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Total Quality Management Practices and Service Delivery in Healthcare in Public Health Facilities in Kisumu East Sub-County, Kenya

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Abstract

The study's aim was to establish the influence of total quality management practices on service delivery in public health facilities in Kisumu East Sub-county, Kenya. The aspects of total quality management practices investigated in this study were: management commitment, staff training, employee involvement and continuous improvement. Descriptive survey research design method was used by the research study. The target population was the medical personnel: The facility doctor/nurse/clinician in-charges, Pharmacy technicians, Laboratory technicians, Nurses from 10 health facilities in Kisumu East Sub-county, Kenya. The study did a census on all the 10 health facilities, the researcher picked 4 respondents from each facility: 1 facility doctor/nurse in-charges, 1 Pharmacy technicians, 1 Laboratory technicians and 1 Nurses. Purposive sampling technique was used to pick the 1 facility doctor/nurse in-charges, 1 Pharmacy technicians and 1 Laboratory technician because most public health facilities just have one personnel in those position. Simple random sampling was used to pick one nurse of the 1-5 that work in those health facilities. The study used questionnaires for data collection. To ensure the validity of the instruments experts were engaged in to review it and make recommendations. Test-retest technique was used to measure and enhance the questionnaires' reliability. Both descriptive and inferential statistics were used to analyse the data. The findings revealed that there was a significant moderate positive relationship between managerial commitment and service delivery

$r=0.588^{**}$ $p<0.05$. The study established that there was a significant moderate positive relationship between staff training and service delivery $r=0.473^{**}$. It was established that there was a significant moderate positive relationship between employee involvement and service delivery in public healthcare facilities in Kisumu East Sub-county, Kenya $r= .567^{**}$, $p<0.05$. It was found out that there was a significant strong positive relationship between continuous improvement and service delivery in public health facilities $r=0.860^{**}$, $p<0.05$. The county government needs to further enhance managerial commitment in implementing total quality management practices in the facilities. The county government needs to come up with a policy to ensure regular and systematic on-job training to all the medical personnel in Kisumu East Sub-county, Kenya. The health facility in-charges and the management boards need to institutionalize employee engagement by coming up with a clear framework that shall create a platform for employee participation in total quality management in public health facilities in Kisumu East Sub-county, Kenya. The County government of Kisumu needs to document and sensitize all the health facilities the continuous improvement strategy for healthcare.

Keywords: Total Quality Management, Management Commitment, Staff Training, Employee Involvement, Continuous Improvement, Service Delivery.

Background of the Study

Globally, strengthening service delivery forms a key driving factor towards the accomplishment of the development goals that are related to health, comprising delivery of interventions to decrease maternal mortality, child mortality, malaria, tuberculosis, and HIV/AIDS pandemic. Service delivery and provision constitute direct outputs of inputs injected into the health system, including health workforce, supplies, procurement as well as financing. One of the major influence on the reduction of the service delivery by WHO are poor management practices (Kieny, 2016). Increased inputs are viewed as critical in facilitating access to services and enhancing service delivery. Strengthening the availability of health services that conform to required minimum standards as well as securing their access constitutes crucial functions needed of a health system (WHO MBHSS, 2010).

Total Quality Management (TQM) has currently mushroomed as a strategic force that was globally recognizable with several benefits, including strengthened service delivery, the best employee focus as well as enthusiasm, customer satisfaction, reduced wastage, and improved overall performance (Yang, 2003). TQM has therefore proved to be an effective solution towards improving competence in the provision of healthcare and was transforming to be important for public healthcare facilities. Most healthcare facilities are currently directing their efforts toward TQM implementation towards cost reduction and quality improvement for the services they provide. Nonetheless, it was unlikely that quality dimensions are well recognizable within the healthcare sector, despite the existent of several measurements that have been made available (Huq, 2005). Moreover, a pressing consensus that customer satisfaction was a crucial indication of healthcare quality exists in this sector and most healthcare facilities are beginning to realize the need to embrace and implement platforms for change that facilitates the care of patient's delivery via TQM (Schalk & Dijk, 2005).

Healthcare sector has since the 1980's been learning from and emulating the manufacturing industries in designing and measuring the quality of its services. In the US and Europe there have over the last decade been many studies on quality improvement in healthcare facilities. This has

been driven by increased customer awareness and expectations for safety and quality; advance in technology and communication; advances in medical knowledge and the complexity of healthcare and its delivery; the need for health institutions to be more efficient and cost effective. Thiagarajan *et al.* (2001) acknowledges the fact that TQM of the West was deficient of theoretical foundation, citing that TQM essentials and understanding in the less developed economies was quite remote.

The United States was positioned in a low ranking behind several countries on most health outcomes, efficiency, and quality measures. The US physicians often face specific challenges in obtaining timely information, handling administrative hassles, and coordinating care. Some countries have embraced the adoption and implementation of current information healthcare systems, yet the US healthcare facilities and their physicians are still coming into terms with the quest to respond to meaningful financial incentives to help them to implement and effectively use health information technology systems (Karen *et al.*, 2015).

Drawing references from the context of Asia, the healthcare sector of Saudi has a TQM with strategic measures, particularly the continuous development plans since the beginning of 2000, as outlined by the Ministry of Planning (MOP 2000) which has since then been replaced by the current development plan of 2010 (MOP, 2010). Albejadi (2010), Jannadi, *et al.* (2008), and Walston, Alharabi, & Alomar (2008) discredit the development of Saudi Arabia's health policy by citing that current studies tend to show that the sector was not spared of some glaring challenges. Much pressure is currently mounted on the need to reduce cost and strengthen efficiency in Saudi hospitals because of its rapidly growing population that currently stands at 3.6 per cent per annum, and this has resulted in the rise in the government expenditure since it provides free healthcare services to its people (Walston, Al-Harbi & Al-Omar, 2008).

In the African context, district hospitals in low-income counties usually have bed capacity that can only accommodate about 60 to 300 inpatients and almost similar numbers of total healthcare staff deployed in such facilities (English *et al.*, 2006). Governments of the less developed countries (LDCs) as well as NGOs are putting more resources to strengthen service delivery. Nonetheless, budget allocation in itself is not a good indicator for real quality service delivery or value for money, especially among nations that are characterised by weak institutions. Empowering and sensitizing citizens as well as civil society actors is imperative to push governments with the agenda of improving performance and service delivery (SDI Report Feb 28, 2011).

In Kenya, the provision of health services is done via a set of connections of more than forty seven thousand health institutions located in different parts of the country, with the public sector taking the largest portion of these facilities of about 51 percent (GoK, 2005). Cost constraint constitutes a critical barrier to its entrance in the health systems in Kenya (Turin, 2010). The adoption of quality management systems in Kenya's referral hospitals has a strong positive relationship with the level of client's satisfaction and to a greater extent with the average rate of mortality and length of stay of in-patients. Quality audits and quality circles, commitment by staff, sensitization and training of staff were noted as critical drivers for quality improvement initiatives. However, are still challenges as staff shortage, inadequate facilities, staff attitude, inadequate funds, poor maintenance of facilities, inadequate computerization of services, slow response by support departments, inability of some patients to pay for services and congestion in the wards. The value of health care services provided to clients translated to better clinical

outcomes and client satisfaction which corroborates the efficiency of quality healthcare strategies towards enhancing service delivery at the national referral hospitals (Kinoti & Owino, 2015).

Statement of the Problem

The delivery of services is one of the key concerns in our public health institutions with a variety of complaints, incidences and concerns by the citizens in Kenya in healthcare services. Improvement in the healthcare service delivery still stagnates despite government measures and efforts from donor countries to finance such services. One of the areas of practice identified as a challenge and a problem has been the implementation of TQM practices to ensure proper service delivery to the public. The adoption of various quality management practices plays a key role in enhancing health care in public referral hospitals in Kenya, nonetheless there has been slow and inconsistent implementation of such practices. Some of the challenges contributing to this are inadequate funds and staff (Kinoti & Owino, 2015).

Available evidence reveals existence of inefficiency in public health sector in Kenya. This was manifested by the underutilization or malfunctioning of facilities, inefficient utilization of staff and physical capacity, and lack of expenditure containment measures (Akin *et. al.*,1987; World Bank, 1991; Republic of Kenya, 1994 ,1999). The devolution of health services to the County government has further thrown health services to greater mess and poor quality. Most county government was failing in the effective management of healthcare services in the public health facilities. Staff management was weak, facilities suffer poor infrastructure, drugs are not delivered on time, the funds to the facilities was always delayed. It was not clear if the public health centres are able to implement the total quality management practices and the extent to which this has impacted negatively on the services delivery. Notably the hospital leadership was not adequately committed in quality assurance, staff involvement was designing and implementing quality management practices was weak and the concept of continuous improvement was little understood by health personnel (Mwamuye & Nyamu, 2014). The researcher did not come about any study ever conducted to assess the influence of total quality management on service delivery in Kisumu County.

Purpose of the Study

The research project purpose was to establish the influence of total quality management practices on service delivery of healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Objectives of the Study

- i. To find out the influence of management commitment on service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- ii. To determine the influence of staff training on service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- iii. To examine the influence of employee involvement on service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- iv. To investigate the influence of continuous improvement on service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Study Hypotheses

- i. There is no significant relationship between management commitment and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- ii. There is no significant relationship between staff training and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- iii. There is no significant relationship between employee involvement and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.
- iv. There is no significant relationship between continuous improvement and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Literature Review

Health Sector in Kenya

The public health sector in Kenya comprises dispensaries, health centres, district hospitals, provincial general hospitals, and national referral hospitals. In Kenya, the management of health services has been devolved to the counties, this has created a lot of gaps in service delivery. Church-run units and private firms have come in to fill the gaps left by the public institutions. Gaps in the system are filled by private and church-run units (RoK, 2011).

The Concept of Total Service Delivery in Healthcare

Total Quality Management (TQM) demands a complete paradigm shift in the areas of healthcare management, implying that the organisation has to conform to a total participatory inclusion, continuous improvement, collective responsibility, and flexible plans and objectives. TQM needs a transformation in line with the client's requirements but this excludes the values expected of the providers (Coile, 1990). Most hospitals have embarked on implementing TQM programmes and succeeded, and this has been witnessed in the case of St. Marys (Grand Rapids, Michigan). Motwani et al. (1999) undertook a case study for about one year and ascertained a number of success factors associated with the TQM implementation in hospitals.

Managerial Commitment and Service Delivery

Management leadership as well as quality assurance is conventionally perceived to a powerful force, among others, which is responsible for driving quality management (Schalk & Dijk, 2005). Management is responsible for driving the implementation of TQM, developing goals, systems, and values aimed at satisfying the expectations of customers and improving the performance of a particular organisation (Juran, 1988; Dale & Plunkett, 1990; Ahire, Golhar & Waller, 1996; Huq, 2005; Rad, 2006). They are also accountable for the encouragement and path to be followed given to a specific organisation (Walsh *et. al.*, 2002). The commitment of management is imperative in ensuring that there was quality development, its support and contributions, benchmarking, and adequate resource-allocation that enhance better quality that translates to improved customer satisfaction. To this end, hospital directors may be compelled to face normative pressures for them to embrace and implement practices that support innovative management, for example, the TQM (Huq, 2005; Taylor & Wright, 2003).

Staff Training and Service Delivery

Rad (2005) points out that organisation needs to train its workforce, once the management has been equipped with necessary skills to steer the TQM process, to make sure there was an integrated, systematic, and consistent effort throughout the organisation. The researcher also emphasises for continuous improvement and learning to instil a positive culture that encourages adequate behavioural modification to streamline sustainable TQM. According to (Taylor & Wright, 2003), one of the vital undertakings in support of climatic change within an organization was through impacting skills that are more of problem solution to employees. Education and training have also been shown as imperative towards the support of TQM implementation. It comprises of management training, technical support, employee training, controls of statistical processes, information system, and scientific-problem solving techniques. The success of TQM generally relies on continuous training and education of personnel of all cadres (Brashier et al., 1996). Moreover, the workforce has to be trained on the usage of statistical approaches to enhance better management quality (Mahadevappa & Kotreshwar, 2004).

Employee Involvement and Service Delivery

Employee engagement is an important element of the TQM implementation. TQM demands total commitment on the side of management to encourage the workforce to pursue a culture of quality work that leads to the development of a desirable corporate image through the provision of quality services to clients (Schalk and Dijk, 2005; Huq, 2005). A high engagement level constitutes a strategic goal that steers the growth of several organization in most organisations such as healthcare. Involved employees are seen to be committed towards their employer, are often satisfied in their areas of work, and are ready to provide extra effort towards the attainment of organisational goals. Research evidence show that involvement affects some other major goals of human resources such as job performance, retention, recruitment, and absenteeism (Macey & Schneider, 2008; Gibbons & Schutt, 2010). Engaged and healthy workforce was a characteristic of a highly performing organisation. The work environment was created in a way that facilitates utilization and development of the capacity of individuals needed to reach one's desired goal (Lowe, 2010). Positive correlation between patient satisfaction and client satisfaction was also supported by private sector research indicating strong relationship between customer experience and workforce engagement scores (Heskett et al., 2008; Harmon & Behson, 2007).

Continuous Improvement and Service Delivery

Continuous improvement was strongly correlated to the pursuance of longstanding improvement in the achievement of both internal and external needs (Schalk & Dijk, 2005; Taylor & Wright, 2003). Kanji (1998) posits that continuous improvement demands management to encourage synergy by involving all the employees to work as a team and this to follow a bottom-up approach for the improvement of quality. According to Hughes, 2002 Continuous improvement was viewed as a philosophical approach towards the improvement of activities that prevent cases of failures and increases chances of success. They have to be fully integrated in all processes and systems management (Vouzaz, 2007). According to Edwards (2008) continuous improvement is simply a philosophy that motives all members of the healthcare team to continue questioning, "how they are doing" and "how they can perform it better" They look for answers

“how they can efficiently execute a given task, whether it was possible to do it with speed and the possibility of carrying it out timely”. Continuous improvement starts as a culture that drives improvement for practice, patients, and the entire population.

The Systems Theory

The systems theory was proposed in the 1940's by the biologist Ludwig von Bertalanffy. The postulator noted that organisations work as systems. A system is a network of function components that are interdependent and synergistic and which, taken together, can attain clearly stated goals. Managers work on the system to attain the total system's aims (to optimise it) and the workforce works in the system. Effective communication and common understanding about roles and responsibilities is key to the optimisation of the system. When one component, function, or subsystem benefits without concern for the impact on the total system, then the total system is sub-optimised. This theory is important for this study because for total quality to be realized, all the departments in each facility must function effectively while complementing one another.

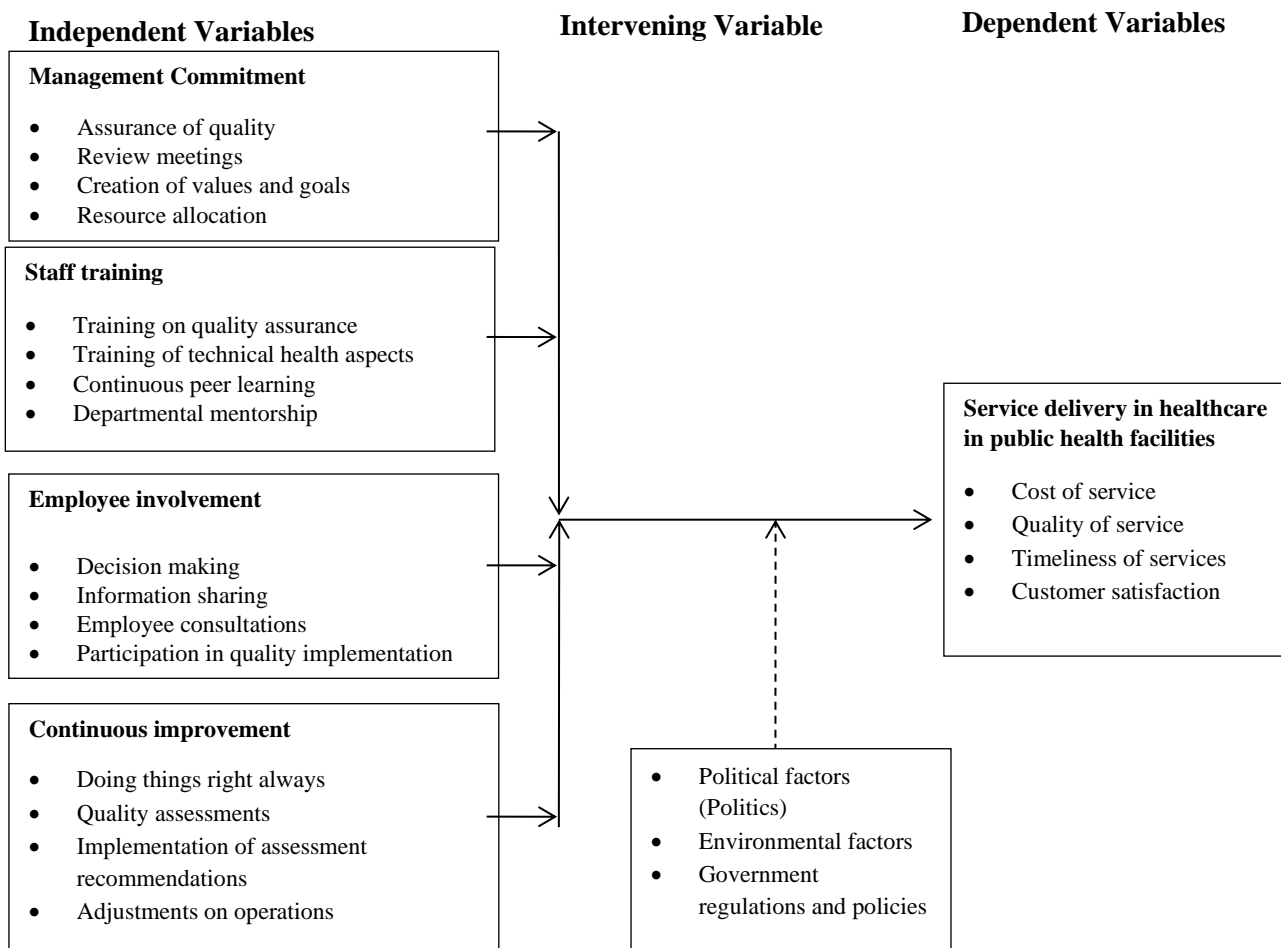
Theory of Psychology

This theory was formulated by Van der Westhuizen (2002), he noted that it is paramount to understand the interactions between people and their behaviour since management implies that people are motivated. The theory of psychology suggests that intrinsic motivation is superior to extrinsic motivation. Attention to psychological principles provides opportunities to improve inputs, processes and outputs. The emphasis on intrinsic motivation and the honouring of individual differences are relevant to manager and junior staff in the hospitals. This theory is relevant to the study because management commitment to enhancing quality of healthcare should go a long way in creating a conducive environment for the staff to perform. Additionally, staff training and their overall involvement on service delivery in healthcare would enhance their contribution towards the quality of service delivery.

Conceptual Framework

Research Methodology

This study employed descriptive survey research design method. It enabled the researcher to



seek people’s opinions, attitudes concerning influence quality management practices on the efficiency of healthcare services in public health facilities in Kisumu East Sub-county, Kenya. The sub-County has locational 5 wards : Kajulu, Kolwa East, Manyatta B, Nyalenda A and Kolwa Central and covers 135.90 square metres (Kenya Bureau of Statistics, 2009).According to the Ministry of Health report on assessment for hospitals in September 2016 Kisumu East sub-County, Kenya has 13 health facilities which formed the target population in the study. The medical personnel who were targeted at the health facilities are: The facility doctor/nurse in-charges, Pharmacy technicians, Laboratory technicians, Nurses. The study did a census on all the 13 health facilities because the number is less than 30 within Kisumu East Sub-county, Kenya. The researcher picked 4 respondents from each facility: 1 facility doctor/nurse in-charges, 1 Pharmacy technicians, 1 Laboratory technicians and 1 Nurses. This is because most health facilities have just one for the targeted personnel except for the nurses who were be between 1 and 5 in number. For referral facility, Kisumu Sub-county hospital, the researcher picked 8 respondents, two from every department. The sample size was as shown in following table.

Designation/profession	Number of personnel
------------------------	---------------------

Health Facility in charge	13
Clinical Officer	24
Lab Technician	13
Pharmacy Technician	14
Nurses	82
Total	151

The study applied both purposive sampling and simple random sampling techniques. The purposive sampling techniques were employed to pick the 1 facility doctor/nurse in-charges, 1 Pharmacy technicians and 1 Laboratory technician because most public health facilities just have one personnel in that position. Simple random sampling was employed to pick one nurse of the 1-5 that work in those health facilities. The study used questionnaires for collecting data. Pilot testing was done on 15 respondents constituting 10% of the target population; the respondents were picked from the nearby Kisumu Central Sub-county. The validity of the instruments was achieved by giving the questionnaires to two health personnel and university lecturers to aid in the vetting to make sure that they were appropriate, relevant and clear, adequate coverage of the research objectives and peer review. Test-retest was used to measure the reliability on the questionnaires to the population that had been sampled after revising and validating the research instruments. The coefficient was computed using the Spearman rank order correlation and established to be $r=0.81$. According to Orodho (2009), a positive correlation coefficient for the questionnaire of over (r) 0.75 is judged high enough to consider the instrument reliable. Upon visiting the health facilities, the respondents were identified, introduction about the study was done and their informed consent to participate in the study was sought. The researcher dropped the questionnaire and makes an appointment to pick the questionnaires after two days. Quantitative data was analysed using frequencies and percentages with inferential statistics. Chi-square was applied to test the connection between the variables and the tested data. The analysis was done using Statistical Package for Social Sciences (SPSS) software. All the ethical aspects of research, which include getting informed consent of respondents to participate in the research, ensuring anonymity, privacy and confidentiality, was observed.

Study Findings

The questionnaire return rate was 94.7%, this was represented by 143 respondents reached out of the 151 respondents targeted in the study. The response rate was considered good enough for analysis and reporting.

Demographic Information

Variable	Categories	f(%)
Level of health facility	Level 3	31(21.68)
	Level 4	112(78.32)

Level of education	Post-secondary	38(26.6)
	Diploma	48(33.6)
	Degree	57(39.9)
Respondent's designation	Health Facility in charge	10(6.99)
	Clinical Officer	24(16.78)
	Lab Technician	13(9.09)
	Pharmacy Technician	14(9.79)
	Nurses	82(57.34)
Respondent's Age	18-27	38(26.6)
	28-37	67(46.9)
	38-47	32(22.4)
	48-57	6(4.2)
Period worked in the position	1-3 years	121(84.6)
	4-6 years	12(8.4)
	9-12 years	6(4.2)
	13-15 years	4(2.8)
Duration worked in the facility	1 year	79(55.2)
	2 years	32(22.4)
	3 years	26(18.2)
	5 years	6(4.2)

Most of the respondents worked in level 4 at 112(78.32%) with the minority working in Level 3 facilities 31(21.68%). Preponderance of the respondents at 57(39.9%) had attained degree certificate, 38(26.6%) had attained post-secondary certificate, this was an indication that all the respondents could comprehend and respond to the questions accurately. Most of the respondent the respondents were nurses at 82(57.34%), while the least were Health Facility in charges at 10(6.99%). The distribution among the various health practitioners added value to the study in that they play different roles, all which contribute towards the attainment of total quality management standards.

Nearly half of the respondents at 67(46.9%) were between 28-37 years of age, with a few of the respondents at 6(4.2%) aged between 48-57 years old. Majority of the respondents were youthful and this meant that they were energetic and would make very valuable contribution towards the implementation of the total quality management approach to healthcare. Preponderance at 121(84.6%) had taken between 1-3 years in the given position, the minority at 4(2.8%) between 13-15 years in the given position. On average each respondent had been in their current position for a period of 2.44 years (SD= 2.440). It was therefore evident that each of the respondent had been in their current position long enough and understood the TQM approaches applied to enhance healthcare.

More than half of the respondents at 79(55.2%) had worked for a year, as the least number of respondents at 6(4.2%) worked for 5 years. It was typical that the respondents had worked at the current facility for 1.76 years (Mean=1.76).

Managerial Commitment and Service delivery in Public Health Facilities

Statements	SA f (%)	A f (%)	N f (%)	D f (%)	SD f (%)	Mea n	SD
The health facility in-charge committed to enhancing quality of healthcare in the facility	32(22.4)	105(73.4)	6(4.2)	0(0.00)	0(0.00)	4.18	0.484
The management board committed to enhancing quality of healthcare in the facility	32(22.4)	95(66.4)	0(0.00)	12(8.4)	4(2.8)	3.97	0.903
The health facility management team hold meeting to discuss quality issues	32(22.4)	97(67.8)	4(2.8)	6(4.2)	4(2.8)	4.03	0.822
The organization's management supports high organizational performance, individual development, and organizational learning	32(22.4)	91(63.6)	0(0.00)	16(11.2)	4(2.8)	3.92	0.96
Mean of mean						4.02	5

The respondents were given several 5 point Likert Scale questions to respond to 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree and 5-Strongly Agree; the means were calculated and interpreted.

The health facility in-charges were committed to enhancing quality of healthcare in the facility. A study by Taylor and Wright (2003) and Huq (2005) established that commitment of leadership would enhance the quality of healthcare in healthcare facilities through better quality measurement due to the support, contributions and resources ploughed in. It was commonplace that the management board was committed to enhancing quality of healthcare in the facility. At a mean of 3.97 (SD= 0.903), it was commonplace that the management board was committed to enhancing quality of healthcare in the facility. This is critical; a study by Venkateswarlu and Nilakant, (2005) revealed that support by management is critical for the successful implementation of TQM in healthcare. The health facility management team held meetings to discuss quality issues. It was typical that the organization's management highly supported organizational performance, individual development, and organizational learning.

Correlation between managerial commitment and service delivery in public healthcare facilities

		Managerial Commitment	Service Delivery
Spearman's rho	Correlation Coefficient	1.000	.588**
	Managerial Commitment Sig. (2-tailed)	.	.000
	N	143	143
	Correlation Coefficient	.588**	1.000
Service Delivery	Sig. (2-tailed)	.000	.
	N	143	143

The findings showed that there is a significant moderate positive relationship between managerial commitment and service delivery $r=0.588^{**}$ $p<0.05$. This meant that enhancing the managerial commitment to total quality management would enhance the quality of service delivery in public health facilities in Kisumu East Sub-county, Kenya.

Staff Training and Service Delivery in Public Health Facilities

Statements	SA f(%)	A f(%)	N f(%)	D f(%)	SD f(%)	Mean	SD
I have had training on how to enhance quality of healthcare in the facility	36(25.2)	95(65.0)	8(5.6)	6(4.2)	0(0.00)	4.11	0.683
Training me and other health staff in the facility is fundamental for the successful implementation of TQM	40(28.0)	73(72.0)	0(0.00)	0(0.00)	0(0.00)	4.28	0.45
There is continuing education and technical training on quality improvement of healthcare for all levels of personnel	44(30.8)	95(66.4)	4(2.8)	0(0.00)	0(0.00)	4.28	0.509
The training I got on quality healthcare has contributed greatly in enhancing the quality of healthcare at the facility	44(30.8)	89(62.2)	4(2.8)	6(4.2)	0(0.00)	4.2	0.684
Mean of mean						4.217	

It was commonplace that training on how to enhance quality of healthcare in the facility was largely implemented. This finding is supported by a research study by (Rad, 2005), that established that training is vital in the promotion and development of an organizations skill. It was therefore typical that continuing education and technical training on quality improvement of healthcare for all levels of personnel was largely adopted in the public health facilities. Brashier et al. (1996) pointed out that that continued education and training of all staff is a plus in the success of TQM practices. This gave an indication that that the training on quality healthcare had contributed greatly in enhancing the quality of healthcare at the facility. The findings converge with the assertions by Rad (2005) that training is critical in enhancing the quality of quality healthcare at the facility. A research study carried out by Salah Mahmoud Diab (2012) also supported the findings largely by revealing that training courses for employees in the health facilities in the area of the dimensions of medical service quality makes the quality concept among employees deep and hence achieve the quality dimensions at the best level.

Correlation between staff training and service delivery in public health facilities

		Service Delivery	Staff Training
Spearman's rho	Correlation Coefficient	1.000	.473**
	Sig. (2-tailed)	.	.000
	N	143	143
	Correlation Coefficient	.473**	1.000
Staff Training	Sig. (2-tailed)	.000	.
	N	143	143

It was established that there was a significant moderate positive relationship between staff training and service delivery $r=0.473^{**}$, $p<0.05$. This meant that that strengthening staff training would lead to an improvement in service delivery at the public health facilities in Kisumu East Sub-county, Kenya.

Employee Involvement and Service Delivery in Public Health Facilities

Statements	SA f(%)	A f(%)	Nf(%)	D f(%)	SD f(%)	Mean	SD
Staff are involved in the formulation of the quality improvement plans	40(28.0)	91(63.6)	0(0.00)	4(2.8)	8(5.6)	4.06	0.948
Staff are involved in the day to day decision making in the health facility	36(25.2)	79(55.2)	0(0.00)	24(16.8)	4(2.8)	3.83	1.075
Information on quality improvement is shared with all staff in the facility	36(25.2)	89(62.2)	0(0.00)	18(12.6)	0(0.00)	4.42	2.71
All employee are of consulted whenever on the quality gaps that exist in the provision of healthcare	36(25.2)	89(62.2)	4(2.8)	14(9.8)	0(0.00)	4.03	0.822
Employee involvement is a critical component during the implementation of total quality management	50(35.0)	89(62.2)	0(0.00)	4(2.8)	0(0.00)	4.29	0.615
Mean of mean						4.126	

It was clear that staff were involved in the formulation of the quality improvement plans. Gibbons and Schutt (2010), Macey and Schneider (2008) noted that staffs who are engaged and obliged to their employers should be very willing to give extra effort in achieving the set goals engagement affects other major human resources objectives, for instance retention, job performance, absenteeism and (indirectly through the employer's reputation) recruitment. Staffs were largely involved in the day-to-day decision making in the health facility. The findings ascertained that information on quality improvement was principally shared with all staff in the facility. It was typical that all employees were consulted on the quality gaps that exist in the provision of healthcare in public health facilities in Kisumu East Sub-county, Kenya. The findings concur with a study undertaken by Huq, (2005); Schalk and Dijk (2005) noting that engagement of staff is key since results in the development of healthy corporate image through the provision of quality services to the clients. It was characteristic that employee involvement was critical component during the implementation of total quality management.

Correlation between Employee involvement and Service delivery in public healthcare facilities

		Service Delivery	Employee Involvement
Spearman's rho	Correlation Coefficient	1.000	.567**
	Sig. (2-tailed)	.	.000
	N	143	143
	Correlation Coefficient	.567**	1.000
Employee Involvement	Sig. (2-tailed)	.000	.
	N	143	143

It was established that there is a significant moderate positive relationship between employee involvement and service delivery in public healthcare facilities in Kisumu East Sub-county, Kenya $r = 0.567^{**}$, $p < 0.05$. This meant that there involving employees more in total quality management would lead to an improvement in service delivery in public healthcare facilities. A

study by Coile (1990) revealed that involvement of all personnel has an influence on service delivery especially in institutions that provide healthcare.

Continuous Improvement and Service Delivery in Public Health Facilities

Statements	SA f(%)	A f(%)	N f(%)	D f(%)	SD f(%)	Mean	SD
The management insists on having things done the right way all the times	32(22.4%)	85(59.4%)	18(12.6%)	8(5.6%)	0(0.00%)	3.99	0.760
There are continuous assessment done of the status of healthcare service provision	32(22.4%)	85(59.4%)	14(9.8%)	12(8.4%)	0(0.00%)	3.96	0.813
The quality recommendations from the assessment been implemented	32(22.4%)	77(53.8%)	26(18.2%)	8(5.6%)	0(0.00%)	3.93	0.793
The recommendations helped in improving quality at the facility	36(25.2%)	73(51.0%)	26(18.2%)	8(5.6%)	0(0.00%)	3.96	0.813
The facility is ever striving to improve the quality of healthcare	36(25.2%)	93(65.0%)	10(7.0%)	4(2.8%)	0(0.00%)	4.13	0.649
Mean of mean						3.994	

It was commonplace that the management insisted on having things done the right way all the times, A study by Berwick (1989) largely supported the study findings by revealing that leaders should take the fore front in change emission in the health sector and tries to avoid blame game and taking into the account the assumption that Health care is very good today; together, we intend to make it even better." It was common that continuous assessments were done on the status of healthcare service provision. The study gave an indication that the quality recommendations from the assessment had been largely implemented. It was evident that the implementation of the quality recommendations helped in improving quality at the public health facilities. Most public health facilities strove towards improving the quality of healthcare. This study established that the quality recommendations from the assessment had been largely implemented. These findings were in divergence with a study by Venkateswarlu and Nilakant, (2005), that revealed that institutions take up TQM strategies but do not engage in their implementation.

Correlation between Employee involvement and Service delivery in public healthcare facilities

		Service Delivery	Continuous Improvement
Spearman's rho	Service Delivery	Correlation	1.000
		Coefficient	.860**
		Sig. (2-tailed)	.000
	Continuous Improvement	N	143
		Correlation	.860**
		Coefficient	1.000
	Sig. (2-tailed)	.000	
	N	143	
	N	143	

It was evident that there is a significant strong positive relationship between continuous improvement and service delivery in public health facilities $r=0.860^{**}$, $p<0.05$. This meant that there implementing continuous improvement to a large extent would lead to an improvement in quality of service delivery in the public health facilities in Kisumu East Sub-county, Kenya.

Regression Analysis

	B	S.E.	Wald	df	Sig.	Exp(B)
Managerial Commitment	.957	1.405	.463	1	.006	2.603
Staff Training	.964	1.253	.592	1	.041	2.623
Employee Involvement	.062	1.243	.002	1	.020	1.064
Continuous Improvement	4.609	.764	36.404	1	.000	100.422
Constant	-3.681	.623	34.899	1	.000	.025

Public health facilities that had managerial commitment to a large extent were 2.603 times more likely to have high quality of service delivery compared to those facilities that had managerial commitment to a small extent. Public health facilities that had their staff trained to a large extent were 2.623 times more likely to have high quality of service delivery compared to those facilities that had their staff trained to a small extent.

Public health facilities that involved employees to a large extent were 1.064 times more likely to have high quality of service delivery compared to those that had employees involved to a small extent. Public health facilities that practiced continuous improvement to a large extent were 100.422 times more likely to attain high level of service delivery as compared to public health facilities that practiced continuous improvement to a small extent.

Hypothesis Testing

The study used the chi-square test statistics approach to test the null hypotheses, the findings were as follows:

H_0 : There is no significant relationship between management commitment and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Since the X^2 critical values= 3.84 < X^2 test statistics = 54.331 (df =1), the test statistic therefore falls in the rejection region. The null hypothesis was rejected because there was no significant

relationship between management commitment and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

H_0 : There is no significant relationship between staff training and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Since the X^2 critical values= 3.84 < X^2 test statistics = 49.911 (df =1), the test statistic therefore falls in the rejection region. The null hypothesis was rejected because there was no significant relationship between staff training and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

H_0 : There is no significant relationship between employee involvement and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Since the X^2 critical values= 3.84 < X^2 test statistics =31.421 (df =1), the test statistic therefore falls in the rejection region. The null hypothesis was rejected because there was no significant relationship between employee involvement and service delivery in healthcare in public health facilities in Kisumu East Sub-county, Kenya.

H_0 : There is no significant relationship between continuous improvement and service delivery healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Since the X^2 critical values= 3.84 < X^2 test statistics =103.684 (df =1), the test statistic therefore falls in the rejection region. The null hypothesis was rejected because there was no significant relationship between continuous improvement and service delivery healthcare in public health facilities in Kisumu East Sub-county, Kenya.

Conclusions

It was inferred that there is a significant moderate positive relationship between managerial commitment and service delivery in public health facilities in Kisumu East Sub-county, Kenya. Enhancing managerial commitment to total quality management would enhance the quality of service delivery in public health facilities in Kisumu East Sub-county, Kenya.

It was concluded that there was a significant moderate positive relationship between staff training and service delivery in public health facilities in Kisumu East Sub-county, Kenya. Strengthening staff training would lead to an improvement in service delivery at the public health facilities in Kisumu East Sub-county, Kenya.

It is inferred that that there is a significant moderate positive relationship between employee involvement and service delivery in public healthcare facilities in Kisumu East Sub-county, Kenya. Involving employees more in total quality management would lead to an improvement in service delivery in public healthcare facilities.

It was concluded that that there is a significant strong positive relationship between continuous improvement and service delivery in public health facilities. Implementing continuous improvement to a large extent would lead to an improvement in quality of service delivery in the public health facilities in Kisumu East Sub-county, Kenya.

Recommendations

The county government need to further enhance managerial commitment towards the implementation of total quality management practices in the facilities, this shall lead to more improvement in the in the quality of healthcare service delivery in the public healthcare facilities in Kisumu County.

The county government needs to come up with a policy to ensure regular and systematic on-job training to all the medical personnel in Kisumu East Sub-county, Kenya, this shall lead to more improvement in the quality of healthcare.

The health facility in-charges and the management boards need to institutionalize employee engagement by coming up with a clear framework that shall create a platform for employee participation in total quality management in public health facilities in Kisumu East Sub-county, Kenya.

The County government of Kisumu needs to document and sensitize all the health facilities the continuous improvement strategy for healthcare. This shall harmonize total quality management practices for better quality of healthcare.

Suggestions for Further Study

The study established that here was a significant moderate positive relationship between managerial commitment and service delivery. Nonetheless, its not clear in the County Government had a contribution on this. The study therefore proposes an investigation into the role of the County Government in the implementation of total quality management in public health facilities in Kisumu East Sub-county, Kenya.

Limitations of the Study

One limitation that was foreseen was that the health personnel may not be sincere while responding to the questions because they are obliged to protect the image of their health facility, this was overcome by explaining to them that the study does not seek to fault find but to help them improve service delivery that they provide. Another limitation that was foreseen was that management may not want to give the finer details of the strategies that they use for continuous improvement as to satisfy their clients for the fear that the competitor may learn of them and use them to outwit them. This was overcome by assuring them that the specific details of such strategies were not be documented with the health facilities name but was to be reported in general.

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