

**FACTORS INFLUENCING QUALITY OF PHYSIOTHERAPY
HEALTHCARE SERVICES RECEIVED BY PATIENTS AT MOI TEACHING
AND REFERRAL HOSPITAL, UASIN-GISHU COUNTY, KENYA**

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT FOR THE
CONFERMENT O THE DEGREE OF MASTERS OF SCIENCE IN HEALTH
SYSTEMS MANAGEMENT IN KENYA METHODIST UNIVERSITY**

OCTOBER, 2022

DECLARATION

I declare that this thesis is my original work and has not been presented in any other university.

Signature



Date 25/10/2022

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This thesis has been submitted for examination with our approval as university supervisors.

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DEDICATION

This research project is dedicated to my wife, Winnie, my sons; Adrian, Ryan, and my daughter Audrey.

ACKNOWLEDGEMENT

First and foremost, I thank the almighty God for granting me the grace, guidance and protection throughout my studies. I also wish to acknowledge my supervisors; Prof. Wanja Mwaura- Tenambergen and Dr. Caroline Kawila for their professional guidance and supervision. My gratitude goes to Dr. Wilson Aruasa, Chief Executive Officer, Moi Teaching and Referral Hospital and Mrs. Beatrice Koech, Head of Physiotherapy Department for their support and encouragement.

ABSTRACT

An integrated healthcare services entails management and delivery of quality and safe healthcare services so that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, rehabilitation and palliative care services. This study sought to assess the factors influencing perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital (MTRH). The study objectives were; physiotherapists' skills, rehabilitation protocols, space, and equipment. The study adopted cross-sectional study and utilized both stratified and systematic sampling to select the desired study units. A sample size of 317 physiotherapy patients and 6 key informants participated in the study and the patient questionnaire and a key informant interview guide were the data collection tools respectively. Validity checks namely; face and content validity were carried out on the questionnaire which was then pretested on 15 patients receiving physiotherapy healthcare services at the Kapsabet County Referral Hospital in Nandi County. Cronbach's alpha reliability test for internal consistency was assured at 0.6. Data was analyzed using SPSS version 25. Principal inferential statistic used in the analysis was multiple regressions which explained the relationship between the independent and dependent variables. The qualitative data from the study underwent transcription and reported in themes and sub-themes. The values obtained were considered significant at $P < 0.05$. There was a positive and significant correlation between quality of physiotherapy services, physiotherapists skills and equipment, a strong positive correlation between the quality of physiotherapy services and space and a positive correlation between the rehabilitation protocols and quality of physiotherapy services. The coefficient of determination obtained was .54 and this showed that the regression model explained only 54% of the factors that influenced quality of physiotherapy services at MTRH. MTRH management should organize and/or facilitate continuous professional development and seminars for physiotherapists to enhance their knowledge, skills and competences. The management of MTRH, physiotherapy department should adopt rehabilitation protocols both in outpatient and inpatient units so that patients can have seamless service provision. MTRH management should provide enough space for physiotherapy unit as per the international standards to increase patient satisfaction on the perceived quality of the physiotherapy services. The study can be applied in other fields that impact on service delivery either positively or negatively because perceived quality is not the sole factor influencing service delivery. In future, a longitudinal study can be done with more or less the same hypotheses putting into consideration data ranges in relation to the element of time.

ABBREVIATIONS AND ACRONYMS

AHRQ	Agency for Healthcare Research and Quality
APP	Advanced Practice physiotherapists
COK:	Constitution of Kenya
COVID-19:	Corona Virus Disease
CPD	Continuing Professional Development
CVD:	Cardiovascular Disease
EBP:	Evidence Based Practice
ET	Exercise Therapy
HCW:	Healthcare Worker
HODs:	Head of Departments
IBM:	International Business Machine
ICF	International Classification of Function
ICUAW	Intensive Care Unit – Acquired Weakness
ICUAW:	Intensive Care Unit Acquired Weakness
ISMS	Information Security Management System
ISMS:	Information Security Management System
ISO:	International Organization for Standardization
KII:	Key Informant Interviews
KNBS:	Kenya National Bureau of Statistics
MDG:	Millennium Development Goal
MOH:	Ministry of Health
MTRH:	Moi Teaching and Referral Hospital
NACOSTI:	National Commission for Science Technology and Innovation
NPRS	Numeric Pain Rating Scale
PACA	Physiotherapy Alberta College Association
PROMs:	Patient Reported Outcome Measures
SAQ:	Self-Administered Questionnaire
SERVQUAL	Service Quality
SFGS	Sunnybrook Facial Grading System
SPSS:	Statistical Package for Social Sciences
SWOT	Strengths Weaknesses Opportunities and Threats

TDCS	Transcranial Direct Current Stimulation
UCL:	Ulnar Collateral Ligament
WHO:	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background Study

In the healthcare system, users, professionals, and decision-makers are constantly concerned about the quality of the medical service. The needs of the users are what define quality of care, and a positive outcome is not enough on its own (Kidd et al., 2011; Redondo et al., 2015). According to Del Bano-Aledo et al. (2014), a patient's perception of the quality of care received in physiotherapy is based on their assessment of the professional's technical expertise, their willingness to share information and educate the patient, and their interpersonal relationships with the physiotherapist.

Samson et al. (2016) carried out a study in USA to assess the Perceived quality of physiotherapist-led orthopedic triage compared with standard practice in primary care and found that triage conducted by a physiotherapist is a normal procedure. In terms of having the best evaluation and treatment available, participants felt that the triage practice had much greater quality care than the regular practice (medical-technical competence). The ability to participate in decision-making, the caregiver's understanding, respect, and commitment, and obtaining information regarding the examination and treatment, findings, and self-care were also shown to be important (identity-orientated approach). The degree to which participants' expectations of the therapy were realized and their intention to heed the counsel and instructions given was much higher in the physiotherapist-led triage group.

Georgiadou, and Dimitrios (2017) did a study in Greece to assess the quality of wellbeing administrations gave at Greek public clinic using patient fulfillment reviews and saw that as Five (5) quality aspects (5Qs) essentially affect in general

quality of administration, proportion of patient fulfillment in the clinic. These aspects are on a various leveled scale: "clinical consideration", "social obligation", "staff quality", "framework" and "Emergency clinic dependability". Reyes et al. (2020) on the Perception of the Quality of Physiotherapy Care Gave to Short term patients from Essential Medical services showed that two fundamental subjects arose: quality connected with the expert and design of the consideration framework. Perceptions about the consideration got from the physiotherapist are impacted by variables, for example, correspondence, the manner in which they treat the patient, and the trust laid out among patient and expert. What's more, underlying perspectives like designation of spaces, technical equipment and rehabilitation gadgets, admittance to focuses, and the accessibility of the physiotherapist influence fulfillment and the perception of the quality of the assistance got. As it happens in other wellbeing administrations given by various medical services experts, the quality of physiotherapy care is connected with emotional (social) and goal (underlying) perceptions.

The study is anchored on service delivery pillar among the six World Health Organization health pillars in the healthcare management systems. Service delivery pillar is concerned with how inputs and services are organized and managed to ensure access, quality, safety and continuity of care across health conditions, different locations and over time. This ensures patient-centered care and promotion of individual continuity of care where needed, over time and between facilities so as to avoid unnecessary duplication and fragmentation of service (World Health Organization [WHO], 2007). Service Delivery and service consumption cuts across all the sectors whereby citizens are treated with a wide range of services from distribution to use of assets expected for the best feasible and reachable lives for example wellbeing, lodging, land, framework, sterilization, training, correspondence

foundation, water and power (Appari & Eric, 2010). In healthcare system, delivery and consumption of effective, safe, good quality personal and non-personal care to those that need it, when needed, with minimum waste of resources are perceived to be good healthcare services. A study by Gilad et al. (2013) in Nigeria, highlighted some metrics in healthcare sector e.g. outpatient time spent per visit, service availability per 100 cases, inpatient average length of stay, percentage of drug availability in the drug formulary and patient satisfaction percentage which constituted service delivery.

Bansal (2014) posits that service industry such as healthcare should focus on quality of services, efficiency and effectiveness of services offered, customer experience and customer satisfaction as key determinant of service delivery. Globally, there are challenges that still have direct impact on the gains gathered on service delivery which include, outsourcing of medical services, pharmaceutical consolidation, migration of health professionals to greener pastures and patients seeking treatment abroad (medical tourism) (Ramirez, 2013).

Regionally, healthcare investment has a direct impact on service delivery. Developing countries including Kenya still experience challenges with statistics showing that Total Expenditure per Capita on health stands at United State Dollar 77 (USD) and a reduction on Gross Domestic Product (GDP) to 4.5% (WHO, 2011). Attaining accessible healthcare services for all people in the region requires that health facilities and health management needs to respond to the encounters of the changing world, the ever-growing population and people's expectations for accessible and affordable health care service delivery (Halfdan & Carl, 1978). In the Kenyan context, healthcare system is structured in a stepwise manner with the lowest unit being the community (Level 1) graduating with complicated cases being referred to higher levels of healthcare (Level 6) (Kenya Health Policy 2014-2030). Moreover, it has

undergone some transformation with an aim of streamlining service delivery and having a dynamic healthcare solution that are in sync with workflow across the entire healthcare system.

Moi Teaching and Referral Hospital (MTRH) is located in Uasin Gishu County and is the second largest referral hospital in Kenya. The hospitals' mission is to offer multi-specialty healthcare services in a cost effective, timely and compassionate manner. It gained its national referral status in the year 1998 and has grown infrastructure-wise serving an average of 3,000 inpatients and outpatients daily both in East and Central Africa. MTRH among other public and private healthcare service providers, has embraced the use of current technologies and evidence based practices in its units including physiotherapy with an aim of boosting services delivery. The use of suitable, safe and well maintained physiotherapy equipment not only guarantees desirable health outcomes but also boosts service delivery in a cost effective and timely manner. Research shows that with emerging new technologies, physiotherapists are becoming more empowered to develop new technologies, or to modify existing technologies with a view of enhancing rehabilitation, monitor change, prevent decline or, maintain healthy living in so doing boosts service delivery (Winstein & Requejo, 2015). In healthcare sector, specifically physiotherapy unit, space is a factor that cannot be ignored. A well organized and clean treatment rooms not only boosts confidence amongst patients but also provides a healing environment.

According to Global Pre-meds (2014), an exemplary physiotherapist is required to exhibit among other skills and personality traits, excellent communication skills, teamwork, good relationship with patients and their families, psychological skills, interpersonal skills and disease-specific skills. Skills have been associated with patient trust and the positive image of the facility offering physical therapy (Ramili &

Sijahrudin, 2015; Sarwono, 2013). In order to enhance service delivery in physiotherapy unit, several guidelines tailored towards the needs of the patient have been developed. Ambrosino et al. (2012) posit that a prolonged hospital stay among critically ill patients which is occasioned by acute insult and adverse side effects of drug therapy causes severe late complications like poor-health related quality of life, mood swings, prolonged symptoms, and muscle weakness. Physiotherapy treatment and rehabilitation protocol in medical and surgical intensive care units therefore essentially focuses on improvement of short- and in some cases long-term patient care. A treatment and rehabilitation protocol is a plan which gives a detailed description of the course of treatment that is to be utilized in the surgical procedures (Fowler Kennedy Sport Medicine Clinic, 2015). Therefore, this study examined the factors influencing perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.

1.2 Statement of the Problem

Physiotherapy is recognized as an important intervention in various disease complications. Physiotherapy has for instance been associated with treatment of pre-operative and post-operative lung complications Caveraghi et al. (2009) improvement of sexuality of patients with rheumatic diseases Beata and Maria, (2017) prevention and treatment of type 2 diabetes including diabetic foot syndrome Karpinska et al., (2018) intervention in Parkinson's disease Tomlison et al., (2012); and interventions for ankylosing spondylitis (Dagfinrud et al., 2006).

In physiotherapy, there are not many studies that assess patient satisfaction and they are overwhelmingly quantitative and questionnaire based (Kidd et al., 2011). Nevertheless, perceived quality of physiotherapy services has been recognized to be dependent on a range of constructs among them; the manner in which information

about care is recorded and used for evaluation purposes, and the way diverse needs of different stakeholders are taken care of. It is postulated that an understanding of such constructs is bound to enhance competitiveness, consistency and effectiveness in physiotherapy services (Grimmer et al., 2000). The MTRH in recognition of the need for quality physiotherapy services, has invested widely in equipment such as transcutaneous nerve stimulator, shortwave diathermy, traction machines, treadmills, and quadriceps bench among others, the hospital has not achieved tremendous output in service delivery that measures up with resources invested in it, therefore a gap exists which needs an in-depth analysis.

In Strength, Weakness, Opportunities, and Threats analysis of the internal realities, it was noted that there was shortage of some specialized skills e.g. pediatric physiotherapy, geriatric physiotherapy, sports physiotherapy among others. These are skills tailored towards specific group of patients which if embraced, the institution stands a chance to reap from this rare skills which are patient focused and play a critical role in service delivery, (MTRH Strategic Plan 2017-2022). Moreover, several complaints were raised with regards to a lot of time wasted on the queue, lack of uniformity among physiotherapists when providing service and the level of auditory and visual privacy during sessions.

Evidence has shown that implementation of evidence-based practice (EBP), which would be expected to bring uniformity among physiotherapists in MTRH when handling patients has yet to be realized (Wanjiru et al., 2016). In such an environment, service delivery is compromised since uniformity in recording information about care, and in handling different stakeholders may not be guaranteed. The question raised then is which factors influence perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.

1.3 Purpose of the study

The purpose of this study was to try and bridge the gap of physiotherapists in Moi Teaching and Referral Hospital not having a common point of reference when handling patients, by pointing out the critical factors which may be exploited in order to maximize physiotherapy healthcare services in the hospital.

1.4 Research Objectives

1.4.1 Broad Objective

The study sought to determine factors influencing perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.

1.4.2 Specific Objectives

- i. To analyze the influence of physiotherapist skills on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.
- ii. To establish the influence of rehabilitation protocols on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.
- iii. To examine the influence of space used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital
- iv. To determine the influence of equipment used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.

1.5 Research Questions

The study answered the following questions.

- i. What is the influence of physiotherapist skills on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital?
- ii. What is the influence of rehabilitation protocols on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital?
- iii. What is the influence of space used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital?
- iv. What is the influence of equipment used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital?

1.6 Justification of the Study

Professionally, patients are treated with dignity and at-most respect ensuring access to services that prevent or treat the most common causes of illness. However, one weak pillar in this very complex system renders the other pillars ineffective. Health system with well-trained human resources, but persistent shortage of drugs cannot deliver effective care. Perceived high quality service, but customers cannot afford them means that they will not access/consume them when in need. Presence of free services in our facilities with persistent understaffing and unskilled personnel means that people will continue dying from preventable illnesses. Existing evidence shows variation in approaches used in provision of physiotherapy healthcare services across individual health units, regions and countries (Chaboyer et al., 2014).

In the Kenyan context, some public and private hospitals have adopted different physiotherapy tools to enhance physiotherapy healthcare services. The MTRH being a national referral hospital covering east and central Africa provides a wider platform to evaluate physiotherapy settings from patients' point of view. Physiotherapy healthcare services when fully funded and implemented in an organization not only give desirable results but also impact positively on service delivery. Moreover, existing literature underscores the importance of structure, process and outcome in physiotherapy services (Taylor et al., 2011). The study findings will guide policy makers and enhance the use of physiotherapy tools to foster service delivery.

1.7 Limitations of the Study

This research was limited because of the tight rules instituted by the management in as far as patients' information is concerned. The institution employed the use of Information Security Management System (ISMS) whereby confidentiality is upheld as per ISO 27001-2013 guidelines. Moreover, setting up and equipping of physiotherapy as a unit is resource intensive which in one way or the other the institution might opt to implement them in phases e.g. setting up of an ultra-modern gym etc. Furthermore, COVID 19 pandemic posed great challenges because the ministry of health gave out health protocols to be followed and even encouraged patients with non life threatening conditions to stay at home.

1.8 Delimitations of the Study

This research was confined to Kenyan public Hospital, that is Moi Teaching and Referral Hospital, which offered all the primary healthcare services both to patients and other specialised referral cases, and provides good basis for the replication of research results in various healthcare facilities. .

1.9 Significance of the Study

The study is significant in the sense that it brings on board both patients and physiotherapy service providers' perception on quality of physiotherapy healthcare services received as well as interplay of various physiotherapy inputs the hospital management has put in place in a view to coming up with a common stance in as far as service delivery is concerned. The study findings not only informs the Moi Teaching and Referral Hospital policy makers on the need to invest in physiotherapy unit and maximize on its benefits but also make them understand existing strengths and weaknesses in the current physiotherapy settings. Furthermore, conception and theories in the study aids them to formulate recommendations that will make Moi Teaching and Referral Hospital achieve organizational objectives in line with 2017-2022 strategic plan. The research findings will not only help relevant agencies gain insight on the current state of physiotherapy, the role of physiotherapy in service delivery, existing and emerging physiotherapy-related challenges and their repercussions to the health sector but also have diverse significance in broadening knowledge scope on the applications of various physiotherapy inputs in physiotherapy practice.

1.10 Assumptions of the Study

The first assumption made was based on the willingness of respondents to participate in the study and secondly that the respondents (patients receiving physiotherapy healthcare services) provided honest and reliable responses. The study assumed that the sample size of 317 respondents who participated in the study were representative of the larger population of patients.

1.11 Operational Definition of Terms

- Physiotherapy:** According to the chartered society of Physiotherapy (2018), physiotherapy is a science-based process that adopts a ‘whole person’ dimension to health and well-being. In this study, physiotherapy is a branch of rehabilitative science which maximizes on patients abilities to achieve independence in activities of daily living.
- Skill:** This is an ability to do an activity or job well, especially when one has practiced it.(Cambridge University Press, 2021).In this study, physiotherapy skill/s are interventions that are more often than not used by physiotherapist when attending to patients.
- Rehabilitation protocols:** According to Illot et al. (2010), Protocols (standardization of practice) refer to evidence-based guidelines that directs service provider to a course of action in as far as service delivery is concerned. In this study, rehabilitation protocols translates to guidelines tailored to physiotherapy healthcare services.
- Space:** According to Bitner (1992), space relates to the physical factor that when systematically manipulated enhances patients’ action and service provision. However, physiotherapy space in this study refers to an opening whereby physiotherapists can execute their tasks with ease.
- Equipment:** A set of necessary tools for a particular purpose (Cambridge University Press, 2021). In this study, physiotherapy equipment are devices that are in physiotherapy unit that aid a physiotherapist achieve a certain professional task.
- Perceived quality healthcare services:** The concept of quality healthcare is perceived as the extent to which, health services given to individuals and populations bring out the desired health outcomes that are consistent with contemporary professional knowledge (WHO, 2018). However, in this study, it points out at the physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.
- Service Delivery:** It is a universal term that cuts across all sectors both private and

public whereby citizens expect delivery of services e.g. education, health, water, housing etc. (Apari & Eric, 2010). However, in this study, service delivery means factors that seeks to enhance the uptake of physiotherapy healthcare services by physiotherapy patients that meets their health needs and expectations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides results of literature review conducted for purposes of identifying potential philosophical paradigms, constructs and theoretical perspectives that the study can be underpinned. In this regard, the general review of literature is first conducted with a view of understanding the key variables under study namely; the concept of perceived quality of physiotherapy healthcare services, skills set in physiotherapy practice, treatment and rehabilitation protocols in physiotherapy, space in the context of physiotherapy healthcare services, and equipment in physiotherapy. The chapter also examines potential philosophical underpinnings relevant for the study. A critique of existing empirical studies is done in order to identify potential gaps, prior to coming up with a fitting conceptual framework.

2.2 Perceived Quality Physiotherapy Healthcare Services

The concept of quality healthcare is perceived as the extent to which, health services given to individuals and populations bring out the desired health outcomes that are consistent with contemporary professional knowledge (WHO, 2018). According to Gosselink et al. (2018), the basis for provision of physiotherapy interventions used in intensive care units have clearly been developed. Nevertheless, existing evidence shows variation in approaches used in provision of physiotherapy service across individual health units, regions and countries (Chaboyer et al., 2014). This has therefore led to a clamor for an optimal approach to physiotherapy health care service provision which can improve patient outcome (Gosselink et al., 2018). Existing literature underscores the importance of structure, process and outcome in

physiotherapy services (Taylor et al., 2011). Taylor et al. (2011) postulate that these elements are critical facets in the evaluation and improvement of the perceived quality of physiotherapy healthcare services. Consequently, it becomes imperative for physiotherapists to consider each of these perspectives in the course of their service in order to meet stakeholder expectations and desires. Maddison (2014) contends that quality structures in the context of physiotherapy healthcare refer to the physiotherapy service provision environment which includes safety and appropriateness of physical facilities, waiting time, staff competency, staff-patient ratio, flexibility and adequacy in appointments; and timely communication. Meanwhile, perceived quality outcomes have emerged as key elements in physiotherapy healthcare, and relate to use of valid and reliable measures which reflect needs of stakeholders, and approaches to monitor costs (Maddison, 2014). Some of these measures include diagnosis, clinical risk management and interaction effects. The study sought to be consistent with existing studies in measuring perceived quality of physiotherapy healthcare, by considering quality in structures, processes and outcomes in physiotherapy service provision at MTRH.

2.3 Quality of Structures in Physiotherapy Practice

Quality structures are recognized as key elements in the provision of perceived quality physiotherapy healthcare services and are catered for in several standards for physiotherapy practices. According to the Australian physiotherapy Association (APA, 2011), the physical environment which encompasses facilities, equipment, and infection control needs to guarantee safety and professionalism to patients. Physiotherapy Alberta College Association (PACA, 2017) underscores the importance of safety and professionalism standards in physiotherapy practice. The association argues that a quality physiotherapy environment requires promoting and

maintaining safety for clients, physiotherapists, health care providers and others. According to APA (2011), delivery of safe, effective and professional services is dependent upon the physical environment of the health facility delivering the service. The APA segments the environment into the internal and external practice environments. Whereas the external environment relates to aspects such as parking, steps, entrance and signage which should be in a condition for safe negotiation by clients, staff and others, the APA identifies the internal environment as the overall practice amenity including fixtures and fittings all of which should be clean and safe (APA, 2011).

2.4 Quality Processes in physiotherapy Practice

The process of care is also viewed to be an integral part of the provision of quality in physiotherapy service (Donabedian, 2015). According to Donabedian, the operating assumption should take cognition of the process of medical care as opposed to the power of the technology used to realize results. Donabedian (2015) argues that quality medical care need to give consideration to aspects such as physical examination and diagnostic tests, completeness and redundancy in the information sourced from previous clinical history, appropriateness, justification of diagnosis and treatment, evidence of health and illness preventive management, acceptability of care to recipients, technical competence in diagnosis and performance of therapeutic procedures, coordination and continuity of care and so on. Positive communication is identified as an element of quality processes (Amoudi et al., 2017).

According to Amoudi et al. (2017), the physiotherapist has the onus of maintaining daily communication with patients, their families and friends, equipment vendors, third party stakeholders and other professionals in healthcare. Barringer and Gold (1998) aver that communication in the physiotherapy process brings on board use of

auditory, visual and kinesthetic channels in sending and receiving messages, thoughts, emotions and information. Consequently, effective communication taken as a process has potential to occasion efficient and optimal physiotherapy care to patients. Batalden (2006) adds that understanding how things work is the only sure way change can be realized. The Agency for Healthcare Research and Quality (AHRQ) as cited in Byrne (2013) identifies the patient as the main lever upon which healthcare processes should be improved. Fillingham (2018) identifies technical competence, coordination, flow of information and staff morale as key pillars. For the purposes of this study, process quality as measured via physiotherapy patients perceptions, focused on physical examination and diagnostic tests, technical competence, information flow, therapeutic procedures, continuity of care, health and illness preventive management.

2.5 Outcome Measures in Physiotherapy Services

Use of outcome measures as a means of monitoring the status of health among patients is perceived from the physiotherapy perspective as good practice (Glasziou et al., 2015). It is argued that use of outcome measures provides professionals with the feedback on the impact of intervention which is used to improve patient care and communication (Hammond, 2000). The emerging dimensions of outcome measures e.g. Numeric Pain Rating Scale (NPRS), Sunnybrook Facial Grading System (SFGS) are some of the Patient Reported Outcome Measures (PROMs) that are gaining prominence among clinicians, and is being viewed as the cornerstone of modern healthcare delivery (Black, 2013). According to the Food and Drug Administration (FDA, 2009), PROMs are reports detailing patients' health conditions, and which are derived directly from the patients themselves. It is argued that use of PROMs brings to the fore the patient's voice in aspects of care, ensuring therefore that healthcare services remains patient centered (Sloan et al., 2007). Fayers and Machin (2007)

contend that PROMs are particularly critical in the capture of patient's own perceptions regarding the impact of the condition and its treatment protocols on them. Consequently, a category of PROMs specifically assesses the health related quality of life encompassing aspects such as mental, social and physical. On the other hand; another category of PROMs examines single dimensions of health for instance physical activity (Fayers & Macton, 2007). It is noted that PROMs are gaining more traction in physiotherapy where for instance, they are being employed to give evidence of the perceived quality of care offered by physiotherapists alongside other metrics of patient experience and safety (CSP, 2012).

2.6 Skills in Physiotherapy Practice

Several skills have been identified which forms the integral part in the practice of physiotherapy. According to Global Pre-meds (2014), an exemplary physiotherapist is required to exhibit among other skills and personality traits, excellent communication skills, teamwork, good relationship with patients and their families, psychological skills, interpersonal skills and disease-specific skills. Skills have been associated with patient trust and the positive image of the institutions offering physical therapy (Ramili & Sijahrudin, 2015; Sarwono, 2013).

2.6.1 Patient Rapport / Communication Skills in Physiotherapy Practice

Effective communication is recognized as a vital skill that clinicians require in practice in their desire to enhance the quality and efficiency of care (Mauksch et al., 2018). Moreover, it is argued that the quality of therapeutic alliances is the pivot upon which therapeutic outcomes in management of chronic disease hinges (Ferreira et al., 2009; Hall et al., 2010). Pinto et al. (2012) acknowledge that the manner of communication between clinicians and patients, partly determines the quality of therapeutic alliance between clinicians and patients. Hills and Kitchen (2007) aver

that communication skills elicited by healthcare givers influences the perceived quality-of-care patients receive, the satisfaction they attain from the service rendered, and their safety. Woodward – Kron et al. (2012) posit that the nature of most physiotherapy interventions is long term thereby making communication skill to be critical to therapeutic relationships between patients and physiotherapists. Successful practice in physiotherapy is reportedly pegged upon the ability to listen, respond and relay information in a clear, sensitive and considerate manner (Laidlaw et al., 2014).

2.6.2 Psychological Skills in Physiotherapy Practice

Patient psychological being is fast gaining recognition as a central element of physiotherapy provision, and is even specified in the WHO guidelines (Alexanders & Douglas, 2016). The World Health Organization in conjunction with the International Classification of Function, Disability and Health (ICF) point out that, psychosocial factors that relates to patient's experience of pain, are in a position to explain why some patients fail to make full recovery (WHO, 2001). WHO (2001) posits that pain is a subjective experience that requires professionals to focus more on a bio-psychosocial treatment perspective. Under such a bio-psychosocial model, Knuth et al. (2018) observes that biological factors associated with the disease, condition or injury are recognized alongside psychological factors such as feelings, thoughts and behavior; as well as social factors like socio-demographics and social support. The extant literature confirms that physiotherapists through their training are in a privileged position to assay risk against safety in human movement and can be handy in reducing disability in conditions of persistent pain (Pincus et al., 2013). Pincus et al. (2013) contend that physiotherapists act as the link between the often-used biomedical models with psychosocial models and in so doing are able to provide advice and reassurance to patients while demystifying unhealthy behavior and beliefs.

2.6.3 Team working Skills in Physiotherapy Practice

Team working is perceived as a critical aspect of physiotherapy practice irrespective of the setting and role (Dale, 2018). Physiotherapists and staff from other cadres within and without work in collaboration and cooperation on a daily basis. Such collaboration and cooperation allows physiotherapists to share responsibility and work put together individual contribution, experiences and skills while aspiring to offer safe and perceived quality services to patients (Dale, 2018). Mitchell et al. (2018) argue that a comprehensive approach to patient care which brings on board all relevant healthcare professionals yields better outcomes. Mitchell et al. (2018) asserts that collaboration in work enables professionals to learn, generate innovative ideas, and map out prognosis that optimizes cost effective patient outcomes.

According to Cohen and Mohman (2015), a team relates to a collection of individuals who combine working acumen to deliver service or produce products that they are mutually held accountable (Mohman et al., 2015). They further posit that the team shares goals which are manifested in the cordial and mutual interaction among members, and the independent and accountable roles that each professional plays. Teamwork in healthcare therefore essentially uses enhanced communication and collaborative practices to widen the scope of the roles of health workers, and to empower them to work towards the same goal by making decisions as a single unit (Manser et al., 2009).

2.6.4 Disease-Specific Skills in Physiotherapy Practice

Knowledge and skills required in physiotherapy management of a variety of conditions have been identified. Ashburn et al. (2014), focused on physiotherapy management of persons with Parkinson's disease and established that physiotherapist needed to have skills of working in a multidisciplinary context to best manage

patients with Parkinson's disease. They were however required to possess disease-specific skills in upright mobility (Gait), transfers (inclusive of bed mobility), posture (inclusive of limits movement) and balance. Disease specific skills among physiotherapists have also been explored from the peripheral arterial disease perspective (Willingendael et al., 2015). Willingendael et al. (2015) posit that physiotherapists handling peripheral arterial disease patients would do well to offer supervised exercise therapy (ET). In order to do so effectively, physiotherapists ought to optimize their current knowledge and skills, be in possession of exercise therapy screening skills and be in a position to participate in inter-professional patient information system exchange.

In the context of advanced musculoskeletal physiotherapy, it is acknowledged that variances exist in the design of organizations and operation of Advanced Practice physiotherapists (APP) Services (Fenneely et al., 2018). For this reason, physiotherapists ought to undertake additional formal training and conduct continuous evaluation capturing patient outcomes. Moreover, from the foregoing discussion on skills in physiotherapy practice, it becomes apparent that the skills set among physiotherapists are bound to have an impact on the perceived quality of physiotherapy health care services offered at Moi Teaching and Referral Hospital. The study therefore sought to explore patients perceptions on physiotherapist's skills and how such skills guaranteed the perceived quality of physiotherapy healthcare services they receive at Moi Teaching and Referral Hospital.

2.7 Physiotherapy Treatment and Rehabilitation Protocol

Ambrosino et al. (2012) posit that a prolonged hospital stay among critically ill patients which is occasioned by acute insult and adverse side effects of drug therapy causes severe late complications like poor-health related quality of life, mood swings,

prolonged symptoms, and muscle weakness. Physiotherapy treatment and rehabilitation protocol in medical and surgical intensive care units therefore essentially focuses on improvement of short- and in some cases long-term patient care. A treatment and rehabilitation protocol is a plan which gives a detailed description of the course of treatment that is to be utilized in the surgical procedures (Fowler Kennedy Sport Medicine Clinic, 2015). Divergent treatment and rehabilitation protocols are identified according to the respective surgical procedures undertaken. Among the common procedures identified includes: musculoskeletal/orthopedics, cardiopulmonary, neurology, pediatrics, rheumatology, geriatrics pain, oncology and amputation. Under the musculoskeletal/orthopedic procedure for instance; artificial disc treatment guideline, cervical fusion treatment guideline, cervical laminoplasty/discectomy treatment guideline and kyphoplasty/vertebroplasty treatment guideline are discerned protocols used to address the cervical-thoracic condition (Advanced Orthopedics and Sports Medicine, n.d.).

The rehabilitation of mobility concerns is expected to be structured and address both short and long-term treatment goals. In view of the importance of treatment and rehabilitation protocols in physical therapy service provision, this study sought to explore from patients the various conditions they are suffering and the protocols used to treat and rehabilitate them in the context of the Moi Teaching and Referral Hospital.

2.7.1 Patient Assessment

Patient assessment is perceived as being at the heart of new patient- physiotherapy encounter. The American Physical Therapy Association (2014) reckons that patient assessment is the first component of the physiotherapy cycle. Ryerson (2018) defines neurological physiotherapy as a process which involves collection of information

pertaining to activity restrictions, disordered movement and underlying impairments, and societal participation. Bernhardt and Hill (2015), asserts that patient assessment informs the therapist the best intervention to adopt.

Patient assessment can in essence be viewed as a very critical step in the process of rehabilitation given its capability to provide information upon which decisions are made (Bernhardt & Hill, 2015). Cotswold physiotherapy (2020) argues that a comprehensive assessment on first consultation allows the physiotherapist to not only understand the structural source of the condition, but to also provide a diagnosis and appropriate plan for treatment. According to the American Physical Therapy Association (2014), patient assessment entails patient history, a systems review and tests and measures. The Association posits that a verbal interview is often used to bring out the patient history which allows formulation of hypotheses with regards to the condition.

2.7.2 Patient Mobilization

Mobilization is recognized as a physical activity performed particularly on patients with general body weakness, patients with global muscle wasting and critically ill patients to intensify improvement of functional outcomes (Needham et al., 2012); and bring about desired physiological change (Stiller, 2013). Early mobilization for instance is justified by studies which have associated long term Intensive Care Unit admissions with complications among a high proportion of survivors of Intensive Care Unit. Castro – Avila and others have for instance demonstrated that prolonged periods of inactivity and immobility occasioned by mild or critical illness correlates with physical de-conditioning, loss of function, fatigue, and a lower quality of life (Castro –Avila et al., 2015). Anekwe et al. (2019) through a combination of physical review and meta-analysis have shown that conducting early rehabilitation in the

wards and in Intensive Care Unit lowers chances of developing general muscle wasting and intensive care unit – acquired weakness (ICUAW) respectively.

2.8 Operational Space in Physiotherapy facilities

Operational space for physiotherapy practice is recognized as an important element of facility design (Reason, 1997). According to NHS Estates (2000), flexibility of functional spaces remains a key issue of space planning. The NHS Estates argues that space is required for a number of operational functions. For instance, space is required for equipment both when in use, and for storage when not in use. According to Bitner (1992), space relates to the physical factor that when systematically manipulated enhances client action and service provision.

2.8.1 Parking Space in Physiotherapy Facilities

Patient satisfaction is recognized as the extent to which patients discern the quality and realization of their needs and expectations (Debono & Travagha, 2009). Parking space is therefore viewed as one of the expectations of physiotherapy patients. It is argued that parking space should be located near to the entrance especially for persons with disabilities, and should be wide enough to accommodate independent wheelchair transfer (NHS, Estates, 2000). According to NHS, Parking spaces ought to be given adequate and clear signage, and consideration should be given to control any misuse of the spaces. Meanwhile, the area reserved for parking should be levelled or sloped, have sufficient width and an appropriate surface.

2.8.2 Entrance, Reception and Patients Waiting Bays in Physiotherapy Facilities

Spaces at the entrance, reception and waiting areas have also featured as important aspects in physiotherapy patients' satisfaction discourse. The NHS for instance recommends an entrance which is true, level access and which has wide, electronically operated, automatic doors. The entrance should be clearly marked with

a signpost and should have a two-way communication system for healthcare takers and patients to seek assistance as need may arise (NHS Estate, 2000). The NHS adds that the reception desk requires adequate illumination, and should be clearly signed. It ought to be low, open and friendly without giving any sense of physical or organizational barrier, and must provide for the needs of children and physically challenged people.

According to Ijeoma et al. (2019), patients are bound to be satisfied with a patient waiting area that is spacious and has a selection of chairs which can accommodate patients with varying conditions. According to the clinical establishment Act Standard for physiotherapy center (2010) reception waiting and consultation ought to be adequate as per the requirement and workload of the physiotherapy center.

2.8.3 Ancillary space in physiotherapy facilities

Ancillary area is the space which has been set aside as a staff room and space for storage of records, consumables, reagents, stationary etc. (Clinical Establishments Act Standards, 2010). According to the standards, such an area should be availed in line with the workload. The NHS Estate (2000) further reckons that physiotherapists need an office base for their clerical and administrative duties. This in essence implies that provision should be made for such an office whose size will depend on individual working situations. Meanwhile, spaces for actual physiotherapy service are expected to be provided for if the interventions are to succeed. Physiotherapy spaces have been identified to include patients changing facilities, gym, treatment rooms etc. (NHS Estate (2000). NHS Estate argues that patients require spacious and neat changing rooms, spacious gym and spacious treatment rooms that can boost their confidence.

2.9 Equipment in Physiotherapy

Physiotherapy is recognized as a branch of rehabilitation medicine where physiotherapists use a variety of devices and other forms of treatment to restore movement and function following illness, injury or disability (Nadinne, 2017). According to Weiss et al. (2010), choice of the specific device is often informed by factors such as disease type, segment of body affected, patients age, or associated pathologies.

Research shows that with emerging new technologies, physiotherapists are becoming more empowered to develop new technologies, or to modify existing technologies with a view of enhancing rehabilitation, monitor change, prevent decline or, maintain healthy living (Winstein & Requejo, 2015). Several equipment and technology for physiotherapy have been identified to address the diversity in patient groups. Among the typical technologies used includes; transcranial direct current stimulation (TDCS) for children with pediatric hemiparesis (Gillick et al., 2015); virtual reality for adults following stroke and developmental disorders in children (Gonsalves et al., 2015; Levin et al., 2015) and, body worn sensors for balance and gait rehabilitation (Horak et al., 2015) among others. Equipment such as reflex hammers or mallets, work tables, pivotal traction and perceptual & sensory devices have been identified. Despite the array of physiotherapy equipment and technology on offer, it is important that physiotherapists consider suitability, safety and condition in selecting whichever ones to use.

2.9.1 Suitability of Physiotherapy Equipment

Physiotherapists employ various types of equipment to treat different types of diseases and disabilities. Most of the equipment are used for easy and painless completion of daily tasks. Evidence shows that the suitability of equipment is pegged

on the various types of therapies employed (Akdogan & Adli, 2001,; Bagatell et al., 2010,; Harvey, 2016,; Myer et. al., 1997).

Akdogan and Adli (2011) for instance, points out that when the nature of physical therapy is to heal bones, disabilities and muscle disorder, then the suitable equipment would be exercise equipment such as exercise bikes, treadmills pedal exerciser or the Upper Body Ergometer (UBE) which is used specifically to strengthen and heal the upper body, shoulders and arms. Moreover, Kayhan (1995) asserts that different types of exercises are applied in varied circumstances. For instance, physiotherapists use passive range of motion exercises to restore flexibility and range of motion, patients perform resistive exercises for strength and muscle endurance while physiotherapist apply strength exercises to a patient for proprioception, coordination and agility. Bagatell et al. (2010) on the other hand posit that patients who desire to keep the body and spine in proper alignment during exercises would perhaps find the ergonomically designed balance ball and chair more suitable.

According to Bagatell and others, this chair assists in preventing muscle strains. It is argued that balance ball chairs are particularly useful for children with Autism Spectrum Disorders due to their dynamism which accords such children the opportunity to move actively and maintain optimal arousal levels (Schilling & Schwartz, 2014). This study therefore sought to establish using patient related outcomes, the suitability of equipment used for physiotherapy practice in the context of the Moi Teaching and Referral Hospital, and the impact it may have on the perceived quality of physiotherapy healthcare services offered.

2.9.2 Safety of Physiotherapy Equipment

Patient safety remains a concern among physiotherapists who even though practice demands that they be aware of patient safety on a daily basis, may not be in a position

to understand the scope of such a requirement (King & Anderson, 2010). The Canadian Patient Safety Institute (2003) perceives patient safety as a reduction and mitigation of acts in the health care system which are unsafe, and a use of best practices that can produce optimal patient outcomes. It is argued that many physiotherapists don't consider interventions used to have potential for harm to patients yet, it is accepted that they are not immune to error (Scheirton et al., 2007). King and Anderson (2010) underscore the need for physiotherapists to work in teams for patient safety. They argue that physiotherapists ought to treat patient safety as an integral part of the team's work, and seek to have a decision-making process which is interdependent.

Moreover, King and Anderson (2010) posit that physiotherapists must seek to nurture effective communication for the safety of patients. They contend that clear and accurate communication is a vital cog in provision of patient safety during treatment. The Canadian Patient Safety Institute (2003) further identifies ability to recognize, respond to, and disclose adverse events as a critical competency that physiotherapists ought to master. The argument advanced is that there is a need for physiotherapists to identify errors and be transparent about them in order to learn from their experiences. This study therefore sought to explore the status of patient safety as gathered through PROMs in the context of physiotherapy practice in Moi Teaching and Referral Hospital.

2.9.3 Maintenance of Physiotherapy Equipment

Maintenance of physiotherapy equipment is gaining more attention following changes in technology which has meant that equipment and machines needed in physiotherapy practice undergo many changes. Woodroffe (2010) notes that health service

provider's look to optimize use of health service assets such as facilities and health care equipment.

Nous Hospital Consultants (2002) agree that health institutions are important and handle dynamics of life and death when rendering services, meaning that equipment used must be effective. Various scholars have defined maintenance as all the technical and related administrative activities which are combined for purposes of keeping equipment, installations and other physical assets in the required operational condition, and/or restoring them to their initial condition (Pinteleon et al., 1997; Pinteleon & Van Puyvelde, 2006). Onifade (2003) meanwhile defines maintenance as an activity which uses increased reliability and availability to keep equipment in good working conditions, while reducing rates of failure.

It is argued that equipment failure in the middle of any physical therapy function may lead to disastrous results and hence, it significant to seek to maintain physical therapy equipment to make proper functioning of the equipment (Sezdi, 2016). Sezdi argues that a maintenance program which seeks to ascertain characteristics and failures of equipment in healthcare is an important element of technology management. Once again, this study sought to examine patients perception on the condition of equipment used during physiotherapy treatment.

2.10 Critique of Empirical Review of Literature

Various empirical studies in the existing literature have attempted to examine the effectiveness of an assortment of physiotherapy equipment in realizing perceived quality of physiotherapy healthcare services. MaurícioAntônio da Luz, Jr (2014) for instance analyzed how effective Mat Pilates or equipment based Pilate exercises were in treating patients suffering from chronic nonspecific low back pain. Using a 2-arm randomized controlled trial, conducted in a private physiotherapy clinic in Brazil, and

drawing upon 86 patients, these scholars concluded that mat Pilates were inferior to equipment based Pilates over the 6 month period of monitoring outcomes of disability and kinesio-phobia. Although the findings by Maurício Antônio da Luz, Jr (2014) adds important information in management of chronic non-specific low back pain, it is important to note that their study was conducted in the Brazilian context and focused on specific equipment. The study sought to replicate the study from the Kenyan context with a particular emphasis on the direct influence of equipment used on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital.

In another study, Robertson and Baker (2001) reviewed the effectiveness of therapeutic ultrasound. The study was motivated by the questionable effectiveness of ultrasound in treating musculoskeletal injuries, pain and soft tissue lesions. Using a systematic review of existing studies on randomized controlled trials, Robertson and Baker (2001) found little evidence to show that placebo ultrasound employed in the treatment of individuals with pain or a range of musculoskeletal injuries was less effective than active therapeutic ultrasound.

Nevertheless, having been conducted in 2001, the study by Robertson and Baker may not have reflected the emerging changes in technology. Besides, they concentrated more on only one type of equipment. The study sought to widen the scope of equipment in terms of suitability, safety and working conditions, and to examine the impact of such equipment on perceived quality of physiotherapy service provision in contemporary context.

Cadnum et al. (2015) explored the effectiveness of the hydrogen peroxide spray in decontaminating soft surfaces in hospitals. Using a survey of two hospitals, these scholars determined that improved hydrogen peroxide was an effective

decontaminator of soft surfaces. This is no doubt vital information for clinicians. However, Cadnum et al. (2015) focused generally on healthcare practice in hospitals. The study sought to replicate such a study but in a narrowed context of physiotherapy practice. In other previous studies focusing on equipment, Butler (1998) found out that targeted training which used specialized equipment was effective in promoting movement control and functional ability; Crowe and Bradley (1997) established that incentive spirometry employed alongside physical therapy, was no more effective in reducing atelectasis than post-operative physical therapy alone. These studies were conducted in the late 90s necessitating a re-look at equipment and physical therapy in the present day context.

Meanwhile, empirical studies have also underscored the importance of skills among physiotherapists. Adam et al. (2013) in assessing potential skills, knowledge and professional behavior expected of physiotherapists used a systematic search to identify skills in communication, knowledge of injury prevention and management, evaluation and self-reflection as critical attributes of a physiotherapist. Such findings are critical in designing physiotherapists' standards in various contexts.

However, Adam et al. (2013) fell short of documenting the direct impact of such skills, knowledge and behavior on quality of physiotherapy service offered. The study looked at this gap by examining the direct influence of skills on perceived quality of physiotherapy healthcare service provision in the context of the Moi Teaching and Referral Hospital.

Gunn and Goding (2009) conducted a qualitative study to explore perceptions, experiences and outcomes among physiotherapists about continuing professional development (CPD). Using eleven participants in a qualitative phenomenological study, Gunn and Goding (2009) concluded that CPD has an impact on clinical

practice. The authors in concluding this way attract attention towards continued nurturing of physiotherapists skills and competencies. Nonetheless, they do not provide evidence of the actual direct impact of continuing professional development on quality of service delivered. Besides, using only eleven participants may not have guaranteed generalizability of findings. The study therefore sought to use a causal approach that brings on board a wider sample, to explore direct impacts of skills acquired under continuing development on perceived quality of physiotherapy healthcare services.

2.11 Theoretical Framework

2.11.1 Customer Satisfaction Creation Model

Choice of Customer Satisfaction Creation model for the study was based on the understanding that perceived quality of physiotherapy healthcare services is anchored on patient expectations and experiences. Patients are driven to seek physiotherapy services from a specific facility if, they have the guarantee that the facility can supply the needed services in a cost-effective way. In addition, value proposition can be viewed in terms of skills, protocols and equipment equipment put in place in facilities offering physiotherapy healthcare services. While weekly achievements, relates to the positive progress relayed by the patients while receiving treatment.(Fig.2.1).

Figure 2.1:

Customer Satisfaction Creation model

Source: Thomassen (2007)

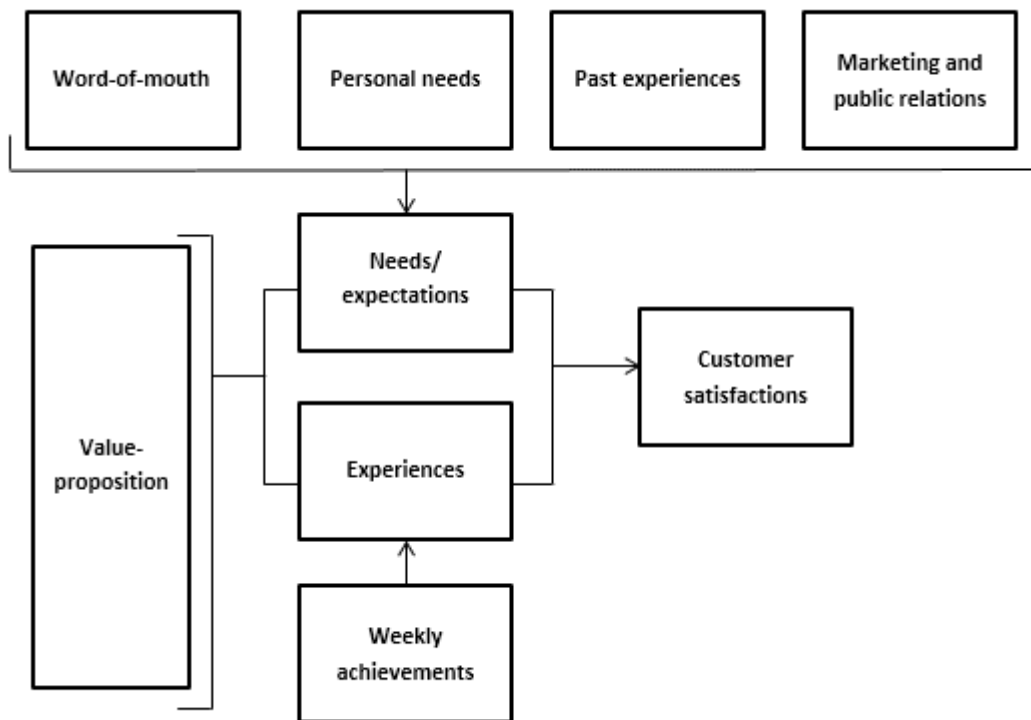
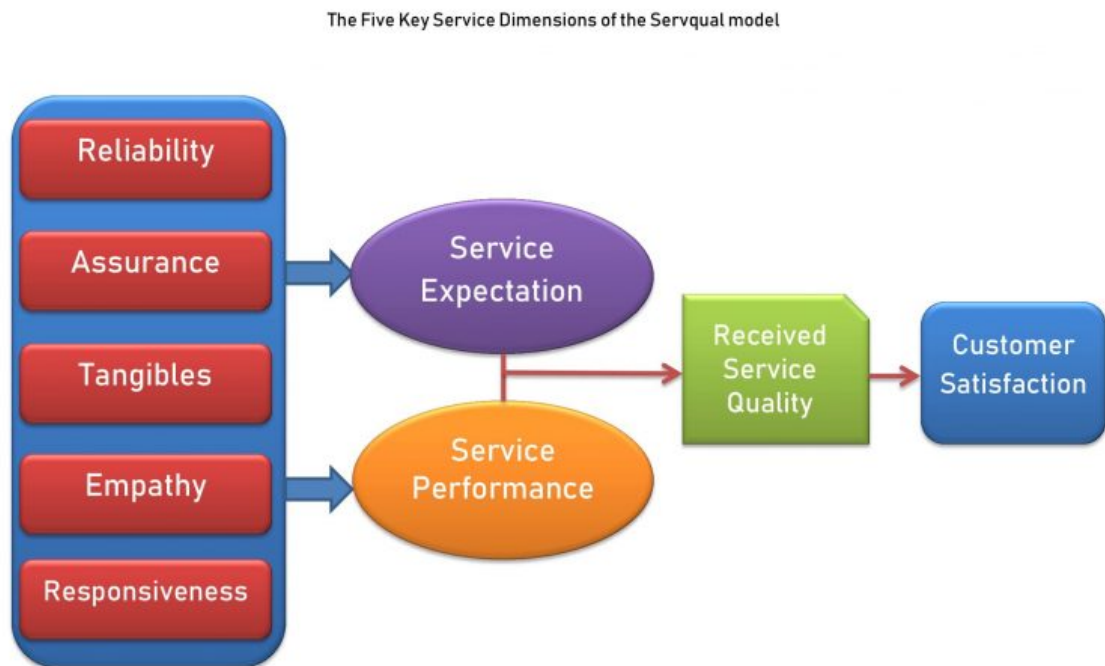


Figure 2.2:

Service Model



The study was also anchored on the SERVQUAL model. The SERVQUAL instrument is based on the gap theory (Parasuraman et al., 1985), which contends that a customer's impression of service quality depends on the discrepancy between what they anticipate from a service encounter and how they perceive it. The outcomes of the SERVQUAL instrument's initial published application by Parasuraman et. al. (1988) claimed that across a range of services, five aspects of service quality developed. These characteristics are certainty, responsiveness, tangibles, and empathy. The hospital (MTRH) delivers the service correctly the first time and keeps its promises; responsiveness is the willingness or readiness of MTRH healthcare personnel to provide service that is the timely; tangibles are the results of the hospital's (MTRH) performance. appearance of MTRH personnel, or tools or equipment used to provide the service; assurance corresponds to the knowledge and courtesy of employees and their ability to inspire trust and confidence; and finally

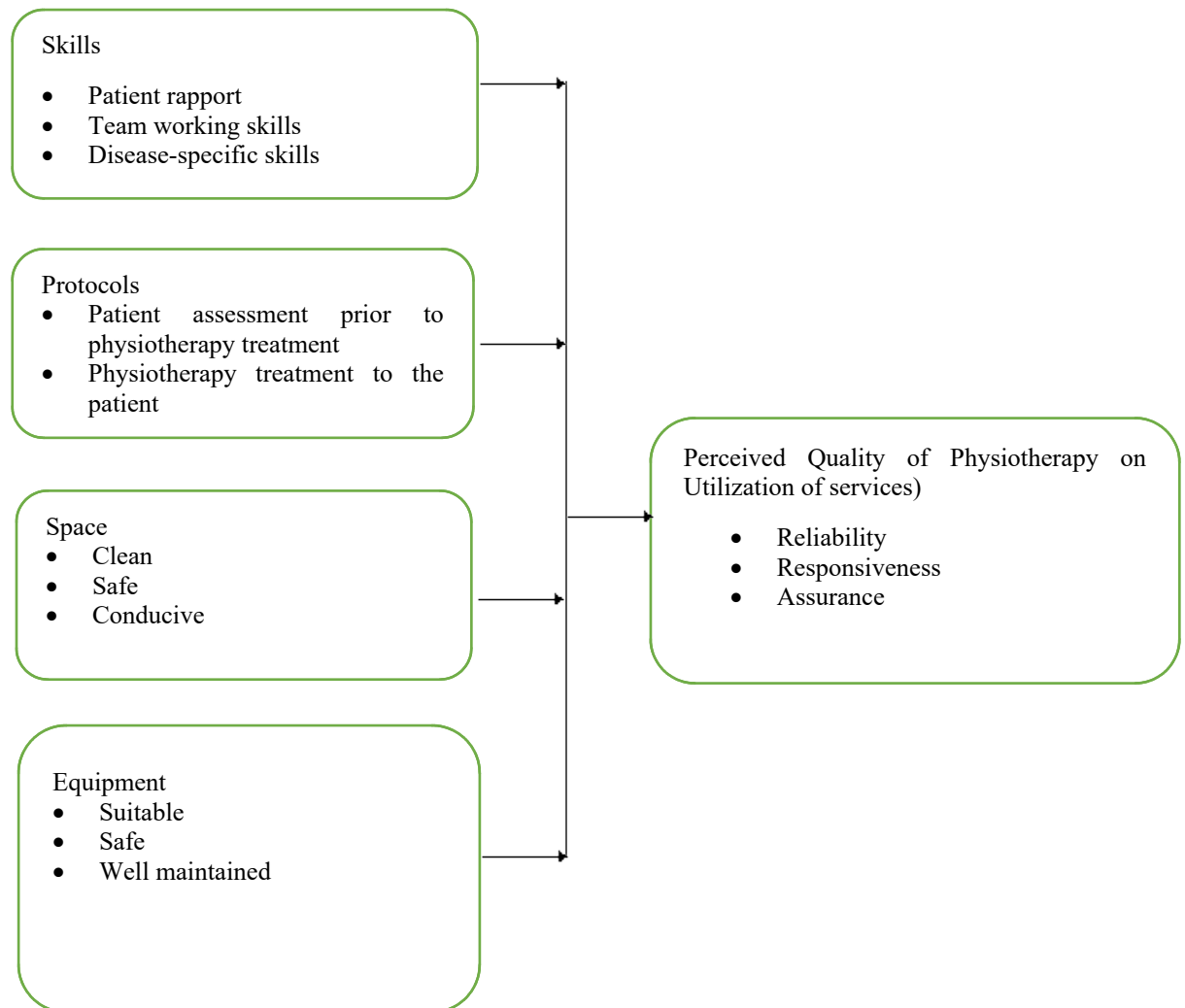
empathy which pertains to caring i.e. individualized attention that an organization provides to its customers.

2.12 Conceptual Framework

A review of existing literature identifies various parameters that are critical to physiotherapy practice. Alshehri et al. (2018) for instance, identify physiotherapist skills and knowledge as among the most potential factors that are likely to have an impact on physiotherapy healthcare services in the Saudi Arabian context. On the other hand, Standards for physiotherapy practices of the Australian Physiotherapy Association (APA), identifies availability of safe and appropriate equipment, together with a safe and professional practice environment as critical pillars in the provision of physiotherapy health services (APA, 2011). Moreover, Medina-Mirapeix et al. (2013) point out that quality of rehabilitation services is bound to influence patient perception on quality of service. On the basis of the foregoing evidence of potential antecedents of perceived quality physiotherapy practice, the researcher conceptualizes that perceived quality of healthcare services in Physiotherapy is a function of safe and appropriate equipment, space that guarantees a safe environment to practice, physiotherapist with requisite skills and knowledge, and quality rehabilitation protocols. The conceptual framework (Fig 2.3) is therefore a two variable conceptualization that postulates direct influence of the four independent variables (skills, rehabilitation protocols, space, and equipment) on the dependent variable (perceived quality of physiotherapy healthcare services).

Figure 2.3:

Conceptual framework of perceived quality of physiotherapy healthcare services utilization received by patients



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods that were employed in the study and consequently; identified the philosophy which informed the study; the suitable research design inherent in the chosen philosophy; the population that was targeted; the sample design in terms of sample size and sampling procedures adopted; instruments that were utilized in collecting data; validity and reliability of these instruments; data collection means ; functional meaning of the factors under study; analysis methods and other ethical and moral considerations that were noticed during the course of the study.

3.2. Research Philosophy

Research philosophy connects with belief and convictions about information which people hold (Baskarada & Koronios, 2018). These convictions which are generally known as ideal models have the ability to impact the favored plan for research (Kivunja & Kuyini, 2017). The review was anchored on the pragmatism research philosophy. Pragmatism emphasizes on actionable knowledge, recognition of the interlink between experience, knowing and acting and lastly inquiry as an experiential process. In seeking to establish factors influencing perceived quality of physiotherapy healthcare services received by patients at MRTTH, the study made the assumption that the factors were independently manipulated leading to diverse influence on perceived quality of physiotherapy healthcare services at Moi Teaching and Referral Hospital.

3.3. Research Design

The study adopted the cross-sectional descriptive research design. A descriptive study is a one-time research, or a review bound to a solitary time span (Kothari,

2014). The design was thought of as suitable for this study as it included gathering information at one particular moment and the researcher doesn't control the factors or organize the occasions that follow. Additionally, a descriptive study was selected as it allowed the researcher to capture specific points in time and this is in terms of patients receiving physiotherapy services.

3.4 Target Population

The study's target population as composed of of two target groups i.e. Patients (Inpatients, Outpatients) and healthcare workers to provide responses on the factors that affect perceived quality of physiotherapy healthcare services received by patients at the Moi Teaching and Referral Hospital. Kumar (2012) identifies a target population as a group for which the researcher wishes to draw generalization upon. Considering that the number of patients receiving physiotherapy services may not be determined in advance, the study used an accessible population of patients. Asiamah et al. (2017) defines an accessible population as a portion of the population to which the researcher has a reasonable access. Data accessed from the physiotherapy monthly report indicates that on average, 73 patients receive physiotherapy healthcare services daily. On the basis of the monthly statistics, the target population will therefore be 73 patients multiplied by 25 days of data collection=1825 both inpatients and outpatients. Furthermore, there are a total of 40 healthcare workers in physiotherapy unit at MTRH.

3.5 Study Sampling Method and Sample Size Computation

3.5.1 Study Sample Calculation

Rubin and Babbie (2009) argue that an ideal sample size is the basis of valid inferences and generalizations. Computation of sample size in this study employed the formula developed by Cochran in 1975 for infinite populations, together with its

corrected version for the finite population of 1825 patients (Singh & Masuku, 2014).

The sample size under infinite population (n_0) was given by:

$$n_0 = \frac{z^2 pq}{e^2}$$

Where;

n_0 is the sample size for an infinite population

p is the proportion of success which in this study was set at 0.5 in assuming a fifty-fifty scenario

z is the standardized score corresponding to 95% confidence interval which is equal to 1.96, and

e is the desired margin of error to be set at 5% in this study.

Therefore, the target population of this study being finite at 1825 patients receiving physiotherapy healthcare services, the following correction formula was invoked.

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

Where;

n is the desired corrected sample size

N is the target population which is 1825 patients in this case.

Thus;

$$\begin{aligned} n &= \frac{384}{1 + \frac{384}{1825}} \\ &= 317.28 \\ &\cong 317 \end{aligned}$$

The study therefore employed a sample size of 317 patients receiving physiotherapy healthcare services at Moi Teaching and Referral Hospital. Moreover, on the key informant interview respondents, there were a total of 40 healthcare workers in physiotherapy unit at the MTRH. According to Mugenda and Mugenda (2003), targeting a minimum of 30% of the population is necessary to make inferences and thus the study targeted total of 6 Key Informants who sectional heads.

3.5.2 Sampling Techniques

Purposive sampling followed by systematic sampling was then conducted in every sampling unit under study to identify the study units to be drawn from each of the sampling units. According to Sunil (2015), systematic sampling is a quasi-random sampling technique which involves selection of elements from an ordered sampling frame. Under this approach, every K^{th} element in the frame was selected for every sampling unit; K was computed using the formula $K = N/n$ (See Table 3.1). Where n is the required sample size for each sampling unit, and N is the target population for the sampling unit. Systematic sampling was deemed suitable for the study given that patients often maintain a continuous flow which makes use of simple random sampling technique difficult. Besides, the list of patients receiving physiotherapy healthcare services is normally ordered in terms of arrival as outpatient and severity as inpatient.

Table 3.1***Sampling Frame***

Sampling Unit	Target Population	Study Units	Kth element
Medical wards	320	55	5th
Pediatric wards	360	64	5th
Riley Mother Baby Hosp.	240	40	6th
Surgical wards Plus ICU	540	79	6th
Physiotherapy Outpatient unit	315	53	5th
Private wings (I & II)	150	26	5th
Total	1,825	317	

3.5.3 Inclusion Criteria

In this study, patients' participation was based on the following criteria; that the patient had read and understood the instructions before signing the consent form, that the patient willingly accepted to participate in the study, that the patient received physiotherapy treatment in any one of the six units in MTRH, that the visit fell within the twenty five (25) days designated for data collection.

3.5.4 Exclusion Criteria

The study did not include those participants that did not provide consent or were unwilling to participate in the study, patients on mechanical ventilation, patients who were not orientated in person, place and in time ere excluded to take part in the study.

3.6 Instrumentation

This study relied solely on primary data in the form of patient reported outcome measures (PROMs) elicited first hand from sampled physiotherapy patients. A physiotherapy patients' questionnaire was therefore the principal tool for data collection. Choice of the questionnaire as the main tool of data collection is due its known flexibility, versatility and cost effectiveness (Maor et al., 2014). The questionnaire was a self- administered questionnaire (SAQ) developed to comprise six sections. The first section sought data on demographic profile of patients receiving

physiotherapy healthcare services in Moi Teaching and Referral Hospital. This information included age, gender, marital status, education level, and occupation. The second section examined the skills set exhibited in the various aspects of physiotherapy, the third section sought information on the effectiveness of the various rehabilitation protocols, Section four focused on availability and suitability of spaces used in provision of physiotherapy services, and the fifth section sought information on availability and suitability of equipment used in physiotherapy health care service provision at Moi Teaching and Referral Hospital. The sixth and final section focused on information pertaining perceived quality of physiotherapy health care services which in the study, is conceptualized as the dependent variable.

To administer the questionnaires, the researcher utilized drop and pick method and enough time was provided to fill the questionnaire concisely. The study further used a key informant interview guide on the 6 key informants (sectional heads) in the physiotherapy units. The KII comprised of all the six sections as outlined in the Appendix IV.

3.7 Validity and Reliability of the Instruments

Accuracy and consistency of data collection instruments has been found to be a significant component of the research process (Hamed, 2016). Consequently, the questionnaire was tested for accuracy and consistency through validity and reliability checks.

3.8 Validity

Two types of legitimacy checks to be specific: face and content legitimacy were completed on the poll. Face legitimacy, most importantly, was utilized to approve the plan and construction of the survey. Neuman (2007) posits that face validity is judgment based on scientific approach that seeks to establish whether the tool is

suitably designed and structured. Under this validation approach, the researcher sought the opinion and assistance of assigned supervisors regarding the manner in which the questionnaire were structured, after which the content under each variable was examined. The researcher requested the supervisors and other physiotherapists to scrutinize the various items that were measured to ascertain whether the items covered the required content for each variable, and whether such content was justifiable in physiotherapy practice, and in existing literature.

3.9 Reliability

Reliability is seen as a proportion of how dependable or predictable an instrument is in estimating the variable under study (Neuman, 2007). Thus, the reliability of the physiotherapy patients' survey was found out by estimating inner consistency of the different things on the four autonomous factors and the reliant variable. The questionnaire was pretested on fifteen patients receiving physiotherapy healthcare services at the Kapsabet County Referral Hospital in Nandi county. The choice of Kapsabet County Referral Hospital for pretesting the questionnaire was based on the high number of patients attending the facility and on need to limit dangers to internal validity, for example, development, which could happen by presenting the survey to potential respondents when the Moi Educating and Reference Medical clinic is utilized for pretesting. The Cronbach's alpha dependability test for internal consistency was then used to inspect unwavering quality of every one of the five scales estimating the five variables. On the basis of recommendations by Hair et al. (2010), reliability coefficient equal or greater than 0.7 was interpreted to signify reliable scales.

Table 3.2:

Reliability Statistics

	No. of Items	Cronbach's Alpha
Overall	36	.770
Quality of Services	10	.610
Skills	5	.700
Rehabilitation protocols	5	.700
Space	10	.540
Equipment	6	.741

The Table 3.2 presents the reliability quality test utilizing the Cronbach Alpha. A cutoff value of 0.7 was picked for the review. Cronbach alpha worth of .770 acquired from the absolute things was viewed as sufficiently adequate because it provided a threshold of 0.7.

3.10 Data Collection Procedure

The researcher requested for consent from the head of department to collect data from the Inpatients and Outpatients receiving physiotherapy healthcare services and the assignment of the 6 key informants. The study relied on primary data collected from identified patients receiving physiotherapy healthcare services at the Moi Teaching and Referral Hospital. Questionnaires were developed for purposes of collecting data. On the actual data collection days, patients sampled were approached and requested to participate in filling the questionnaire by the researcher. The study administered 30 questionnaires daily for 25 days. Each questionnaire took a maximum of 15 minutes to fill. The researcher hung around to help in clarifying and/or help in any difficulties, and later on picked the completed questionnaires. The key informant interviews were conducted using key informant interview guide, after booking an appointment of 15 minutes each in the physiotherapy tea room with the 6 key informants (sectional heads) in the physiotherapy unit.

3.11 Operational Definition of Variables

Five estimation scales were utilized in the study in accordance with the four independent factors and the one dependable factor. The factors were characterized and operationalized as summed up in Table 3.3.

Table 3.3:

Variable Measurement

Variable	Type of Variable	Indicators	Scale
Skills	Independent	<ul style="list-style-type: none"> • Good time management • Tolerance and patience • Interpersonal skills • Team working skills • Building rapport 	Likert type
Protocols	Independent	<ul style="list-style-type: none"> • Patient assessment • Patient mobilization • Daily physiotherapy • Weekly rehabilitation 	Likert type
Space	Independent	<ul style="list-style-type: none"> • Clean • Safe • Conducive 	Likert type
Equipment	Independent	<ul style="list-style-type: none"> • Suitable • Safe • Well-maintained 	Likert type
Delivery of quality healthcare physiotherapy service	Dependent	<ul style="list-style-type: none"> • Electrotherapy • Soft tissue manipulation • Exercises • Mobilization 	Likert type

3.12 Data Analysis

Data was analyzed in compliance with the relevant steps in the data analysis process. First, quantitative data collected was coded and then entered in Statistical Package for Social Sciences (SPSS) Version 25. Scoring was done on all variables and total score

was cumulative of all individual scores. Qualitative data was analyzed thematically using content analysis technique for the KII. Qualitative data was then screened and cleaned for missing values and outliers. Descriptive statistics, and in particular means, standard deviations, were used to explore the distributions of demographic characteristics and the five key variables under study. The principal inferential statistic used in the analysis was bivariate and multiple regressions. The choice of multiple regressions for the analysis was based on the need to predict the perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital based on four potential predictors, making this approach more ideal. Prior to conducting the regression analysis, assumptions governing the running of multiple regression namely, independence of observations, normality, 1 correlation, and multicollinearity was tested (Hair et al., 2010). The hypothesized model was of the form

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where,

Y = Perceived quality of physiotherapy healthcare services

X₁ – Skills

X₂ = Protocols

X₃ – Space

X₄ = Equipment

β_{i1} = regression weights

ε = residual term

3.13 Ethical Considerations

Ethical approval was sought from the Science, Ethics and Research Committee of Kenya Methodist University. The study research permit as obtained from National Commission on Science Technology and Innovation (NACOSTI). Research approval was sought from the Moi Teaching Referral Hospital management to allow the researcher to collect data from patients receiving physiotherapy healthcare services in six units. In undertaking this study, the researcher took into consideration the rights and privileges of the participants, and pursued the required ethical considerations when conducting research of this nature. Through an introductory note, the researcher sought informed consent from the sampled physiotherapy inpatients and outpatients. The patients were given a guarantee of anonymity and confidentiality. Consequently, they were not required to share any information that could compromise their identity. Their identities in form of names and other personal details were not required. Moreover, the researcher took the responsibility of using the data gathered only within the scope of the study. Potential respondents were given the freedom to determine the time and circumstances under which data was gathered in order to guarantee their right to privacy. They also had the freedom of withdrawing from participation when they felt so.

CHAPTER FOUR
DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents analysis and interpretation of data collected from patients receiving physiotherapy healthcare services at MTRH. The primary data was collected using the questionnaire. The main objective of the study was to determine factors influencing perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital. A response rate of 100 was achieved as 317 questionnaires were well filled by the patients at the MTRH.

4.2 Socio-Demographic Factors

Table 4.1:

Socio-Demographic Factors

		Frequency	(%)
Age	Between 20-30 years	10	(3.2)
	Between 30-40 years	72	(22.7)
	Between 40-50 years	143	(45.1)
	More than 50 years	92	(29.0)
Gender of the respondents	Male [†]	120	(37.9)
	Female	197	(62.1)
Marital Status	Single	20	(6.3)
	Married	196	(61.8)
	Widowed/Divorced/Separated	101	(31.9)
Education Level	Primary level	68	(21.5)
	Secondary level	93	(29.3)
	College Level	121	(38.2)
	University	35	(11.0)
Occupation type	Jua kali artisan	6	(1.9)
	Farmer	53	(16.7)
	Businessperson	110	(34.7)
	Formal employment	120	(37.9)
	Student	28	(8.8)

Majority were aged between 40-50 years 143(45%) while a third were aged more than 50 years and most of them were females 197(62%). Probing on the marital status, it was noted that approximately 196(62%) indicated they were married while those who were either widowed/separated or divorced constituted a third of the total respondents 101(32%). On their education level they had attained, it was noted that 121(38%) had college level education and 93(29%) while a mere 35(11%) had university education level. It was noted that approximately 121(38%) and 110(35%) of the respondents indicated that they were formally employed and business people respectively.

Table 4.2:

Perceived Quality of Physiotherapy healthcare services and Sociodemographic Characteristics

		Age Bracket	Gender	Marital Status	Education Level	Occupation type	QoP
Age Bracket	Pearson Corr. Sig. (2- tailed)	1					
			.113				
Gender	Pearson Corr. Sig. (2- tailed)	-.089	1				
		.113					
Marital Status	Pearson Corr. Sig. (2- tailed)	-.028	-.027	1			
		.620	.632				
Education Level	Pearson Corr. Sig. (2- tailed)	-.013	.018	.027	1		
		.824	.754	.629			
Occupation type	Pearson Corr. Sig. (2- tailed)	.094	-.091	-.099	-.076	1	
		.096	.104	.077	.175		
QoP	Pearson Corr. Sig. (2- tailed)	-.081	.038	.033	.073	.011	1
		.152	.502	.555	.192	.839	

The Table 4.2 on correlation matrix indicates that sociodemographic characteristics of the respondents and perceived quality of physiotherapy healthcare services at MTRH did not have any relationship as they were very weak and non-significant.

4.3 Perceived Quality of Physiotherapy Healthcare services

The first query was to assess the perceived quality of physiotherapy healthcare services at MTRH and the responses are presented in the Table 4.3. The study utilized Likert Scale that ranged from 1-Strongly Disagree to 5-Strongly Agree. Generally, the results revealed that there were no differences among responses across all the parameters under investigation as indicated by the p value of <0.05 . Less than half of the respondents 133(41.7%) agreed that physiotherapy healthcare services at the study area were reliable (mean 3.61, SD 1.18). Nearly half of the respondents agreed that most of the HCWs working at physiotherapy unit in MTRH are always reliable (Mean 3.75; SD 1.25), they also agreed that the physiotherapy unit at MTRH is accessible (Mean 3.70; SD 1.13), and that HCWs working in physiotherapy unit at MTRH are always courteous and professional (Mean 3.50; SD .98). However, the respondents disagreed with all other statements e.g. that HCWs working in physiotherapy unit at MTRH always provide prompt services and feedback (Mean 2.69; SD .89), that the HCWs working in physiotherapy unit at MTRH are punctual (Mean 2.73; SD .89). Majority of the KIs indicated that they were reliable due to the patients assisted in the facility which was accessible. Most of the physiotherapy healthcare workers were found to be courteous and professional and this reflected the quality of care of physiotherapy service in MTRH.

Table 4.3:***Quality of Physiotherapy Services at MTRH***

	SD		D		N		A		SA		Mean	SD	x ²	P value
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%				
I always find physiotherapy services at MTRH reliable	59	18.6	58	18.3	68	21.5	109	34.4	23	7.3	3.61	1.18	59.64	0.01
Most of the HCWs working at physiotherapy unit MTRH are always reliable	60	18.9	91	28.7	61	19.2	77	24.3	28	8.8	3.75	1.25	34.97	0.01
The physiotherapy unit at MTRH is always open.	3	.9	51	16.1	109	34.4	131	41.3	23	7.3	3.37	.87	190.58	0.01
The HCWs working in physiotherapy unit at MTRH are punctual.	17	5.4	118	37.2	123	38.8	49	15.5	10	3.2	2.73	.89	185.25	0.01
HCWs working in physiotherapy unit at MTRH always provide prompt services and feedback	19	6.0	125	39.4	116	36.6	49	15.5	8	2.5	2.69	.89	186.26	0.01
HCWs working in physiotherapy unit at MTRH are always courteous and professional	7	2.2	50	15.8	77	24.3	141	44.5	42	13.2	3.50	.98	158.12	0.01
Physiotherapy unit at MTRH is accessible	16	5.0	39	12.3	50	15.8	132	41.6	79	24.9	3.70	1.13	211.89	0.01
Warning signs, contraindications and precautions are clearly displayed for patients in physiotherapy unit at MTRH	4	1.3	77	24.3	109	34.4	90	28.4	37	11.7	3.24	.99	113.52	0.01

Physiotherapy unit at MTRH has adequate physiotherapy to patient ratio	2	.6	66	20.8	127	40.1	95	30.0	27	8.5	3.30	.90	160.01	0.01
Patients recovering from physiotherapy treatment at MTRH are many	4	1.3	78	24.6	116	36.6	91	28.7	28	8.8	3.19	.95	134.43	0.01

The respondents were required to indicate their level of agreement or disagreement using a five-point Likert scale (1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree). Descriptive statistics including mean, standard deviation and coefficient of variation were calculated to rate their views. The range of every point in the scale is 0.8 $(5-1) \div 5$, therefore, 1 to 1.8 depicted strongly disagree, 1.81 to 2.6 disagree, 2.61 to 3.4 neutral, 3.41 to 4.2 agree, and 4.21 to 5 strongly agree. Physiotherapy department was always open as 154(48.6%) agreed (Mean 3.4; SD .87) though the HCWs were found to be late as 135(42.6%) disagreed that they were punctual (Mean 2.7; SD. 89) and further the HCWs did not provide prompt services and feedback all the time (Mean 2.7; SD .89) though the respondents indicated that the HCWs were courteous and professional (Mean 3.5; SD .98). Moreover, these findings corroborates what Australian physiotherapy Association (APA, 2011) that the aspects such as environment which encompasses facilities, equipment, and infection control cannot be undervalued. Physiotherapy Alberta College Association (PACA, 2017) underscores the importance of safety and professionalism standards in physiotherapy practice. The association argues that a quality physiotherapy environment requires promoting and maintaining safety for clients, physiotherapists, health care providers and others. The findings agreed with Amoudi et al. (2017) that Positive communication is identified as an element of quality processes and that the

physiotherapist has the onus of maintaining daily communication with patients, their families among others.

The respondents agreed that the physiotherapy unit was accessible as 211(65.5%) agreed (Mean 3.7; SD 1.13) as well as warning signs and precautions were well displayed 127(40.1%) (Mean 3.2; SD .90) at the facility while the same response was provided that the patient ratio was adequate (Mean 3.30; SD.87) though the respondents (116,36.6%) were neutral that the patients receiving physiotherapy healthcare services in the unit were many (Mean 3.19; SD .95). these findings agreed with the APA (2011) that delivery of safe, effective and professional services is dependent upon the physical environment such as stair cases, ramps etc. of the health facility delivering the service. On the issue of punctuality, 2 key informants representing 33.3% indicated that they were punctual as per their institution's policy and they further provided timely feedback to their patients. They further indicated that there was need of adding more auxiliary staff to supplement all the needs of the patients receiving physiotherapy healthcare services. Some of the key informants had the following to say;

"... the healthcare services offered here are reliable. Our staff handle the clients in a professional manner although we have a slight contradiction between the KII and clients about physiotherapy unit being always open and the schedule provided that ensured clients are attended to promptly ..."

"... we have received reports that the staff don't always provide prompt feedback. This is an area we are working on through constant reminders and scale up supervision, we hope this situation will improve. We have plans to increase the

number of auxiliary staff to supplement all the needs of the clients attending physiotherapy unit ...”

4.4 Physiotherapist Skills

The first objective was to analyze the influence of physiotherapist skills on perceived quality of physiotherapy healthcare services received by patients and the responses are presented in Table 4.4.

Table 4.4:

Physiotherapy Skills

	SD		D		N		A		SA		Mean	SD
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%		
Physiotherapists in MTRH have good interpersonal relationship.	3	0.9	36	11.4	130	41.0	124	39.1	24	7.6	3.41	.82
Physiotherapists in MTRH explain required procedures before treatment.	0	0.0	22	6.9	108	34.1	148	46.7	39	12.3	3.64	.78
Physiotherapists in MTRH attend to patients on time.	0	0.0	30	9.5	115	36.3	134	42.3	38	12.0	3.56	.82
Physiotherapists in MTRH work as a team.	7	2.2	31	9.8	97	30.6	123	38.8	59	18.6	3.61	.96
Physiotherapist in MTRH are well equipped with vast knowledge and professional skills.	0	0.0	5	1.6	63	19.9	151	47.6	98	30.9	4.07	.75

Most of the respondents agreed 148(46.7%) that physiotherapists at the facility had good interpersonal skills (Mean 3.41; SD .82) and the HCWs explained the required

procedures before the treatment to the patients for the informed consent 160(59%) (Mean 3.64; SD.780) and most respondents agreed 172(64.3%) that they were attended to in a timely manner (Mean 3.56; SD.82).It was established that the physiotherapists at the MTRH worked as team (Mean 3.61; SD .96) and the respondents agreed 249(78.5%) that the HCWs at the facility were well equipped with knowledge and professional competencies (Mean 4.07; SD .75). (Ramili & Sijahrudin, 2015; Sarwono, 2013) pointed that skills among the physiotherapists are critical and that excellent communication skills, teamwork, good relationship with patients and their families, psychological skills, interpersonal skill among other are needed and the findings agrees with them. The study agreed with Pinto et al. (2012) and Hills and Kitchen (2007) that manner of communication between clinicians and patients, partly determines the quality of therapeutic alliance between clinicians and patient. There was a general agreement among all KIs that they had good interpersonal skills explained the required procedures before the treatment to the patients for the informed consent and worked as team.

4.5 Rehabilitation Protocols

The second objective was to establish the influence of rehabilitation protocols on perceived quality of physiotherapy healthcare services received by patients at MTRH and the results are provided in the subsequent Table 4.5. Most of the respondents 182(57.4%) asserted that that physiotherapists at the MTRH assessed patients on the day of or either day following a procedure (Mean 3.48; SD .97) though the majority (136,42.9%) were neutral on the statement that patients at the facility were mobilized on the day of or day following surgery (Mean 3.11; SD .95) and they agreed (121,38.2%) to the statement that patients at the physiotherapy unit were provided

treatment of at least 30 minutes daily after successive surgery (Mean 3.27; SD .75) and this indicated satisfaction.

Table 4.5:

Rehabilitation Protocols

	SD		D		N		A		SA		Mean	SD	χ^2	P value
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%				
Physiotherapists in MTRH assess physiotherapy patients on the day of, or day following a procedure	8	2.5	49	15.5	78	24.6	145	45.7	37	11.7	3.48	.97	171.06	<0.01
Physiotherapy patients in MTRH are mobilized on the day of, or day following successful surgery	7	2.2	42	13.2	136	42.9	90	28.4	42	13.2	3.11	.95	158.91	<0.01
Physiotherapy patients receive daily physiotherapy treatment that should total at least 30 minutes daily after successful surgery	20	6.3	56	17.7	89	28.1	121	38.2	31	9.8	3.27	1.06	109.79	<0.01
Physiotherapy patients in MTRH receive ward program from physiotherapist until they achieve their goals	3	.9	34	10.7	84	26.5	149	47.0	47	14.8	3.04	.89	197.68	<0.01

Physiotherapists in MTRH review and share their assessment findings and rehabilitation plans with patients to enable clear communication	5	1.6	30	9.5	81	25.6	152	47.9	49	15.5	3.66	.90	203.36	<0.01
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These findings agree with the Bernhardt & Hill (2015) on patient assessment informs the therapist the best intervention to adopt as well as with Cotswold physiotherapy (2020) on the idea that comprehensive assessment on first consultation allows the physiotherapist to provide a diagnosis and appropriate plan for treatment. Probing if the patients at the facility received ward programs to achieve their goals, this was contrary to the expectations as they agreed on the statement 196(61.8%) (Mean 3.04; SD .89) though they agreed (201,63.4%) that the HCWs shared and reviewed their assessment findings of the patients and the subsequent rehabilitation plans for the patients to facilitate proper communication (Mean 3.66 SD .90) and these agreed with Anekwe et al. (2019) that physical review and meta-analysis have shown that conducting early rehabilitation in the wards. It was found that all the KIs indicated that they assessed patients on the day of or either day following a procedure and they mobilized patients at the facility on the day of or day following surgery. Majority of the KIs said that the patients at the physiotherapy unit were provided treatment of at least 30 minutes daily after successive surgery and as they worked as a team, they shared and reviewed their assessment findings of the patients and the subsequent rehabilitation plans for the patients to facilitate proper communication. One of the key informant had the following to say;

“... Staff always take time to explain to the client the required procedures before starting the treatment procedures ...”

“.....Staff always requests for clients’ informed consent after explaining the treatment procedures. In addition, I see the team working in a cohesive manner and the team spirit is always high ...”

4.6 Physiotherapy Space

The third objective of the study was to examine the influence of space used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at MTRH and findings on the variable are summarized in Table 4.6.

Table 4.6:

Physiotherapy Space

	SD		D		N		A		SA		Mean	SD
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%		
Physiotherapy unit at MTRH is accessible to all patients, and has ramps for Person with Disability	0	0.0	16	5.0	70	22.1	161	50.8	70	22.1	3.99	.79
Physiotherapy unit at MTRH has a smooth and wide entrance with a ramp for persons with disability	0	0.0	44	13.9	102	32.2	122	38.5	49	15.5	3.55	.91
Physiotherapy unit at MTRH has a well-established reception with a comfortable patient waiting bay	0	0.0	7	2.2	82	25.9	165	52.1	63	19.9	3.89	.73

Treatment rooms in physiotherapy unit at MTRH are clean with well- maintained floors	0	0.0	3	.9	66	20.8	167	52.7	81	25.6	4.02	.70
Treatment rooms in physiotherapy unit at MTRH have good ventilation and good lighting system	0	0.0	5	1.6	72	22.7	163	51.4	77	24.3	3.98	.73
Treatment rooms in physiotherapy unit at MTRH always have clean linen	4	1.3	37	11.7	117	36.9	124	39.1	34	10.7	3.46	.88
Treatment rooms in physiotherapy unit at MTRH have enough supply of consumables e.g. gloves.	6	1.9	44	13.9	123	38.8	119	37.5	25	7.9	3.35	.88
Exercise area(gymnasium) in physiotherapy unit at MTRH is spacious with a sink and a mirror in place.	5	1.6	47	14.8	142	44.8	111	35.0			3.24	.80

The respondents agreed 231(72.9%) that physiotherapy unit at the study site was accessible to all patients and ramps were available (Mean 3.99; SD .79) and the entrances to the unit were smooth and wide enough 171(54%) (Mean 3.55; SD.91) and the same response was obtained that the reception had comfortable waiting bay (228,72%) (Mean 3.89 SD .73) as well as the treatments rooms were clean and had well maintained floors 248(78.3%) (Mean 4.02; SD.70) and these findings concur with the Debono & Travagha,(2009) on the extent to which the space quality and aspect influence physiotherapy healthcare services. These findings were in line with

Mona et al. (2014) which states that; patient satisfaction is recognized as the extent to which patients discern the quality and realization of their needs and expectations. Probing on the ventilation conditions and lighting systems of the rooms, it was established that the respondents agreed 240(75.7%) that ventilation conditions and lighting systems were good (Mean 3.98; SD.73) and the same response was obtained that the treatment rooms had clean linen 158(49.8%) (Mean 3.46; SD.88) and further, supplies such as gloves were adequate enough (144, 45.4%) (Mean 3.4; SD .88) though they were neutral (142,44.8%) on the query that exercise areas were spacious enough (Mean 3.24; SD .80).

These findings concurred with the Ijeoma et al. (2019) who pointed that patients can only be satisfied with a patient waiting area that is spacious and has a selection of chairs which can accommodate patients with varying conditions. Four of the key informants representing 66.7% agreed with the other patients indicating that accessible to all patients and ramps were available, entrances to the unit were smooth and wide enough and the reception had comfortable waiting bay. One of the key informant representing 16.7% indicated that ventilation conditions and lighting systems of the rooms needed to be fitted with the modern systems to increase the quality of air and lighting. One of the key informant had the following to say;

“... generally, the treatment rooms in physiotherapy unit at MTRH always have clean linen and sufficient supply of consumables. However, there is need to bring on board clients who had contrary views by acting on their suggestions and thereafter administer questionnaires in a view to track down our progress as a unit in as far as quality is concerned. This boosts the client’s satisfaction levels ... “

4.7 Physiotherapy Equipment

The fourth objective was to examine the influence of equipment used during physiotherapy treatment on perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital and the responses are provided in Table 4.7.

Table 4.7:

Physiotherapy Equipment

	SD		D		N		A		SA		Mean	SD	χ^2	P value
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%				
I always find the equipment for the physiotherapy to be adequate	8	2.5	87	27.4	83	26.2	110	34.7	29	9.1	3.20	1.02	116.17	<0.01
I always find all the equipment in well working conditions			55	17.4	105	33.1	132	41.6	25	7.9	3.40	.86	88.03	<0.01
Whenever, there is an issue with an equipment it is always repaired without delay			60	18.9	134	42.3	100	31.5	23	7.3	3.27	.85	87.85	<0.01
The equipment used during physiotherapy treatment at MTRH are always fit for the intended treatment	1	.3	52	16.4	130	41.0	105	33.1	29	9.1	3.34	.87	179.38	<0.01

The equipment used in physiotherapy unit at MTRH are always serviced regularly	6	1.9	63	19.9	129	40.7	100	31.5	19	6.0	3.19	.89	172.06	<0.01
The equipment at the MTRH are always operational	5	1.6	52	16.4	118	37.2	116	36.6	26	8.2	3.33	.90	168.56	<0.01

It was established and agreed 139(43.8%) that they found equipment at the facility to be adequate (Mean 3.2; SD 1.02) and these equipment were in well working condition 157(49.5%) (Mean 3.4; SD 87) though they were neutral 100(31.5%) on the statement that equipment were repaired on time (Mean 3.2; SD 85) and they were found to be always in operation (Mean 3.3; SD .90) as indicated by 142(45%) of the respondents. These findings agreed with the Weiss et al. (2010), and Winstein and Requejo, (2015) who pointed out that specific device is often informed by factors such as disease type, segment of body affected etc. and new devices and technology empowers physiotherapists to enhance rehabilitation, monitor change, prevent decline or, maintain healthy living (Winstein & Requejo, 2015). The study was in line with Bagatell et al. (2010) on the suitability of the equipment used in the rehabilitation process of the patients. One key informant representing 16.7% cited that shortwave diathermy and Transcutaneous Nerve Stimulator at the facility needed urgent care and maintenance as they were some regularities in breakdown though most were found to be in working condition.

4.8 Correlation Matrix

The study tested if there existed any correlation among the study variable as presented in table 4.8.

Table 4.8:

Correlation Matrix

		QoP	P-Skills	P-Protocols	P-Space	P-Equipment
QoP	Rho	1				
	Sig. (2-tailed)					
P-Skills	Rho	.116*	1		-.025	-.042
	Sig. (2-tailed)	.039			.654	.458
P-Protocols	Rho	.102	-	1	-.026	.036
	Sig. (2-tailed)	.055 .069	.331		.648	.526
P-Space	Rho	.940*			1	.130*
	Sig. (2-tailed)	.004				.020
P-Equipment	Rho	.167**				1
	Sig. (2-tailed)	.003				

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

* . Correlation is significant at the 0.05 level (2-tailed).

The findings revealed positive and significant correlation between quality of service and equipment (rho=.167 p<0.05), physiotherapists skills (rho=.116 p<0.05) and space (rho=.940 p<0.05). However, the relationship between rehabilitation protocols and quality of physiotherapy service was positive but not significant (rho=.102 p=0.069).

4.9 Regression Model

The study used Multivariate linear regression analysis with the equation as shown.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where,

Y = Perceived quality of physiotherapy healthcare services

X₁ – Skills

X₂ = Protocols

X₃ – Space

X₄ = Equipment

$\beta_{i/s}$ = regression weights

ϵ = residual term

Likert Scales were scored for all variables and the results were presented in the subsequent tables and Two Stage Least Square Analysis was carried.

Table 4.9:

Model Summary

Model Summary		
Equation 1	Multiple R	.233
	R Square	.54
	Adjusted R Square	.42
	Std. Error of the Estimate	3.490

The coefficient of determination got from the model was .54 and this showed that the relapse model made sense of just 54% of the variables that impacted quality of physiotherapy healthcare services at MTRH. Accordingly, different elements that were not caught in the model made sense of 46% and this made sense of the f measurements which shows that the model was critical (fcal. p<0.05).

Table 4.10:

Analysis of variance

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	217.226	4	54.307	4.459	.002
	Residual	3800.105	312	12.180		
	Total	4017.331	316			

Table 4.11:***Coefficients***

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
	1 (Constant)	25.899	3.953		6.552	.000	18.121	33.677	
P-Skills	.224	.105	.117	2.125	.034	.017	.431	.995	1.005
P-Protocols	-.171	.091	-.103	-1.867	.063	-.350	.009	.995	1.005
P-Space	-.043	.089	-.027	-.490	.625	-.218	.131	.982	1.019
P-Equipment	.271	.084	.179	3.214	.001	.105	.437	.980	1.020

The coefficients Table 4.11 indicates that holding other factors constant, quality of physiotherapy healthcare services at MTRH is 25.9. A unit change in physiotherapy equipment led to .271 unit increase in quality of physiotherapy service compared to a .224 increase for a unit change in physiotherapy skills the HCWs had. A unit change in physiotherapy space led to .043 decrease in quality of physiotherapy service while a unit change in rehabilitation protocols led to a .171 decrease in quality of physiotherapy service at MTRH. Thus, the regression model becomes.

$$Y = \beta_0 + \beta_{ski}X_{ski} + \beta_{pro}X_{pro} + \beta_{sp}X_{sp} + \beta_{eq}X_{eq}$$

$$QoP = 25.9 + 0.224X_{ski} - 0.171X_{pro} - 0.043X_{sp} + 0.271X_{eq}$$

The regression model indicates that physiotherapists' skills and physiotherapy equipment had a positive influence of the overall quality of physiotherapy healthcare services at the MTRH and that increase in each parameter led to increase in the quality of physiotherapy healthcare services compared to rehabilitation protocols and space which had a negative influence that decrease in each led to decreased in quality of physiotherapy healthcare services.

Table 4.12:

Coefficient Correlations

		Coefficient Correlations			
		PSkills	PProto	PSpace	PEquip
Equation 1	Correlations				
	PSkills	1.000		.022	.037
	PProto	.054	1.000	.032	-.037
	PSpace			1.000	-.130
	PEquip				1.000

The Table 4.12 indicates that regression model coefficients were positive on physiotherapists skills, the rehabilitation protocols and the space where the physiotherapy services were provide though a negative coefficient was obtained between the physiotherapy equipments versus the space and the protocols in place.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section presents the summary, conclusion and recommendations of the study according to the objectives.

5.2 Summary of Findings

5.2.1 Perceived Quality of Physiotherapy Healthcare Services

Physiotherapy healthcare services at the study area were found to be reliable as well as the HCWs at the facility were reliable too. Physiotherapy department was always open though the HCWs were found not to be punctual. It was further established that the HCWs did not provide prompt services and feedback all the time. The respondents further indicated that the HCWs were courteous and professional. The respondents agreed that the physiotherapy unit was accessible as well as warning signs and precautions were well displayed at the facility while the same response was provided that the patient ratio was adequate though the respondents were neutral that the patients receiving physiotherapy healthcare services were many.

5.2.2 Physiotherapists' Skills

Most of the respondents agreed that physiotherapists at the facility had good interpersonal skills and the HCWs explained the required procedures before the treatment to the patients for the informed consent and the respondents indicated that they were attended to on a timely manner. It was established that the physiotherapists at the MTRH worked as a team and the respondents agreed that the HCWs at the facility were well equipped with knowledge and professional competencies.

5.2.3 Rehabilitation Protocol

It was established that physiotherapists at the MTRH assessed patients on the day of or either day following a procedure though the respondents were neutral on the statement that patients at the facility were mobilized on the day of or day following surgery and they were neutral to the statement that patients at the physiotherapy unit were provided treatment of at least 30 minutes daily after successive surgery and this indicated satisfaction. Probing if the patients at the facility received ward programs to

achieve their goals, this was contrary to the expectations as they were neutral on the statement though they agreed that the HCWs shared and reviewed their assessment findings of the patients and the subsequent rehabilitation plans for the patients to facilitate proper communication.

There was weak positive and significant correlation between quality of service and equipment as well as physiotherapists and a strong positive correlation existed between the quality of physiotherapy healthcare services and space while a weak positive correlation existed between the rehabilitation protocols and quality of physiotherapy healthcare services. Quality of physiotherapy healthcare services at MTRH was 25.9. A unit change in physiotherapy equipment led to .271 unit increase in perceived quality of physiotherapy healthcare services compared to a .224 increase for a unit change in physiotherapy skills the HCWs had. A unit change in physiotherapy space led to .043 decrease in perceived quality of physiotherapy healthcare service while a unit change in rehabilitation protocols led to a .171 decrease in perceived quality of physiotherapy healthcare services at MTRH.

5.2.4 Physiotherapy Space

Probing on the ventilation conditions and lighting systems of the rooms, it was established and the respondents cited that ventilation conditions and lighting systems were good and the same response was obtained that the treatment rooms had clean linen and further, supplies such as gloves were adequate enough though they were neutral on the query that exercise areas were spacious enough.

5.2.5 Physiotherapy Equipment

It was established and agreed that they found equipment at the facility to be adequate and this equipment were in well working status except for a few. They were neutral on the statement that equipment were repaired on time and they were found to be

always in operation. The respondents strongly agreed that physiotherapy unit at the study site was accessible to all patients and ramps were available and the entrances to the unit were smooth and wide enough and the same response was obtained that the reception had comfortable waiting bay as well the treatments rooms were clean and had well maintained floors.

5.3 Conclusions

5.3.1 Perceived Quality of Physiotherapy Healthcare Services

Physiotherapy healthcare services were reliable as well as the physiotherapists at the facility. The HCWs were found to be unpunctual and further thus did not provide prompt services and feedback all the time though the respondents indicated that the HCWs were courteous and professional. The physiotherapy unit was accessible and warning signs and precautions were well displayed at the facility while the same response was provided that the patient ratio was adequate though the respondents were neutral that the patients receiving physiotherapy healthcare services in MTRH were many.

5.3.2 Physiotherapists Skills

Physiotherapists at the MTRH assessed patients on the day of or either day following a procedure though neutral responses by the patients indicate that they were mobilized on the day of or day following surgery. The respondents were neutral to the statement that patients at the physiotherapy unit were provided treatment of at least 30 minutes daily after successive surgery and this indicated satisfaction.

5.3.3 Rehabilitation Protocols

It was noted that patients at the facility did not receive ward programs to achieve their goals though they agreed that the HCWs shared and reviewed their assessment findings of the patients and the subsequent rehabilitation plans for the patients to

facilitate proper communication. There was weak positive and significant correlation between quality of service , equipment physiotherapists skills and a strong positive correlation existed between the perceived quality of physiotherapy healthcare services and space while a weak positive correlation existed between the rehabilitation protocols and perceived quality of physiotherapy healthcare services.

5.3.4 Physiotherapy Space

The ventilation conditions and lighting systems of the rooms, it was established the respondents cited that ventilation conditions and lighting systems were good and the same response was obtained that the treatment rooms had clean linen and further, supplies such as gloves were adequate enough though they were neutral on the query that exercise areas were spacious enough. It was found that physiotherapists had good interpersonal skills and they explained the required procedures before the treatment to the patients for the informed consent and they attended to the patients on timely manner. Further, the physiotherapists at the MTRH worked as a team and the respondents agreed that the HCWs at the facility were well equipped with knowledge and professional competencies.

5.3.5 Physiotherapy Equipment

The equipment at the facility were found to be adequate and these equipment were in well working status though they were neutral on the statement that equipment were repaired without delays and timely and they were found to be always in operation. The physiotherapy unit at the MTRH was accessible to all patients and ramps were available and the entrances to the unit were smooth and wide enough and the same response was obtained that the reception had comfortable waiting bay as well the treatments rooms were clean and had well maintained floors.

5.4 Recommendations

Based on the general objective of determining factors influencing perceived quality of physiotherapy healthcare services in Moi Teaching and Referral Hospital alongside research findings, the following are the recommendations:

- i. The MTRH management should organize and/or facilitate continuous professional development for the physiotherapy staff to enhance their knowledge, skills and competences.
- ii. The management of MTRH, physiotherapy department should adopt the rehabilitation protocols both in the outpatient and inpatient units so that patients can have seamless service provision.
- iii. The MTRH management should provide enough space for physiotherapy unit as per the international standards to increase patient satisfaction on the perceived quality of the physiotherapy healthcare services at MTRH.
- iv. The MTRH management should develop a structured way of giving feedback to the patients receiving physiotherapy healthcare services in the unit be it in terms of progress notes of the patients, treatment and the various questions patients might ask while undergoing treatment. This will help keep track of patients' progress, reduce anxiety and boosts patients' satisfaction.

5.5 Areas for further Research

This study mainly focused on determining factors that influence perceived quality of physiotherapy healthcare services received by patients at MTRH but further research can be done on the highlighted areas below;

- i) The study can be applied in other fields that impact on service delivery either positively or negatively because perceived quality is not the sole factor influencing service delivery.

ii) In the near future, a study can be done with more or less the same hypotheses putting into consideration data ranges in relation to the element of time. The study can be longitudinal rather than cross-sectional study.

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APPENDICES

Appendix I: Informed Consent Form

Kenya Methodist University
Department of Health Systems Management

Dear Respondent

My name is Cheruiyot Kipkurui Davies, a Masters student from Kenya Methodist University pursuing a Master of Science in Health Systems Management. I am conducting research on “*factors influencing quality of physiotherapy health care services received by patients at Moi Teaching and Referral Hospital*”. You have been identified as a potential respondent to this study. Any information you give is purely for academic purposes and will be handled with utmost confidentiality. Through this note, I seek your informed consent to participate in the study. Please remember that you are free to decline. By appending your signature, informed consent will be assumed.

Procedure to be followed

Participation in this study will require that I ask you some questions. I will record the information from you in a questionnaire check list. You have the right to either accept or decline participation in this study. You will not be penalized nor victimized for not joining the study and your decision will not be used against you nor affect you at your place of employment.

Please remember that participation in the study is voluntary. You may ask questions related to the study at any time. You may decline to respond to any questions and you may stop an interview at any time. You may also stop being in the study at any time without any consequences to the services you are rendering.

Discomforts and risks.

Some of the questions you will be asked are on intimate subject and may be embarrassing or make you uncomfortable. If this happens; you may refuse to answer if you choose. You may also stop the interview at any time. The interview may take about 15 minutes to complete.

Benefits

If you participate in this study you will help us to strengthen service utilization of *physiotherapy health care services received by patients at Moi Teaching and Referral Hospital* in Kenya and other Low-in- come countries in Africa. This research is

critical to strengthening service delivery as it will generate new knowledge in this area of burden of service and quality of care that will inform decision makers to make decisions that are research based.

Rewards

There is no reward for anyone who chooses to participate in the study.

Confidentiality

Your name will not be recorded on the questionnaire and the questionnaires will be kept in a safe place at the University.

Participant’s Statement

The above statement regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will not be victimized at my place of work whether I decide to leave the study or not and my decision will not affect the way I am treated at my work place.

Name of Participant:**Date**.....**Signature**.....

Investigator’s Statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and the benefits involved.

Name of Interviewer

Date..... **Interviewer**.....**Signature**.....

Contacts

In case you have any questions, you are free to contact the following;

	Email	Contacts	
Prof. Wanja Mwaura-Tenambergen	wanja.tenambergen@gmail.com	0726678020	Supervisor
Dr. Carolyne Kawila	bettykawila@gmail.com	0721612745	Supervisor
Cheruiyot Kipkurui Davies	daviescheruiyot1981@gmail.com	0720357465	Chief Investigator

Appendix II: Patient Questionnaire

PHYSIOTHERAPY PATIENT QUESTIONNAIRE

Please tick or fill in the blank spaces as appropriate

Section A: Socio-Demographic Characteristics

1. Age.

2. Gender: Male: Female: Other (specify)

3. Marital Status: Married Single Widowed Divorced

Separated

4. Education Level: Primary Secondary: College University

5. Occupation:

Jua kali

Farmer

Business

Formal

Student

Other(specify) _____

Please tick the extent to which you agree with the following statements pertaining to equipment used during physiotherapy sessions. (Use the scale of 5-1 where 5=strongly agree (SA); 4=agree (A); 3= Neutral (N); 2=disagree (D) and 1=strongly disagree (SD))

Quality of physiotherapy

STATEMENT

Reliability

	SA	A	N	D	SD
I always find physiotherapy services at Moi Teaching and Referral Hospital reliable					
Most of the HCWs working in physiotherapy unit at Moi Teaching and Referral Hospital are always reliable					
Physiotherapy unit at Moi Teaching and Referral Hospital is always open					
HCWs working in physiotherapy unit at Moi Teaching and Referral Hospital are always punctual					
HCWs working in physiotherapy unit at Moi Teaching and Referral Hospital always provide prompt services					
HCWs working in physiotherapy unit at Moi Teaching and Referral Hospital always give prompt feedback					
HCWs working in physiotherapy unit at Moi Teaching and Referral Hospital are always courteous and professional					
Physiotherapy unit at Moi Teaching and Referral Hospital is always accessible					
Precautions and warning signs are clearly displayed for patients in physiotherapy unit at Moi Teaching and Referral Hospital					
Physiotherapy unit at Moi Teaching and Referral Hospital has adequate physiotherapist to patient ratio					
Patients recovering from physiotherapy treatment at Moi Teaching and Referral Hospital are many					

Section A: Physiotherapist Skills

	SA	A	N	D	SD
Physiotherapists in Moi Teaching and Referral Hospital have good interpersonal relationship					
Physiotherapists in Moi Teaching and Referral Hospital explain required procedures before treatment					

Physiotherapists in Moi Teaching and Referral Hospital attend to patients on time					
Physiotherapists in Moi Teaching and Referral Hospital work as a team					
Physiotherapists in Moi Teaching and Referral Hospital are well equipped with vast knowledge and professional skills					

Section B: Protocols

	SA	A	N	D	SD
Physiotherapists in Moi Teaching and Referral Hospital assess physiotherapy patients on the day of, or day following a procedure					
Physiotherapy patients in Moi Teaching and Referral Hospital are mobilized on the day of, or day following successful surgery					
Physiotherapy patients in Moi Teaching and Referral Hospital receive treatment that should take at least 30 minutes daily after successful surgery					
Physiotherapy patients in Moi Teaching and Referral Hospital receive ward and or home program from physiotherapists until they achieve their goals					
Physiotherapists in Moi Teaching and Referral Hospital review and share their assessment findings and rehabilitation plans with patients to enable clear communication					

Section C: Physiotherapy Space

	SA	A	N	D	SD
Physiotherapy unit at Moi Teaching and Referral Hospital is accessible to all patients, and has ramps for Person with Disability					
Physiotherapy unit at Moi Teaching and Referral Hospital has a smooth and wide entrance with a ramp for persons with disability					

Physiotherapy unit at Moi Teaching and Referral Hospital has a well -established reception with a comfortable patients waiting bay					
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital are clean with well- maintained floors					
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital have good ventilation and good lighting system					
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital always have clean linen					
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital have enough supply of consumables e.g. gloves.					
Exercise area(gymnasium) in physiotherapy unit at Moi Teaching and Referral Hospital is spacious with a sink and a mirror in place.					

Section D: Physiotherapy Equipment

STATEMENT

Suitability

	SA	A	N	D	SD
I always find equipment in physiotherapy unit in Moi Teaching and Referral Hospital suitable for the intended purpose					

Maintenance

	SA	A	N	D	SD
I always find all physiotherapy equipment in well working condition					
In cases of physiotherapy equipment break down in Moi Teaching and Referral Hospital, it is always repaired promptly					
Equipment used during physiotherapy treatment in Moi Teaching and Referral Hospital are always fit for the intended treatment					
Equipment used in physiotherapy unit in Moi Teaching and Referral Hospital are always serviced regularly					
Equipment in physiotherapy unit in Moi Teaching and Referral Hospital are always operational					

Section E: Physiotherapy Service Delivery

	SA	A	N	D	SD
Physiotherapy unit at Moi Teaching and Referral Hospital is accessible					
Warning signs, contraindications and precautions are clearly displayed for patients in physiotherapy unit at Moi Teaching and Referral Hospital					
Physiotherapy unit at Moi Teaching and Referral Hospital has adequate physiotherapy to patient ratio					
Patients recovering from physiotherapy treatment at Moi Teaching and Referral Hospital are many					

N/B You have come to the end of this session. Thank you for your patience.

Appendix III: Key Informant Guide

To what extent do you agree with the following statement on the various attributes of Physiotherapy unit at the MTRH?

Section A: Physiotherapist Skills

Physiotherapists in Moi Teaching and Referral Hospital have good interpersonal relationship
Physiotherapists in Moi Teaching and Referral Hospital explain required procedures before treatment
Physiotherapists in Moi Teaching and Referral Hospital attend to patients on time
Physiotherapists in Moi Teaching and Referral Hospital work as a team
Physiotherapists in Moi Teaching and Referral Hospital are equipped with vast knowledge and professional skills

Section B: Protocols

Physiotherapists in Moi Teaching and Referral Hospital assess all physiotherapy patients on the day of, or day following procedure
All physiotherapy patients in Moi Teaching and Referral Hospital are mobilized on the day of, or day following procedure
All physiotherapy patients receive daily physiotherapy treatment that should total at least 30 minutes daily after successful surgery
All physiotherapy patients in Moi Teaching and Referral receive ward and or home program from physiotherapist until they achieve their goals
Physiotherapists in Moi Teaching and Referral Hospital review and share their findings and rehabilitations plans with patients to enable clear communication

Section C: Physiotherapy Space

Physiotherapy unit at Moi Teaching and Referral Hospital is accessible to all patients, and has ramps for Person With Disability
Physiotherapy unit at Moi Teaching and Referral Hospital has a smooth and wide entrance with a ramp for persons with disability
Physiotherapy unit at Moi Teaching and Referral Hospital has a well -established reception with a comfortable patients waiting bay
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital are always clean with well- maintained floors
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital have good ventilation and good lighting system
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital always have clean linen
Treatment rooms in physiotherapy unit at Moi Teaching and Referral Hospital always have enough supply of consumables e.g. gloves
Exercise area(gymnasium) in physiotherapy unit at Moi Teaching and Referral Hospital is spacious with a sink and a mirror in place

Section D: Physiotherapy Equipment

STATEMENT

Equipment used during physiotherapy treatment at Moi Teaching and Referral Hospital are always fit for the intended treatment
Equipment used in physiotherapy unit at Moi Teaching and Referral Hospital are always serviced regularly
Equipment used in physiotherapy unit are repaired promptly whenever there is breakdown
Equipment familiarization in physiotherapy unit at Moi Teaching and Referral Hospital is always done to patients before starting treatment

APPENDIX IV: ETHICAL CLEARANCE LETTER



KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171

Fax: 254-64-30162
Email: deanrd@kemu.ac.ke

DIRECTORATE OF POSTGRADUATE STUDIES

August 13, 2021

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear sir/ Madam,

CHERUIYOT KIPKURUI DAVIES (HSM-3-1003-2/2019)

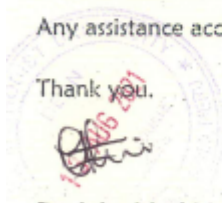
This is to confirm that the above named is a bona fide student of Kenya Methodist University, Department of Health Systems Management, undertaking a Degree of Master of Health Systems Management. He is conducting research on, 'Factors influencing perceived quality of physiotherapy healthcare services received by patients at Moi Teaching and Referral Hospital'.

We confirm that his research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a permit to enable him collect data for his research.

Any assistance accorded to him will be appreciated.

Thank you.



Dr. John Muchiri, Ph.D.
Director Postgraduate Studies
Cc: Dean SMHS
COD, HSM
Postgraduate Co-ordinator
Supervisors

APPENDIX V: NACOSTI LETTER OF AUTHORIZATION



NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 222147

Date of Issue: 26/August/2021

RESEARCH LICENSE

This is to Certify that Mr. Davies Kipkurui Cheruiyot of Kenya Methodist University, has been licensed to conduct research in Uasin-Gishu on the topic: Factors Influencing Perceived Quality of Physiotherapy Healthcare Services Received by Patients at Moi Teaching and Referral Hospital for the period ending : 26/August/2022.

License No: NACOSTI/P/21/12589

222147

Applicant Identification Number

Walter

Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION

Approved
1st ~~1st~~ *SEPTEMBER, 2021*
for COUNTY COMMISSIONER
UASIN GISHU COUNTY

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document,
Scan the QR Code using QR scanner application.

Approved

10/9/2021
FOR COUNTY COMMISSIONER OF EDUCATION
UASIN GISHU COUNTY
01 SEP 2021
P.O. Box 9843 - 30100, ELDORET
TEL: 053-2083342 / 0719127212