



A COMPARATIVE ASSESSMENT OF QUALITY OF HEALTHCARE SERVICES AT PORT REITZ AND TUDOR TIER THREE HOSPITAL OF MOMBASA COUNTY: PATIENTS' PERSPECTIVE

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ABSTRACT

Quality in health care is comprised of newer technology, effective medication, and adequate staff to patient ratios, affordability, efficiency and effectiveness of service delivery. In situations where the condition is a reverse the services delivery will be grossly compromised including patients' safety, which is a primary concern for government, hospitals and patients. Thus the study aimed at examining the quality of health service delivery at outpatient department in both elevated and existing tier three hospitals in Mombasa County with study focusing on variables such infrastructure, human resources, service integration and patient satisfaction. It was a comparative study carried out in Tudor Sub County hospital and Port Reitz Sub-County hospital both in Mombasa County, to find out the quality of outpatient health services delivery. A sample of 350 out of target population of 4000 outpatients attending the two hospital and 10 staffs and 2 hospital administrators which was proportionately distributed in the two hospitals. Questionnaires, key informant interview and observation checklist were used to collect data. Pre testing was done in Ganjoni health centres and its validity confirmed. Data collected was analyzed using IBM SPSS data editor, from where descriptive and inferential statistics were computed and presented as frequencies, percentages, means and medians. Pearson's chi square test of independence was carried out to examine relationships between categorical variables. Qualitative data collected during interviews key personnel from Port Reitz and Tudor hospitals were reduced, organized, categorized into patterns, and presented as emerging themes. The results indicate that Tudor lacked most of the necessary diagnostic equipment to fulfill the requirement of a sub- county facility. Human resources as factor in quality of service delivery and patient satisfaction was found to be in shortfall for both Sub- County s with a mean of 1.64 and std. deviation [.505] while other parameters such rating on inter professional team interaction was thought to be averagely good in both facilities with a mean of 2.45 and std. deviation [.522]. In comparing relationship between human resources factor and quality of services the results show that Port Reitz indicate positive significant association ($\chi^2 = 4.571, df = 1, Sig = 0.102$ while Tudor did not indicate any relationship between human resources and quality. Overall, the comparison of satisfaction of two hospital indicate that patient satisfaction is associated with the ease of processes in the continuum of care for example waiting time, contact time with the doctors, explanation of condition and prescription by the clinician. To further explain the challenges with human resources at both Tudor and Port Reitz district hospitals the researcher got evidence that challenges such as dissatisfied staff and heavy workload are the contributing factors of depreciated healthcare services at the Sub County generally patient satisfaction was higher in Port Reitz compared to Tudor. This study thus concludes that there is need to resource mobilize for infrastructure and human resources for the sub county facility to meet the standard of a complete functional and fully integrated services that meets the need of the patients as defined by quality and safety. The study recommends that county authority should to step up its effort in mobilizing resources to ensure availability of diagnostic equipment's and services, which are in great demand at both Sub-County s. Hospital administration for both hospitals should put a proposal and have a follow up to ensure the specialists are deployed and retained in adequate number to improve quality of healthcare services

Key Words: Quality of Healthcare Services, Patient Satisfaction, Tier 3 hospitals, Patients Perspective,

INTRODUCTION

A wealth of knowledge and experience in enhancing the quality of health care has accumulated globally over many decades. In spite of this wealth of experience, the problem frequently faced by policy-makers at country level in both high- and low-middle-income countries is to know which quality strategies complemented by and integrated with existent strategic initiatives, would have the greatest impact on the outcomes delivered by their health systems. Even where health systems is well developed and resourced, there was clear evidence that quality remains a serious concern, with expected outcomes not predictably achieved and with wide variations in standards of health-care delivery within and between health-care systems. Where health systems particularly in developing countries need to optimize resource use sound local strategies for quality so that the best possible results are achieved from new investment. (WHO, 2006)

Quality“ as defined by International Organization for Standardization is a relative concept and if the inherent characteristic of a service meets the requirements of the customer, it can be rated as high quality (Reinartz, 2004). In a service industry, like healthcare, experience of the patient plays a crucial role in rating and assessment of quality of services. Quality in healthcare may comprise of newer technology, newer and effective medication, and higher staff to patient ratios, affordability, efficiency and effectiveness of service delivery (Tam, 2005).

There are many definitions of quality used both in relation to health care and health systems, and in other spheres of activity. Quality of service delivery, which is one aspect of capacity, is measured by the following characteristics of facilities: training and supervision of staff, availability of service delivery protocols and client education materials, availability and use of health information records, the service delivery environment, and facility systems for maintaining equipment and supplies.

Ensuring that patients receive high quality care therefore relies on a complex set of interconnected roles, responsibilities and relationships between professionals, provider organizations, commissioners, system and professional regulators and other national bodies including the Department of Health (WHO, 2006).

Delivering service quality has significant relationship with customer satisfaction (Swanson and Davis, 2003) customer retention, loyalty, costs, profitability, service guarantees (Kandampully and Butler, 2001) and growth of organization (Sohail, 2003).

However, the poor state of customer service in some public hospitals in Kenya has resulted in high turnover and weak morale among staff, making it difficult to guarantee 24 hour coverage resulting in, problems with patients care, increased cost of operations due to inefficiencies (Owino and Korir, 1997) leading some patients to look for an alternative provider and to spread negative word of mouth which affects potential clients hence growth of the hospital (Tam, 2005).

This situation is further worsened by the patients or customers perception of functional issues which they perceive and interact with during the course of seeking treatment such as physical facilities, internal process; interactions with doctors, nurses and other support staff as poor and unresponsive (Boshoff and Gray, 2004; Algılanan Hizmet and Connor , 2003). In their studies,

Demirel, Yoldas and Divanoglu (2009) found a positive and significant relationship between customers' perception of service quality and their willingness to recommend the company.

World Health Organization supports countries in implementing people-centered and integrated health services by way of developing policy options, reform strategies, evidence-based guidelines and best practices that can be tailored to various country settings? The provision of quality health care delivery especially in Kenya has often been attributed to inadequate knowledge and skills compounded by broader system failures and low staff numbers. The need to tackle inadequate Human Resources for Health (HRH), as an essential part of strengthening health systems was emphasized in the 2006 World Health Report (WHO, 2006).

Statement of the problem.

There is a general consensus that health systems in many low-income countries in Sub-Saharan Africa are weak and dysfunctional and that, unless concerted efforts are made to strengthen them, there is a strong likelihood that Africa may fail to meet health related Millennium Development Goal (MDG) targets. (Reich R M, 2008). African health care systems face daunting challenges, and most Africans depend on public health services. These are hobbled by inadequate budgets, underinvestment in physical infrastructure and insufficient numbers of trained health care providers. The World Health Organization has characterized Kenya as facing an acute shortage of health workers. The shortage of health workers reveals challenges with recruitment, training and workforce planning. Workforce imbalances is attributed to lack of human resource planning, poor deployment practices, lack of human resource development strategy and attrition due to retirement, migration and turnover. Poor performance is as a result of health staff not being sufficient in numbers, not providing care according to standards, not being responsive to the needs of the community and patients, absenteeism, motivation, job dissatisfaction, lack of professional development, poor attitudes, and working conditions.

In Mombasa County, Coast Provincial General hospital which is the main referral hospital in coast province is rated below average on most of the service attributes. The main positives about the hospital are that it is perceived to have highly qualified staff who are specialized in treating a wide range of ailments and the charges are perceived to be reasonable, the main negative responses were poor quality of services offered at its departments, long waiting time and unfriendly staff which is a reflection of tier three hospital in Mombasa

Broad Objective

To examine the quality of health service delivery at outpatient department in both elevated and existing tier three hospitals, Mombasa County.

Research Objectives

1. To examine how infrastructure conditions affects quality of health service delivery in tier three hospitals in Mombasa County.
2. To describe aspects of human resources in contributing to quality service delivery in tier three hospitals in Mombasa County.

3. To assess how service integration influences quality of health at outpatient department in tier three hospitals?

Research Questions

1. How does an infrastructures condition affect the quality of health in service delivery at outpatient department in tier three hospitals?
2. What are the aspects of human recourses that contribute to quality of health in service delivery at outpatient department in tier three hospitals?
3. How does service integration influence quality of health in service delivery at outpatient department in tier three hospitals?

Justification for the Study

The health services delivery is indeed crucial in economic development of a country. With the formation of the County governments and the devolving of the health functions to the county governments, health service delivery of any health facility is more crucial than ever before as it does not only speak of the County's quality in service delivery but also speaks of how competitive the County is in terms of resource utilization.

Quality of health service delivery in Sub County now stands tall as it contributes to one of the issues worthy rating a county on. The study therefore is needful in informing the County government on what needs to be tightened up to make the County health delivery system more efficient and effective.

Limitations

The limitations to this study shall include but not limited to the following, with the new county structures, there may be a few reorganizations which may have resulted into the change of the staffs members, thus some may be new hence not very knowledgeable on some issues. Limited literature on the Tudor and Port Reitz Sub County s hence may mainly rely on primary data obtained from the target population.

Delimitations

The study takes cognizance of the fact that it was done specifically in Tudor and Port Reitz Sub County of Mombasa County and not otherwise. In addition, the study will mainly target health workers of the hospital and a few service receivers for information required in the research. For the purposes of this research, Quality health service delivery was operationalized as availing of the expected tier three hospitals services as per the NHSSP II in the government district hospitals.

Significance of the Study

Significance of a study refers to the relevance of the study in terms of academic contributions and practical use that might be made of the findings (Oso &Onen, 2009).

The study will make recommendations on quality health service delivery and its management methods. Undeniably such recommendations could inform policy formulations in the various counties in the country in general because they are originated through valid research data.

LITERATURE REVIEW

Introduction.

An outpatient department of a hospital is an establishment, which cares for the ambulatory patients, who come for diagnosis; treatment and follow-up, so it is also the image building that are reflecting the quality of care being provided. Properly planned and technologically advanced outpatient department incorporating new patient care, conceptions of extended ambulatory services and cost effective techniques provide a fairly pleasant impression on the users of the services. 20 to 30% patients admitted to hospitals do not require full professional care normally received by acutely ill patients. This large group of patients can satisfactorily be treated in outpatient department, provided basic management tools of care like capabilities, criteria, commitment, clout, creativity and choice, are taken care of. Personalized care rendered by the doctors, nurses and paramedical together with waiting time form the care factors that drive patient satisfaction. (Gurudal P. H, 2000)

Evans & Lindsay (1996) defined the quality of healthcare service as “all characteristics of the service related to its ability to satisfy the given needs of its customers”. A survey of opinion of patients ‘regarding the healthcare service provided by hospital is one of the main tools to measure the quality of service, the patients’ satisfaction is an integral part of hospital management across the world. It has been accepted that the effectiveness of healthcare depends on the patients’ satisfaction with the services provided by the hospitals. Supporting this view, many studies have been conducted and concluded that satisfied patients would only follow the advice given by the doctors, follow the information provided by the doctors and would continue using the services provided by the hospitals. (Andaleeb, 2000 and 2007).

There are various problems faced by the patients in outpatient department like overcrowding, delay in consultation, lack of proper guidance etc that leads to patient dissatisfaction. Now days, the patients are looking for hassle free and quick services in this fast growing world. This is only possible with optimum utility of the resources through multitasking in a single window system in the OPD for better services. (Srinivasan, 2000)

The promulgation of the constitution of Kenya on 27th August, 2010, was a major milestone towards the improvement of health standards. The need to address the citizens’ expectations of the right to the highest attainable standard of health cannot be over emphasized because the constitution prioritizes quality management as an integral component of the health care services. The social pillar for Vision 2030 stipulates that to improve the overall livelihoods of Kenyans, the country has to aim at providing efficient and high quality health care with the best standards. This concept of quality and the benefits it would confer to the health providers’ work and the outcomes for their clients however have not completely been understood by clients, health managers and providers Quality health service delivery can be looked upon from service

level, which meets the requirements of patients, and conform to internationally recognized standards.

The experience of the patient can determine whether a hospital can be rated as a high quality service provider. Emmis (2001) reasons out that offering quality services or health care may include effective medication, enough doctors and other medical personnel to speed up treatment and patient care, which means offering efficient and effectiveness of service delivery. It is now believed that the satisfaction by patients of the kind of services they receive in hospitals and other health care institutions should be taken as a yardstick for measuring useful and successful care services. (Edwardson, 2005). Their experiences at health care personnel have a strong impact on their perception of quality.

This experience accruing from their involvement with medical staff during treatment encounter create the patients cognitive, emotional and behavioral responses of satisfaction or dissatisfaction with the quality of service. There are also many other factors that determine quality of services; such as doctors and nurses skills in patient treatment from the time diagnosis of a patients problem is carried out, whether from an illness or accident the technological advancement used in treatment and equipment availability, that helps in carrying out treatment.

In healthcare industry service quality has become an imperative (Ennis and Harrington, 2001) in providing patient satisfaction because delivering quality service directly affects the customer satisfaction, loyalty and financial profitability of service businesses. In healthcare, service quality can be broken down into two quality dimensions: technical quality and functional quality (Dean and Lang, 2008). While technical quality in the health care sector is defined primarily on the basis of the technical accuracy of the medical diagnoses and procedures or the conformance to professional specifications, functional quality refers to the manner in which the health care service is delivered to the patients

Nowadays, as people need to live without any illness, quality healthcare is crucial to any health system anywhere in the world. Many researchers have suggested that the quality health care service is ability to meet the patients' expectation (Pui-Mun Lee, 2006)

Infrastructures conditions

Good quality infrastructure is key component in sustainable healthcare service delivery. Efficiency and quality healthcare service delivery cannot be optimised with poor healthcare Infrastructure. Superior infrastructure promotes the efficiency of our healthcare professionals and thus, the level of quality so they can deliver their much-needed services. Physical infrastructure Issues include technology assessment, system integration, and other long-term questions regarding maintenance of a high quality physical plant, without which high quality health care is impossible.

Professional infrastructure High-quality health care depends upon the presence of well-trained, dedicated, health care professionals and managers. Most traditional quality assurance efforts have concentrated on maintaining this important area. Examples include graduate medical

education, Continuing Medical Education, traditional peer review, and compliance with standards set by external regulatory bodies.

Physical evidence that the hospital will provide satisfactory services is very important to patient satisfaction judgments. Generally, good appearance (tangibility) of the physical facilities, equipment, personnel and written materials create positive impressions. A clean and organized appearance of a hospital, its staff, its premises, restrooms, equipment, wards and beds can influence patients' impressions about the hospital. However, in Kenya, most of the government hospitals/clinics are lacking in many of the above attributes, thereby attenuating patient satisfaction. We posit that the better the physical appearance (tangibility) of the health care service facility and the service providers, the greater was the patients' satisfaction

A hospital to qualify to tier three status should provide the following: Curative and preventive care and promotion of health of the people in the district; Quality clinical care by a more skilled and competent staff than those of the health centres and dispensaries; Treatment techniques such as surgery not available at health centres; Laboratory and other diagnostic techniques appropriate to the medical, surgical, and outpatient activities of the district hospital; Inpatient care until the patient can go home or back to the health centre; Training and technical supervision to health centres; as Well as resource centre for health centres at each district hospital; Twenty-four hour services;The hospital should have all facilities that offers the following outpatient clinical services: Obstetrics and gynaecology; Child health; Medicine; Surgery, including anaesthesia; Accident and emergency services; on clinical support services; Referral services; MCH, HIV/AIDS services; health education;

In recent years, the Government of Kenya has improved the state of health institutions. They receive funds to make the compounds, wards, kitchens and laboratories more comfortable for staff to work and patients to receive services. However, many dispensaries, health centres and district hospitals still lack critical equipment. This explains congestion at national referral hospitals.

Aspects of human resources

A "well-performing" health workforce is one that is available, competent, responsive and productive. To achieve this, actions are needed to manage dynamic labour markets that address entry into and exit from the health workforce, and improve the distribution and performance of existing health workers.

When examining global health care systems, it is both useful and important to explore the impact of human resources on health sector reform. While the specific health care reform process varies by country, some trends can be identified. Three of the main trends include efficiency, equity and quality objectives. Various human resources initiatives have been employed in an attempt to increase efficiency. Outsourcing of services has been used to convert fixed labor expenditures into variable costs as a means of improving efficiency. Strategies aimed at promoting equity in relation to needs require more systematic planning of health services. Some of these strategies include the introduction of financial protection mechanisms, the targeting of specific needs and groups, and re-deployment services (P.Zurn, 2004)One of the goals of human

resource professionals must be to use these and other measures to increase equity in their countries.

Researchers such as Gonzales (2005) strongly advise that highly skilled physicians, nurses, administrators and ancillary staff are critical to producing high-quality outcomes and effective quality improvement hence hospital growth. (Cohen and Levintal, 2001). Better use of the spectrum of health care providers and better coordination of patient services through interdisciplinary teamwork have been recommended as part of health sector reform. Since all health care is ultimately delivered by people, effective human resources management will play a vital role in the success of health sector reform. (IRBY, 2002)

Highly skilled physicians, nurses, administrators, and ancillary staff are critical to producing high-quality outcomes and effective quality improvement hence hospital growth (Argote, 2000). There is need for selective hiring of qualified staff. Successful recruitment and retention of staff is tied to empowerment of staff that must be treated as full partners in the hospital operation and given opportunities for advancement (Brown and Duguid, 2003). To facilitate service quality and growth, hospitals must also implement effective human resource strategies involving selective hiring, and retention of physicians and nurses (Cohen and Levinthal, 2001); monitoring of doctors on staff (or with privileges) and ensuring that they must continue to meet certain performance and practice standards to retain credentials (Crewson, 2004). According to Argote and Ingram (2000) to improve efficiency in service delivery, public sector hospitals must build the capacity to attract and employ an adequate number of high quality nurses suggests that the key to service delivery is to adapt to circumstances that are constantly changing and that the long-term winners are the best adapters, but are not necessarily the winners of today's race for market share.

The lack of well-trained human resource managers mirrors the region's shortage of health care professionals in general. It is a key factor standing between success and failure in Africa's effort to alleviate its crushing burden of disease. Building the capacity of human resource managers in the health sector is critical at a time when countries need to scale-up HIV/AIDS, tuberculosis, malaria, and other services to meet the health challenges facing their populations.

Like most other African countries, Kenya faces a significant shortage of physicians, with only 4,500 in the entire country, according to the World Health Organization. Whereas the United States counts on 26 physicians per 10,000 people, Kenya has just one doctor per 10,000 residents, a ratio that is below average for the Africa region. More than 50% of Kenyan physicians practice in Nairobi, which, with an estimated 3 million people, represents a small fraction of the country's population. Only 1,000 physicians work in the public sector, which serves the majority of Kenyans. A corps of 37,000 nurse's supplements physician care, as do traditional midwives, pharmacists, and community health workers. (Corkery, 2000). Although the government's Economic Survey of 2007 shows greatly increased spending on public health, the sector remains severely under-funded and migration to urban areas in Kenya and overseas continues unabated. In Africa, the public health sector is seriously affected by the migration of health professionals, as the majority of the continent's population relies on its countries' public health systems and most of these people are very poor. HIV/AIDS, malaria and other major diseases also create a huge burden on systems and require the skills of these same professionals.

(M.O.H.2005).outpatient Department in any hospital was considered to be shop window of the hospital (Sakharkar, 2008).as it is the point of first contact between health professional and the patients.

It is not possible to accurately measure the impact of migration on the quality or availability of service delivery or patient satisfaction, but it can be safely assumed that gaps in staffing do compromise service delivery. One effect that could be measured was changes in workloads. As doctors and nurses emigrate or move from rural areas to the city, they increase the workloads of colleagues they leave behind. These remaining workers end up over-stretched, overburdened and de-motivated, which means they cannot give quality attention to their patients; the net result is a deterioration of health services. In other cases, young interns are left alone to carry out work without supervision, at the risk of making an incorrect diagnosis and prescribing inappropriate treatment.

Service integration

Staff shortages, continuing cost inflation and service demand have intensified the call for more effective and efficient use of scarce resources through integrated service delivery models (Fleury 2006;Powel D 1996) Integrated health systems are widely considered to provide superior performance in terms of quality and safety as a result of effective communication and standardized protocols, although these outcomes have not been fully demonstrated (Gillies et al 2006). Despite the growing enthusiasm for integration, information related to implementing and evaluating integration-related initiatives is dispersed and not easily accessible. There is little guidance for planners and decision-makers on how to plan and implement integrated health systems. (Cookson 2005; Fox 2005; Moynihan 2004)

Theoretical Framework

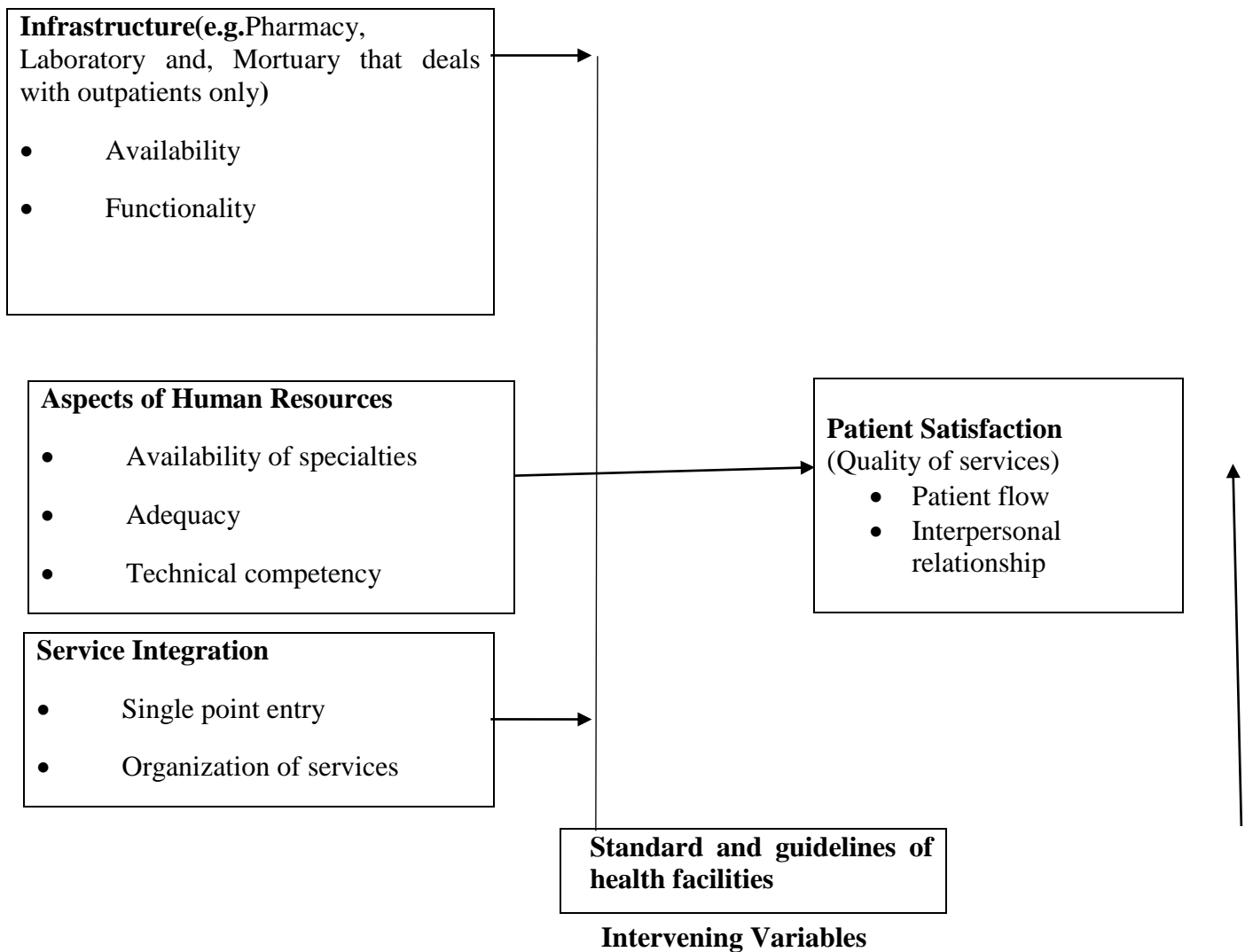
The theoretical framework for this study was premised on the structural domain, which includes the organizational and environmental features likely to influence primary care service delivery (Eisenberg, 2002). .

Conceptual Framework

Based on the theoretical frame work three independent variables that determine quality health service delivery can be identified as Organization of the practice Health and human resources, that's Relates primarily to the group composition and 'internal' demography specific to each practice, and availability of specialist, Patient satisfaction and adherence to clinical advice,. Patient satisfaction in terms of time consumed at Registration, availability of drugs waiting for consultation, and finally organizational structure and dynamics that's its Availability and Functionality.

Independent Variables

Dependent Variable



Knowledge gap

Although the government's Economic Survey of 2007 shows greatly increased spending on public health, the sector remains severely under-funded and migration to urban areas in Kenya and overseas continues unabated, Since it is not possible to accurately measure the impact of migration on the quality or availability of service delivery or patient satisfaction, but it can be safely assumed that gaps in staffing do compromise service delivery.

To facilitate service quality and growth, hospitals must also implement effective human resource strategies involving selective hiring, and retention of physicians and nurses (Cohen and Levinthal, 2001); monitoring of doctors on staff (or with privileges) and ensuring that they must continue to meet certain performance and practice standards to retain credentials (Crewson, 2004).

Researchers have suggested different models and methods of measuring patient satisfaction considering quality of service as one of the antecedents. Continuing professional education has been promoted as one way to bridge the gap between research and practice so that patients may benefit. (Corkery, 2000)

Data and Methodology

Research design

The researcher adopted a comparative descriptive research design in which both qualitative and quantitative approach was used. A comparative research design study compares two or more groups on one variable and was simple with the goal to find out why the cases are different (Regin, 1987)

Target population

The target population comprised of doctors, registered clinical officers, nurses and outpatients clients, spread out in the two hospitals. Numerically, a population 4000 persons who receives outpatient's services from the two hospitals in a month as per the existing medical records was targeted as the immediate group that would provide information related to the study.

Study location

This research was carried out in Tudor Sub County Hospital and Port Reitz Sub County Hospital in Mombasa County,

Sampling Size procedure

Sample Size determination

A target population of 4000 patients attending outpatient department, 10 staff and 2 administrators, following formula (Krejcie & Morgan, 1970) was used to determine the sample size for Patients

$$\text{Where: } S = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

S = Sample size

X = Z value (e.g. 1.96 for 95% confidence level)

N = Population Size = Port Reitz = **2100**, Tudor = **1900** (Population **cences2009**) which out of this **10%** attends outpatients departments of the two hospitals 4000 was the population size. (monthly outpatients register. April 2015)

P = Population proportion (expressed as decimal) (assumed to be 0.5 (50%) – this provides the maximum sample size).

d = Degree of accuracy (5%), expressed as a proportion (.05); or margin of error

$$S = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)} = \frac{1.96^2 \times 4000 \times 0.5(1-0.5)}{0.05^2(4000-1) + 1.96^2 \times 0.5(1-0.5)}$$
$$= \frac{6132.154}{16.9204} \quad \mathbf{350 = \underline{350} \text{ persons}}$$

Adoption of this sample size rested on the manageable cost implications and the ease with which the study was conducted within the college time frame. Another reason for the selection of this particular sample was that the researcher has limited financial resources to conduct this study being individual financed study.

Sampling techniques

The sample size 350 out of the 4000 outpatients-target population was used. The sampling method described below was used to get the final sample for different group at each hospital. The sample size was distributed as per target population of each hospital. ie

N = Target Total Population = 4000

n = Target population of each county = Tudor = 1900. Port Reitz = 2100.

s = sample size = 350. Therefore; - sample of each hospital = $\frac{n}{N} \times 350$

Tudor Sub County Hospital = $\frac{1900}{4000} \times 350 = 166.72$ Approximately 167 Participant.

Port Reitz Sub County Hospital = $\frac{2100}{4000} \times 350 = 184.27$ Approximately 183 Participant.

Sample size distribution for primary target (Patients) in the Port Reitz and Tudor Sub County Hospitals

Patients	Population Frequency (N)	Population Ratio	Sample size Frequency = (f)	Port Reitz (n)	Tudor (n)	Sample size n/Nf	
						Port Reitz	Tudor
Target Population	4000	100	351	2100	1900	183	167
Total	4000	1	351	2100	1900	183	167

NB:

All the 10 staffs at outpatient department and the two administrations of the two hospitals were included into the sample size thus making the sample size =**362 persons**.

Data collection instrument

The study used primary data, which was collected, by use of closed and open-ended questionnaires, which was self-administered. According to Kothari (2004), primary data was collected afresh and for the first time Happens to be original in character. The researcher also used observation checklist as a mode of data collection whereby the researcher observed the organization of the patient’s movement and availability and conditions of required facilities for a tier three hospital. No respondent was subjected to a questionnaire while busy at any operative or functional service counter.

Data Analysis and Reporting

The quantitative data was cleaned and coded. The data was entered into a database. SPSS version 17.0 was used to conduct the analysis. Descriptive statistics was used to summarize the data. Relationships between variables were examined by use of vicariate and multivariate analysis models. Transcription of the qualitative data was done.

After reading through the data, emerging themes was identified and coded. The codes will then be clustered into subcategories, which were grouped into categories. The categories were labeled using descriptive phrases and connections between themes were established.

Ethical Consideration

- Collection of data commences after receiving a letter of authority from the Dean of Health System Management, Kenya Methodist University, Meru.
- A letter to undertake the study was written to County Health Management Team (CHMT) seeking authority to access the study participants. It was also detail the time it will take to collect the data and the reason.
- The researcher developed an informed consent form for the study participants to sign before they engage with the study.
- The consent form acknowledged that the participant’s rights were protected during the data collection.

RESULTS

Quantitative data from the questionnaires was analyzed using IBM SPSS data editor, from where descriptive and inferential statistics were computed. Descriptive statistics were reported as frequencies, percentages, means and medians.

Pearson's chi square test of independence was carried out to examine relationships between categorical variables while qualitative data collected during interviews with key personnel of Port Reitz and Tudor hospitals were reduced, organized, categorized into patterns, and presented as emerging themes. The study findings are presented and subsequently discussed according to the objectives outlined in chapter 1 and conceptual framework in chapter two.

All hospital administrators were available for key informant interviews achieving 100% response rate while for staff and patients' response rates were 90 % (9) and 99%(348) respectively. The researcher optimized duration of the study to reach out to many patients and all legible staff hence high response rate. According to Richardson (2005) citing Babbie (2003, 165), 50% and above is regarded as acceptable response rate in a social or scientific research.

Demographic Characteristics of Respondents

Majority 8(72.7%) of health workers were female compared to their male counterparts who were minority at 3(27.3%). Patient respondents had similar trends with majority 216(62.1%) being female compared to male respondent who were minority 132 (37.9). A study conducted by WHO (2006) and Zurn P et al (2014) suggests that female population was dominant in healthcare and show proactive role in care giving both at community and household level thus this study shows concurrence in female population trend in healthcare system.

Validity and reliability

Reliability

In this study, the instrument was subjected to reliability testing after completion of data collection. Calculation was done using the Cronbach's coefficient Alpha scores to validate both patient and health worker questionnaires for internal consistency. It was established that a total of 7 questions concentrated on one variable in a section and had alpha score below 0.7 and so some of the items were eliminated during analysis as indicated below.

Cronbach's coefficient Alpha scores

Sections	Cronbach's coefficient Alpha	No. of items
Human Resources	0.689	2
Patient satisfaction	0.534	5
Services Integration	0.864	15
Demographics	0.849	19
Infrastructure	0.978	9
Services uptake	0.920	22

Validity

The study targeted two (2) hospital administrators, 10 health workers, and 350 patients spread across the two Sub County s Port Reitz and Tudor.

Response rate and coverage

Research Instrument	Number administered	Number filled and returned
Questionnaire	Staff	10
	Patient	350
Key Informant		2

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Sex and age of staff and patients

Socio- Demographic Characteristics		Frequency (n)		Percentage%	
		Staff	Patient	Staff	Patient
Sex	Female	7	216	72.7	61.7
	Male	3	128	27.3	36.5
Age	18-24	2	81	18.2	23.5
	25-35	2	82	18.2	23.8
	36- 46	3	115	45.5	32.2
	47-57	2	53	18.2	15.4
	Above 58	0	17	0	4.9

In reporting other characteristics of health workers as respondents, the findings indicated that education level was high 10(100%) with all having attained tertiary education with std. deviation [.000] showing high significance in health worker performance at 95% confidence level. To further interrogating specialization characteristic of health workers, nursing cadre had majority 6(60%) followed by medical doctors 2(20%) and clinical officers 2(20%) .

Education level and specialization of health worker respondents

Item		Frequency (n=10)	Percentage (%)	Std. deviation
Education Level				
	Tertiary	10	100%	.000
Specialization				
	Med. Doc	2	20	
	Nurse	6	60	
	Clinical officers	2	20	.632

These findings indicate imbalances in specialization in Sub County s. This phenomenon was also observed by Zurn P. et al (2014) conducting a study in Low Income Countries of Africa, where lower level facility mostly located in rural areas had nursing cadre were providing all the services around the facilities and rarely other cadres of health workers were available for specialized services whenever they were needed by patients. This situation quite often prompted referrals to higher-level facilities in urban areas hence congestions.

Infrastructural condition in support of health services integration

Using observation list it was noted that Port Reitz had most diagnostic equipment and services except for CTx scan while Tudor had most of the equipment missing and the only available services included lab, pharm, VCT, TB clinic and MCH.

In assessing functionality of equipment that were available it was found that Port Reitz had the highest (8) number of equipment available and one equipment i.e x-ray not functional thus inability to offers services expected at Sub county level. Tudor with lesser (5) number of diagnostic equipment had all equipment functional hence their ability to offer services within the hospital capacity.

n = 100%



Comparison of Infrastructural facilities and functionality

To further describe the operations and the status of infrastructure in the two Sub County , qualitative interview report indicate that there are concerns in both facilities as the two hospital were far from meeting the resources requirements of a Sub-County .

“ Some of this hospitals do not have all that is needed to be a Sub County ... we don't have some of the diagnostic equipment and if there are there they are either broken down or there are no personnel to maintain or run them... these are political moves that do not actually promote service delivery.” KII 002

World Health Organization (2006) reiterates the importance of good quality infrastructure, which is a key component in sustainable healthcare service delivery. Efficiency and quality of healthcare service delivery cannot be optimised with poor healthcare Infrastructure. Further to this, the government of Kenya outlined the fact that for a hospital to qualify to be a level four currently Sub-Sub County (Tier three) status they should have the ability to provide both curative and preventive healthcare services and as such developed a checklist to giving guidance resources planning (NHSSP II)

Human Resources factors for integration of quality health services **Descriptive analysis of human Resources Factors**

In assessing other human resources parameters it was observed that rating of inter-professional team interaction was thought to be averagely good in both facilities with a mean of 2.45 and std. deviation [.522], while availability of technical staffing in the departments was found to have a mean of 3 specialists with generally long years of service in the facilities with average number years of 3.27 years and std. [.647].

Descriptive statistic of human resource characteristics

	Descriptive Statistics				
	N	Min	Max	Mean	Std. Deviation
Professional team rating	11	2	3	2.45	.522
Number of tech. staff	5	3	4	3.20	.447
Length of service	11	2	4	3.27	.647
Valid N (list wise)	5				

Aspects of human resource in contributing to quality in Port Reitz hospitals

Result indicated that in Port Reitz Human resource specialization was statistically significant ($\chi^2=4.571$, $df=1$, $Sig=0.102$), service delivery rating ($\chi^2=1.286$, $df=1$, $Sig=0.257$ and linkage service delivery was ($\chi^2=0.286$, $df=2$, $Sig=0.867$) was not significant while experience and professional teamwork ($\chi^2=1.286$, $df=1$, $Sig=0.256$) was not statistically significant as well (See table 4.6)

Human Resource factors association with quality of health services in Port Reitz

	Mean	SD	Chi-square	Df	Asymp.Sig
Challenges	1.714	0.4880	1.286	1	.257
Marital status	1.086	0.5	1,000	1	.257
HR Specialization	2.571	0.0	4.571	1	.102
Length of services	1.714	0.0	1.000	1	.565
Services delivery	1.0	0.0	1.286	1	.257
Rating					
Linkage in services	1.50	0.0	0.286	2	.867
delivery					
HIS Experience with P	1.75	0.5	1.286	1	.256
Professional team					

Aspects of human resource in contributing to quality in Tudor hospitals

Result indicated that most human resource factors were not significantly different (sig 2 tailed = >0.05). HIS Experience of profession team ($\chi^2=1.286$, $df=1$, $Sig=0.257$) and linkage in service delivery rating ($\chi^2=1.000$, $df=1$, $Sig=1.000$) respectively

Human Resource factors association with quality of health services in Tudor

	Mean	SD	Chi-square	Df	Asymp.Sig
Challenges	1.086	0.4880	1.286	1	.257
Marital status	1.250	0.5	1,000	1	.317
HR Specialization	1.0	0.0	1.000	1	.317
Length of services	1.0	0.0	1.000	1	.317
Services delivery	1.0	0.0	1.000	1	.317
Rating					
Linkage in service delivery	1.50	0.	1.000	1	.1000
HIS Experience with P Professional team	1.750	.5	1.286	1	.257

In comparing relationship between human resources factor and quality of services the results show that Port Reitz indicate positive significant association while Tudor did not indicate any relationship between human resources and quality .This results can be ascertained by the fact that Port Reitz being a long standing tier three hospital has most of the services established and therefore higher quality level in healthcare services compared to Tudor ,a recently elevated tier 3 hospital.

These trends in findings are similar to Gonzale D. (2005) and Cohen & Levintal, (2011) findings which indicated that specialization, length of services, professional team work and linkages in services delivery are the key determining factor of quality of services offered as indicated by patient satisfaction.

To further explain the challenges with human resources at both Tudor and Port Reitz district hospitals the researcher got evidence that challenges such as dissatisfied staff and heavy workload are the contributing factors of depreciated healthcare services at the Sub County facilities

“The doctors, nurse and clinical officers do not have tools of work ... since the hospital was upgraded to be a Sub County nothing much has been done to make sure that we have drugs and diagnostics equipment... patients know this is a big hospital and they keep coming. The workload is high... we are ready to serve but we have limitation that makes us not offer services as required.” KII 001

There was concurrence in finding with another study conducted by Sakharkar (2008) which assumed that gaps in staffing do compromise service delivery and one of the effects measured in the study was lack of motivation among staff.

Services Integration influence on patient Satisfaction

A comparison of patient satisfaction between the two Sub-Sub County indicate that in Port Reitz hospital, the time taken for registration ($\chi^2=, 52.558,df=3.sig.= .000$), waiting time ($\chi^2=, 20.930,df=1.sig.= .000$), contact time with the doctor ($\chi^2=, 71.349,df=1.sig.= .000$) and neatness ($\chi^2=, 145.140,df=1.sig.= .000$) was statically significant in relation to patient satisfaction except for nursing care ($\chi^2=, 1.488,df=1.sig.= .222$) and explanation of condition ($\chi^2=, 2.326,df=2.sig.= .127$) was not associated with patient satisfaction (See table 4.8)

Responses for Port Reitz Hospital services in relation to patient satisfaction

Test	chi-square	Df	Asymp Sig
Time to receive card	52.558	3	.000
Satisfied with waiting time	20.930	1	.000
If No Why	90.849	2	.000
Time before attended by nurses	16.128	2	.000
Satisfaction with care by nurses	1.488	1	.000
How long did you wait before seeing the doctor	70.349	1	.222
Satisfied by technical skills of doctors	2.326	1	.000
Explanation of condition clear	2.326	1	.127
Times spend with doctor	71.209	2	.000
Satisfaction with instruction by doctor	80.953	1	.000
Duration of visiting the hospital	9.500	2	.009
Recommending the hospital	168.023	1	.000
Neatness Of waiting room	145.140	1	.000

On the other hand results from Tudor indicate that waiting time ($\chi^2=, 43.346,df=3.sig.= .000$), nursing care ($\chi^2=, 17.818,df=1.sig.= .000$), Staff competency ($\chi^2=, 48.091,df=1.sig.= .000$) and neatness ($\chi^2=, 59.938,df=1.sig.= .000$) was statically significant in relation to patient satisfaction expect registration ($\chi^2=5.591, ,df=1.sig.= .222$) and explanation of condition ($\chi^2=, 1.455,df=1.sig.= .228$) was not significant to patient satisfaction (See Table 4.9).

Responses for Tudor Hospital services in relation to patient satisfaction

Test	chi-square	Df	Asymp Sig
Time to receive card	5.59	1	.13
Satisfied with waiting time	29.455	1	.000
If No Why	112.227	3	.000
Time before attended by nurses	43.364	3	.000
Satisfaction with care by nurses	17.818	1	.000
How long did you wait before seeing the doctor	8.205	1	.004
Satisfied by technical skills of doctors	48.091	1	.000
Explanation of condition clear	1.455	1	.228
Times spend with doctor	2.807	2	.246
Satisfaction with instruction by doctor	36.364	1	.000
Duration of visiting the hospital	73.841	1	.000
Recommending the hospital	3.273	1	.070
Neatness of waiting room	59.938	1	.000

Summary of Findings

Port Reitz a Sub County and previously a level four facility had most equipment available and all were in a functional state except for CTx scan. The availability of equipment was also evident by availability of most services needed and therefore resulted to relatively higher patient satisfaction compared to Tudor Sub County. Infrastructure at Tudor hospital the recently elevated Sub County was not sufficiently available and few that were available were in a fully functional state. Because of the gaps in availability of diagnostics equipment a number of healthcare services were not available an indication that Tudor has not met the requirement of a standard Sub County. In its limited capacity Tudor had services such lab, pharm, VCT, TB clinic and MCH available.

Human resources factors which includes specialist personal and general staffing levels were found to be in shortfall for both Sub County s with a mean of 1.64 and std. deviation [.505] while other parameters such rating on inter professional team interaction was thought to be averagely

good in both facilities with a mean of 2.45 and std. deviation [.522]. Availability of technical staff in the departments was found to have a mean of 3 specialists with report of generally long years of service in both Tudor and Port Reitz Sub County s with mean score of 3.27 years and std. [.647].

Human resources parameters such as specialization inter professional team rating and length of service showed significant association with quality of care in Port Reitz Hospital than in Tudor Hospital.

The findings show efforts of services integration at both Sub County's with limitations cited in availability of infrastructure and adequate specialized healthcare providers although patient satisfaction was higher in Port Reitz compared to Tudor. Results in Port Reitz indicate that time taken for registration), waiting time), contact time with the doctor and neatness was statically significant in relation to patient satisfaction except for nursing care and explanation of condition (**Table 4.8**). Results from Tudor with relatively lower satisfaction score indicate that waiting time, nursing care, Staff competency and neatness was statistically significant in relation to patient satisfaction expect registration and explanation of condition.(**Table 4.9**)

Services integration is a feature in provision of healthcare services, which is widely in demand by the catchment population, highly desired by health workers and the authorities although with numerous challenges such as inadequacy of human resources capacity, poor working condition and unavailability of medical equipment, supplies and drugs. Leadership is a key-determining factor in influencing the decision to upgrade facilities by giving healthcare institution the mandate to offer wide range of services including specialized care but lack commitment and political will power to implement all the processes for the requirement of a Sub County.

Availability of healthcare infrastructure, a determining factor in health service delivery is in a better state in Port Reitz compared to Tudor. Human resources factors such competency and patient-clinician relationship has direct association with patient satisfaction is more significant in Port Reitz, Service integration, a factor defined by availability of services at one point was more pronounced in Port Reitz a long standing Sub County which resulted to a higher patient satisfaction in comparison with Tudor which had a lower level of patient satisfaction score

Conclusion and Recommendations

Conclusion

Infrastructure conditions were found to affect quality of health care service. Tudor Sub County lacked most of the diagnostic equipment hence missing some of the much-needed services which translated to lower patient satisfaction compared to Port Reitz Hospital which reported relatively higher patient satisfaction.

Human resources factors were key contributors to quality of services in both healthcare institutions. Both sub county facilities had critical shortages of staffs (doctors, nurses and clinician), this is a significant factor in quality which show significance association to health worker performance and patient satisfaction.

Services offered at both Sub County showered element of services integration with single point of entry where multiple healthcare services were being offered. Service integration influences quality of services desired by health workers and needed by patients as indicated by high services uptake and evidence given by significance of health promotion activities in patient satisfaction.

Overall, the comparison of satisfaction of two hospital indicate that patient satisfaction is associated with the ease of processes in the continuum of care for example waiting time, contact time with the doctors, explanation of condition and prescription by the clinician. The findings concur with studies done by Gonzale D. (2005) and Cohen & Levintal, (2011) suggesting that health care quality is measured by patient satisfaction, which is directly, attributed to technical skills of health worker and patient - health worker relationship for example prescription explanation

Recommendations

1. There is need for county authority to resource mobilizes to upgrade the infrastructure at Tudor hospital to strengthen its capacity to offer services required by the public.
2. To ensure availability of diagnostic services without interruption the hospital administration and the local authority should ensure proper maintenance mechanism is put in place.
3. Hospital administration for both hospitals should put a proposal and have a follow up to ensure the specialists are deployed and retained in adequate number to improve quality of healthcare services.

Areas of Future research

1. The role of leadership in delivery quality health services in an integrated healthcare system
2. Effectiveness of services integration at tier three hospitals in improving patient diagnosis and treatment.

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