-dimensions of age, marital status, highest level of education and employment status showed a positive influence, while gender and place of residence revealed a negative influence on general outpatient satisfaction. Even though some researchers have not found any correlation between gender and patient satisfaction indices (Rahmqvist, 2001), the findings of the current research are in line with those of other researchers that socio-demographic factors, including gender, are important determinants of patient satisfaction (Zwier and Clarke 2001; Myburgh *et al.*, 2005; Levinton *et al.*, 2011). All the sub-dimensions of patient health characteristics revealed a negative influence on general outpatient satisfaction, but none emerged as a key determinant of general outpatient satisfaction. Similarly, all the sub-dimensions of service quality revealed a positive influence on general outpatient satisfaction. These findings support several researchers' opinions that service quality is a predictor of patient satisfaction and has a positive correlation (Schoenfelder *et al.*, 2011; Tung and Chang 2009 and Sekandi *et al.*, 2011). Relationship between general outpatient satisfaction and customer loyalty and recommendation of service to others was also investigated, with the results indicating a positive relationship between the two constructs. This finding also support the opinions of other researchers that overall patient satisfaction and loyalty are positively correlated (Mortazavi *et al.*, 2009)

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1. Summary

This study sought to identify the determinants of patient satisfaction with outpatient healthcare services at Busia district hospital, which may be useful in evaluating service quality. The dimensions explored proved to be applicable in this setting.

6.2. Conclusions

The patients' perceived importance of healthcare service attributes was investigated. The study findings revealed that being treated with respect by the hospital staff, presence of friendly and competent staff and cleanliness of hospitals were the most important healthcare service attributes. Other important attributes included accessibility and availability of healthcare, provision of health education, reasonable waiting time, cost of healthcare, adequate consultation time and finally adherence to privacy and confidentiality during treatment

The perceived level of patients' satisfaction with outpatient healthcare services at Busia district hospital was measured as an outcome variable. This study found that there was significant difference between the expected level of satisfaction and the observed level of satisfaction for all the three attributes under investigation. This implies a much higher level of satisfaction with outpatient healthcare services at Busia district hospital than expected.

The third study objective was to identify factors associated with satisfaction with outpatient healthcare services at Busia district hospital. This study established that technical quality attributes including provision of health education to clients, perceived adequacy of consultation time and perceived reasonable waiting time were the most important determinants of patient satisfaction with outpatient healthcare services. The presence of qualified healthcare providers and availability of essential resources especially prescribed drugs also proved to be important in patients' evaluation of healthcare service quality. Interaction quality attributes including effective communication between hospital staff and the patients as well as perceived doctors' concern about their patients' well being, friendliness of hospital staff, being treated with respect by hospital staff, adherence by hospital staff to privacy and confidentiality during treatment emerged as important predictors of general outpatient satisfaction. Accessibility, availability, affordability and convenience of healthcare services also emerged as strong determinants of outpatient satisfaction. Cleanliness of the health facility and proper maintenance of its physical facilities are also important determinants of outpatient satisfaction. Armed with a good understanding on the factors that patients use to evaluate overall service quality, healthcare providers will be in a better position to enhancing the former's satisfaction. Patient satisfaction and positive evaluation of overall service quality leads to building a loyal client base.

The final objective of this study was to determine the relationship between factors associated with patient satisfaction with outpatient healthcare services and the level of outpatient satisfaction. The socio-demographic sub-dimensions of age, marital status, highest level of education and employment status showed a positive correlation, while

gender and place of residence revealed a negative correlation with outpatient satisfaction. All the sub-dimensions of patient health characteristics had a negative correlation with outpatient satisfaction, but none emerged as a key determinant of general outpatient satisfaction. Similarly, all the sub-dimensions of service quality revealed a positive correlation with general outpatient satisfaction.

6.3. Recommendations

Based on this study's results, the following recommendations regarding satisfaction with outpatient healthcare services at Busia district hospital are suggested:

i. There is need for the management of Busia district hospital to ensure that healthcare providers offer adequate and regular health education and advice to their clients.

ii. There is need for healthcare service providers to strike a balance between consultation time and waiting time.

iii. The management of Busia district hospital should ensure that only qualified staff provides services and that the essential medical supplies are available. The hospital, in devising its long-term strategy should pay sufficient attention to the development of its human resources. Such a strategy should be leveraged on attracting and retaining competent and customer-oriented medical and administrative staff, investing in continuous professional development of staff and using advanced technologies to improve the quality and speed of customer services.

iv. There is need to ensure that the health facility is easily accessible to clients and that the layout is customer friendly. In addition, they should ensure that

the charges are reasonably affordable and that doctors, including medical specialists, are easily reachable.

6.4. Recommendations for Further Research

Further studies should be considered on how a deliberate monitoring of overall quality improvement in health facilities might contribute to quality of care and client satisfaction.

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APPENDICES

APPENDIX 1: CLIENT CONSENT FORM

Introduction:

Good morning/afternoon. My name is **Martin Mwangi Kimani,** a student at Maseno University's School of Public Health and Community Development. I am doing a survey amongst users of healthcare services at Busia District Hospital to evaluate the services they offer. The aim of this study is to assess the determinants of patient satisfaction with outpatient healthcare services at Busia district hospital.

Basis of participation:

You have been randomly selected to take part in this survey and all information that you give will remain strictly confidential and will only be used for research purposes. Your name will not appear anywhere in the study questionnaire. Your participation will purely be voluntary. You will need approximately 20 minutes to respond to the questions. Please note that you will not be exposed to any risks by participating in this study and you have the right to withdraw from this study at any time if you are uncomfortable.

Benefits:

Information from this study will be strictly for learning purposes. It may also be used by The Ministry of Health, Busia district hospital and other stakeholders to improve the quality of healthcare services provided. Your sincere and true response will contribute to the achievement of the aim of this study.

Respondent's consent:

The details pertaining to the said study have been adequately explained to me and I am freely willing to be a participant.

Signature _____ Date _____

Witnessed by Research assistant;

Signature _____ Date _____

For any queries or further clarification, please contact:

Martin Mwangi Kimani

Postal Address: Maseno University, P.O BOX Private Bag, Maseno.

Mobile No: 0720242708

Email address: mwangi009@yahoo.com

Thank you for your time and co-operation.

Yours Faithfully,

Martin Mwangi Kimani

APPENDIX 2: CLIENT EXIT INTERVIEW QUESTIONNAIRE

THE MASENO UNIVERSITY

PRIVATE BAG

MASENO- KENYA

Date of interview _____

SOCIO-DEMOGRAPHICS

D1. Gender: Male ☐ Female ☐

D2. Age of the respondent

18-25 years		46-55 years		DON'T KNOW	
26-35 years		56-65 years			
36-45 years		Over 65 years			

D3. Highest level of education

No formal schooling		Post-secondary school education	
Primary education		College education	
Secondary school education		University education	

D4. Employment status

Permanent employment		Self employed	
Casual employment		Unemployed	

D5. Marital status

Married		**Single**		**Divorced**	

D6. Place of residence _____

HEALTH RELATED CHARACTERISTICS OF RESPONDENTS

Condition treated for**:** _____

Physically disabled: **YES** **NO**

Nature of visit: **First visit** **Return visit**

MAIN QUESTIONNAIRE

SECTION ONE: Importance of service attributes (tick appropriately).

For this section**,** if **5** is ***"strongly agree"*****, 4** is ***"agree", 3*** is "***neutral", 2*** is ***"disagree"*** **and 1** is ***"strongly disagree"*****,** circle your appropriate response**.**

1.1 The following attributes regarding healthcare provision are important to me:

Attributes	**Tick appropriately**				
Friendliness of hospital staff	1	2	3	4	5
Knowledge and competence of staff	1	2	3	4	5
Treating you with respect	1	2	3	4	5
Guidance and information provided on your health needs	1	2	3	4	5
Cleanliness and tidiness of the health facility	1	2	3	4	5
Overall appearance of the staff	1	2	3	4	5
Cost of healthcare	1	2	3	4	5
Privacy and confidentiality	1	2	3	4	5
Accessibility and availability of healthcare	1	2	3	4	5
Waiting time before service	1	2	3	4	5

Availability of medicines and other medical supplies	1	2	3	4	5
Time spent with the healthcare provider	1	2	3	4	5

SECTION TWO: General satisfaction with healthcare service.

For questions **2.1 to 2.4**, if **5** is ***"strongly agree"*, 4** is ***"agree", 3*** is "***neutral", 2*** is ***"disagree"* and 1** is ***"strongly disagree",*** tick your appropriate response**.**

2.1.All things considered, the service I have just received from the health care facility is excellent:

1	2	3	4	5

2.2.I am satisfied with the medical care I have received:

1	2	3	4	5

2.3.I have received the best healthcare as I expected from this health facility today:

1	2	3	4	5

2.4.I feel perfectly satisfied with the way I have been treated by the health providers at this health facility today:

1	2	3	4	5

SECTION THREE: Immediate experience specific to places visited today. In this section, if **5** is ***"strongly agree", 4*** is ***"agree", 3*** is "***neutral", 2*** is ***"disagree"* and 1** is ***"strongly disagree"***, please circle your appropriate response for the following question.

3.1.I am perfectly satisfied with the service I have received at (**mention each place visited separately**) facility for their overall service?

Section visited today	**Tick appropriately**				
Enquiries/customer care	1	2	3	4	5
Card collection point	1	2	3	4	5
Accounts/cashier	1	2	3	4	5
General outpatient clinic	1	2	3	4	5
Laboratory	1	2	3	4	5
Pharmacy	1	2	3	4	5
x-ray	1	2	3	4	5
MCH/FP	1	2	3	4	5
VCT	1	2	3	4	5
Dental clinic	1	2	3	4	5
Physiotherapy	1	2	3	4	5
Orthopedic clinic	1	2	3	4	5
Occupation therapy	1	2	3	4	5
TB clinic	1	2	3	4	5
STI clinic	1	2	3	4	5
Specialists clinics	1	2	3	4	5
Others (specify)	1	2	3	4	5

SECTION FOUR: Technical quality and provider competence.

In this section**, if 5** is ***"strongly agree"*****, 4** is ***"agree", 3*** is "***neutral", 2*** is ***"disagree"*** **and 1** is ***"strongly disagree"*****,** tick your appropriate response.

4.1**.** I think the hospital has the resources needed to provide complete medical care:

1	2	3	4	5

4.2.I think the hospital staffs are qualified to serve me adequately:

1	2	3	4	5

4.3. Doctors and nurses often do give me advice on ways to avoid illnesses and stay healthy:

1	2	3	4	5

4.4. Generally, I waited for reasonable time before being served:

1	2	3	4	5

4.5. Doctors and nurses spent sufficient time with me:

1	2	3	4	5

Medicines and other therapies prescribed (tick appropriately)

4.6. I received all the drugs prescribed to me by the clinician:

1	2	3	4	5

4.7. All the treatment/therapies recommended by the clinicians are available in this health facility:

1	2	3	4	5

SECTION FIVE: Provider interpersonal aspects.

5.1. The doctors who treated me were interested in my well being:	1	2	3	4	5
5.2. The hospital staff are friendly:	1	2	3	4	5
5.3.The hospital staff treat me with respect:	1	2	3	4	5
5.4.The hospital staff adhered to privacy and confidentiality while treating me:	1	2	3	4	5
5.5 During my medical visits, I was always allowed to say everything I thought was important:	1	2	3	4	5
5.6 Doctors were good in explaining the reason for medical tests:	1	2	3	4	5
5.7 Doctors were good in explaining the diagnosis to me:	1	2	3	4	5
5.8 Doctors used medical terms and explained what they meant:	1	2	3	4	5
5.9 Hospital staffs always listen to me:	1	2	3	4	5
5.10 I received explanation for any delay in getting a service:	1	2	3	4	5

5.11. I was involved in making decisions concerning my treatment:	1	2	3	4	5

SECTION SIX: Hospital milieu - physical environment, accessibility, availability of service, convenience, cleanliness and affordability.

6.1.This hospital is conveniently located:	1	2	3	4	5
6.2.I am able to get medical aid whenever I need it:	1	2	3	4	5
6.3.If I have a medical question, I can reach a doctor for help without any problem:	1	2	3	4	5
6.4. I can easily access medical specialists in the hospital:	1	2	3	4	5
6.5.I had to pay more than i could afford for medical care:	1	2	3	4	5
6.6.Overall, the cost of healthcare services in this facility is reasonable:	1	2	3	4	5
6.7.This health facility's buildings are well maintained:	1	2	3	4	5
6.8.Generally, this health facility is clean:	1	2	3	4	5
6.9.The facilities in this hospital are old fashioned:	1	2	3	4	5

SECTION SEVEN: Loyalty and recommendation of service.

7.1 This is the facility that I visit most often when I need healthcare:

1	2	3	4	5

7.2 Considering my experiences and opinions about this health facility, I would you recommend the services it offers to other patients:

1	2	3	4	5

7.3 Considering my experiences and opinions about this health facility, I would continue to use their services whenever need arises:

1	2	3	4	5

7.4 I would still choose this health facility over a private for profit health facility even if my medical costs were taken care of:

1	2	3	4	5

THANK YOU FOR YOUR TIME AND CO-OPERATION.

APPENDIX 3: UON/KNH ETHICS RESEARCH COMMITTEE'S APPROVAL

APPENDIX 3: UON/KNH ETHICS RESEARCH COMMITTEE'S APPROVAL

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Ref: KNH-ERC/A/275

9th September, 2013

Kimani Martin Mwangi
School of Public Health and Community Development
Maseno University

Dear Martin

RESEARCH PROPOSAL: DETERMINANTS OF CLIENT SATISFACTION WITH OUTPATIENT HEALTH: CARE SERVICES AT BUSIA DISTRICT HOSPITAL - KENYA (P108/03/2013)

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and approved your above proposal. The approval periods are 9th September, 2013 to 8th September 2014.

This approval is subject to compliance with the following requirements:

a) Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
b) All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH/UoN ERC before implementation.
c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH/UoN ERC within 72 hours of notification.
d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH/UoN ERC within 72 hours.
e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
f) Clearance for export of biological specimens must be obtained from KNH/UoN-Ethics & Research Committee for each batch of shipment.
g) Submission of an *executive summary* report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

For more details consult the KNH/UoN ERC website **www.uonbi.ac.ke/activities/KNHUoN.**

Yours sincerely

PROF. M.L. CHINDIA
SECRETARY, KNH/UON-ERC

c.c. Prof. A.N. Guantai, Chairperson,KNH/UoN-ERC
The Deputy Director CS, KNH
The Principal, College of Health Sciences, UoN
The Director, School of Public Health, UoN
AD/Health Information, KNH
Supervisors: Prof. David Sang, Dr. David O. Okeyo

APPENDIX 4: MAP OF THE STUDY SITE – BUSIA DISTRICT HOSPITAL