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Factors influencing utilisation of physiotherapy services at Busia County referral hospital in Kenya



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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for Master of Science (research) in Physiotherapy

Johannesburg 2020

DECLARATION

I, Johnstone Milimo Eyinda, declare that the work contained in this research report is my work, except to the extent indicated in the acknowledgment sections.
This research report is being submitted for a degree of Masters in Physiotherapy at the University of Witwatersrand, Johannesburg, South Africa.
This work has not been submitted for any other degree or examination in this or any other university.



03 / 09 / 2020

Johnstone M Eyinda Date

ABSTRACT

Background - The surging trend of non-communicable diseases complicated by trauma and infectious diseases has left many all over the world with marked physical limitations to function normally. Physiotherapy is a component of primary healthcare with a vital role in prevention, promotion, treatment, and rehabilitation of physical dysfunctions. When well utilised it can prevent the complications of both communicable and non-communicable diseases within the community. It is therefore essential to establish factors that influence physiotherapy utilisation in Busia County, Kenya.

Objectives – The purpose of this study was to establish the health-care providers' level of knowledge and factors that influence the utilisation of physiotherapy services among community members of Busia County in Kenya. The association between level of knowledge and demographic profile of health-care providers, People Living with Disabilities (PWD), and patients attending physiotherapy at Busia County referral hospital was also established.

Method – This was a descriptive cross-sectional quantitative study. Healthcare services providers 192 (nurses, doctors, and clinical officers) and 158 physiotherapy patients and people living with disabilities were purposively selected to participate in this study. They completed self-administered questionnaires between August and November 2019. They were both male and female above 18 years of age, drawn from the local community and Busia County Referral Hospital. The self-administered questionnaires developed by Nankwanga and Phillips (2008) for postnatal utilisation of physiotherapy interventions was adapted for this study. The questionnaire was validated by six physiotherapy experts and used for this study. Data collected was cleaned organised and analysed by Microsoft excel and Statistical Package for Social Sciences (SPSS) version 25.

Results – The majority (92%) of the healthcare services providers at Busia County Referral Hospital had adequate knowledge about the importance of physiotherapy service right from their training to working experience. They had excellent communication (86.03%) with physiotherapists and helped to refer patients at BCRH for physiotherapy

where necessary. They had trust (91.56%) that physiotherapists were knowledgeable enough to handle both referred and self-referred patients on their own. The patients and PWD had a lower level of knowledge about the importance of physiotherapy services. There was limited information about the importance of physiotherapy in the community compared to the hospital (88.60%) physiotherapy patients and People living with disabilities agreed. Most of them (67%) attended treatment sessions once a week, which was inadequate to meet their needs of treatment, making it difficult for them (87.42%) to recommend a friend or colleagues for physiotherapy. The main challenge encountered by patients and PWD to attend physiotherapy was lack of money (55.71%) and distance from home to hospital (63.3%). The level of knowledge about the importance and use of physiotherapy services was determined by period one had worked in BCRH, the department one worked and the profession of the health care providers. The monthly income for the physiotherapy patients and PWD determined how satisfied they were with the amount of money they paid for physiotherapy services.

Conclusion - The healthcare services providers are knowledgeable about the importance of physiotherapy and have done what it takes to foster its utilisation at Busia County Referral Hospital. However, there is inadequate knowledge of the use and the importance of physiotherapy among the community members. Thus the lower utilisation of physiotherapy services in Busia County could be factors associated with dynamics within the community and the health service providers. Example of this dynamics could be lack of finances, attitude of the health care providers towards physiotherapy and inadequate infrastructure both physical structures and equipment in the health facility.

Recommendation - There is need to create awareness of the importance of physiotherapy among the community members to facilitate utilisation and to improve both general and physical health of the community members. There is also need to integrate physiotherapy service at all levels of training and practice of the components of primary health care to the health care providers in Busia County.

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DEFINITION OF TERMS

Physiotherapy - the treatment of disease, injury, or deformity by physical methods such as massage, heat treatment, and exercise rather than by drugs or surgery.

Rehabilitation- the action of restoring someone to health or healthy life through training and therapy after imprisonment, addiction, or illness.

Utilisation - the action of making practical and effective use of something, in the context of this study to refers to attending physiotherapy to solve various physical health challenges affecting patients and PWD.

Healthcare provider/healthcare worker is one who delivers care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians, or even medical waste handlers. A health professional may provide health care treatment and advice based on formal training and experience. In the context of this study healthcare provider or healthcare workers will refer to medical doctors, nurses and clinical officers who provide health care service at BCRH.

Service users – In the context of this study, service users are the physiotherapy patients and people living with disabilities who attend physiotherapy services at BCRH.

A **non-communicable disease** (NCD) - is a disease that is not transmissible directly from one person to another, are chronic in nature which are a result of combination of genetic, physiological, environmental and behaviours factors. The major NCD are cardiovascular conditions, cancer, chronic respiratory conditions and diabetes (WHO, 2018). In the context of this study NCDs refer to diseases which occur due to tobacco use, alcohol over use, unhealthy diet and physical inactivity (WHO, 2018)

Communicable diseases – sometimes referred to as infectious or transmissible-diseases with ability to spread from one person or animal to another person. Mainly caused by pathogens such as viruses, bacteria, fungi and protists (Kandola, 2020). In the context of this study communicable disease are those infectious diseases encountered

by patients which may lead to physical complications that may require physiotherapy interventions.

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Appendix 6 – Institutional Research and Ethics Committee (IREC) approval No. 0003346

Appendix 7 – Busia County Referral Hospital – Permission

Appendix 8 - Cronbach's Alpha

LIST OF ABBREVIATIONS

PWD – People living with a disability

BCRH – Busia County Referral Hospital

APTA – America Physical Therapy Association

MOH – Ministry of Health

NCD – Non-Communicable Disease

PT – Physical Therapist

NACOSTI **-** National Commission of Science, Technology, and Innovation

APDK – Association of Physical Disable of Kenya

MU – Moi University

MTRH – Moi Teaching and Referral Hospital

OPD – Out Patient Department

IREC – Institutional Research Ethics Committee

1. CHAPTER ONE: INTRODUCTION

1.1. Background and Need

Physiotherapy is classified as one of the primary health care components among health care services (American Physical Therapy Association, 2011).Primary Health Care (PHC) focuses on the broader determinants of health namely physical, mental and social health and wellbeing (WHO, 2020). Physiotherapy plays a vital role in health promotion, prevention, treatment, and rehabilitation for mobility dysfunction caused by environmental factors, injuries, illness, pain, or aging (Kutty et al., 2013) . Physiotherapy is utilised in the management of various conditions like neurological disorders, sports injuries, burns injuries, musculoskeletal problems, rehabilitation for patients in the intensive care unit and prevention of complications caused by chronic non-communicable and communicable diseases (American Physical Therapy Association, 2011).

Non Communicable Diseases (NCDs) account for between 50-70% of all hospital admissions and up to half of all the patients' mortality in Kenya (Ministry of Health, 2017). Furthermore, injuries and violence are among the top ten causes of mortality and morbidity in Kenya (Ministry of Health, 2017). The complications of NCDs, injuries, violence and general ill health could be prevented by appropriate utilisation of physiotherapy services. The presence of the complications due to NCDs, injuries, violence and other diseases points to the possibility of poor utilisation of physiotherapy services (Ministry of Health, 2017). Based on the study done by Gona et al. (2013) they concluded that there was poor utilisation of physiotherapy services in Kenya due to various factors like distance between hospital to patients homes, shortage of physiotherapists, lack of equipment and prognosis.

The nurses, the clinical officers and the medical officers have a big role to play on ensuring that the referral system of health facility is effective. Their knowledge about other health care services is paramount on influencing the integrated management of patients. They are the primary conduct of almost all the patients who attend health services in a health institution before they are referred for various services including physiotherapy.

Therefore, the reduced utilisation of physiotherapy services may relate to their level of knowledge of physiotherapy service.

The prevalence of people with disabilities globally is 15%, which is attributed to global population aging, an age group where there is a higher risk of developing chronic conditions including non-communicable diseases and increases in natural and human-made-disasters (Khan et al., 2018). Physiotherapy and other rehabilitation interventions are advocated for as the fundamental process to support physical independence, mental, social, and vocational abilities (Khan et al., 2018).

Several factors have been cited in literature that influences the utilisation of physiotherapy services, and these includes inadequate knowledge of the scope of practice of physiotherapy (Holdsworth et al., 2008, Lee et al., 2017, Nankwanga & Phillips, 2008, Paul & Mullerpatan, 2015), the ability of patients to access physiotherapy services (Igwesi-Chidobe, 2012, Lee et al., 2017), and finally gender, age socio-economic level, and schooling (Siqueira et al., 2005). A review of the literature for utilisation of physiotherapy services revealed that the population's level of knowledge about physiotherapy services influences its' utilisation. Some of the most cited reasons alluded to the patients' referral system (Hylton, 2009; Keus et al 2007).

In the patient management system, adequate knowledge about the role of each professional is essential (Holdsworth et al., 2008). In a survey carried out in Scotland, both physiotherapists and the general practitioners advocated for self-referral to physiotherapy for patients having musculoskeletal challenges to increase utilisation of physiotherapy (Holdsworth et al., 2008). However, it was pointed out by physiotherapists that 66% of the general population had no idea what physiotherapy services were and their importance (Holdsworth et al., 2008). One of the critical factors in determining the utilisation of physiotherapy was the level of awareness on the availability and importance of physiotherapy in both the general population and the health service providers (Lee et al., 2017). Utilisation of physiotherapy services was low in Brazil when compared to both developed and developing countries. Utilisation was associated with gender, age,

schooling, and social-economic levels (Siqueira et al., 2005). Knowing the levels of physiotherapy utilisation assisted the public health authorities in organizing services to meet the demand for physiotherapy (Siqueira et al., 2005).

Studies concerning the level of awareness of the role and importance of physiotherapy in the health care system are scarce (Paul & Mullerpatan, 2015). The available literature indicates a low level of awareness regarding the availability and the role of physiotherapy among various populations (Paul & Mullerpatan, 2015). This study aims to establish the factors influencing the utilisation of physiotherapy services at Busia County referral hospital in Kenya.

1.2. Problem Statement

Physiotherapy has been identified as an essential component in the management of patients with poor physical health (Lee et al., 2017). The burden of ill health has been impacted by NCDs, injuries, and violence, which leads to poor physical health among the population in Kenya (Ministry of Health, 2017). The literature on the utilisation of physiotherapy services worldwide and particularly in Kenya is scarce, and the literature available so far indicates a low level of awareness about the availability and the role of physiotherapy in health care services (Paul & Mullerpatan, 2015). It is essential to understand the factors that influence the utilisation of services to improve the service and the impact on the target population. Factors such as the level of awareness on the importance of physiotherapy services for people in need are unknown. There is no published data or literature at Busia County hospital about the extent of utilisation and factors influencing utilisation of physiotherapy services.

1.3. Justification of the study

Physiotherapy can promote, prevent, and treat physical health problems resulting from burns, musculoskeletal injuries, neuromuscular problems, non-communicable diseases, and trauma, disabilities, and sports injuries. The findings of this study could empower physiotherapists with knowledge on how to improve awareness of physiotherapy services to the health care providers and may assist them in improving their services. Furthermore,

this study may also improve the knowledge and understanding of the role of physiotherapy services in inpatient care among different health professionals in Busia County. This study will also help the physiotherapists in Kenya to understand the factors contributing to reduced utilisation of physiotherapy services like lack of finances, distance from the health institutions to patient's residences, cultural believes and physiotherapy attitude towards patients. An increase in knowledge and the role of the physiotherapist could result in better referral patterns to physiotherapy, and this is important in preventing and managing health problems in the community through holistic patient management.

1.4. Research Questions

a) What is the level of knowledge about physiotherapy amongst health care providers, People living with Disability, and patients undergoing physiotherapy treatment at Busia County referral hospital in Kenya?
b) What are the factors that influence the utilisation of physiotherapy services in Busia County, Kenya?

1.5. Aim

To establish the level of knowledge and factors that influence the utilisation of physiotherapy services among community members of Busia County in Kenya.

1.6. Objectives

a) To establish the level of knowledge of physiotherapy services among nurses, clinical officers, and medical officers in Busia County referral hospital.
b) To establish the referral patterns to physiotherapy amongst nurses, clinical officers, and medical officers in Busia County referral hospital.
c) To determine the level of knowledge and use of physiotherapy service among patients and people living with disabilities in Busia County.
d) To establish the association between level of knowledge and demographic profile of health-care providers, PWD, and patients attending physiotherapy at Busia County referral hospital.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Globally there has been a tremendous increase in physical challenges due to arthritis, cardiovascular diseases leading to strokes, diabetes leading musculoskeletal and neurological challenges, respiratory diseases like asthma and bronchiectasis, cancer, and psychiatric conditions due to stress (Kutty et al., 2013). The above conditions are directly or indirectly linked to complications of non-communicable diseases, injuries, violence, and general ill-health could be prevented by appropriate utilisation of physiotherapy services. The presence of the complications due to NCDs,' injuries, violence, and other diseases point to the possibility of reduced utilisation of physiotherapy services (Ministry of Health, 2017). It is approximated that 25% of the Kenyan population is obese, the high prevalence being in women in the mid-age in urban areas (Ministry of Health, 2017). There is a need for Kenya to strategize on how to keep non-communicable diseases under control for the current trend shows an increase in its occurrence (Ministry of Health, 2017).

The nurses, the clinical officers, and the medical officers have a significant role in the referral system within a health facility, and their level of knowledge about physiotherapy services might influence the integrated management of patients. These health professionals are the sources of most of the patients who are referred for physiotherapy services. Therefore, the reduced utilisation of physiotherapy services may relate to their level of knowledge of physiotherapy services.

The prevalence of people with disabilities globally is 15%, which is attributed to global population aging, which arises in chronic conditions including non-communicable diseases and an increase in natural and human-made disasters (Khan et al., 2018). The level of knowledge about the attributes of physiotherapy in physical health among people living with disabilities and patients attending physiotherapy service may help in pointing out the utilisation of physiotherapy situation at the Busia County Hospital.

Physiotherapy and other rehabilitation interventions are advocated for as the fundamental process to support physical independence, mental, social, and vocational abilities (Khan

et al., 2018). This idea is particularly important for countries such as Kenya, where there is underutilisation of physiotherapy services. Based on the study done by Gona et al. (2013) there was reduced utilisation of physiotherapy services in Kenya due to various factors like distance from hospital to patients' homes, shortage of physiotherapists, lack of physiotherapy equipment, and prognostic information. Although the study was carried out in a region with different cultural and socio-economic dynamics compared to Busia County, which can lead to different findings (Gona et al., 2013). For example, the mean social-economic activity for Busia County community is agriculture, dairy farming, and across Kenya Uganda board trade. Kilifi County is located in the Eastern part of Kenya along the coastal region. Kilifi is about 1000 Kilometres from Busia. The coastal region where Kilifi is found has hot and dry climatic conditions throughout the year, while Busia has benign climatic conditions throughout the year. The Kilifi community's primary engagement is fishing and hospitality in the tourism industry. In study by Gona et al. (2013), the reasons given for reduced utilisation were personal perceptions that involved a small group of physiotherapy users, which could not be generalized to the entire Kenyan population. The hot climate conditions in Kilifi might lead to avoidance in engaging in physical activities by the population leading to reduced utilisation of physiotherapy.

2.2. Level of knowledge about physiotherapy and its utilisation among health service providers

Most of the physiotherapy patients in Kenya have been being referred by other healthcare providers. However, there are a few cases of self- referral. In the patient management system, adequate knowledge about the role of each professional is essential (Holdsworth et al., 2008). In a Survey carried out in Scotland, both physiotherapists and the general practitioners advocated for self-referral to physiotherapy for patients having musculoskeletal challenges to increase utilisation of physiotherapy (Holdsworth et al., 2008). However, it was pointed out by physiotherapists that 66% of the general population had no idea what physiotherapy services were and there importance (Holdsworth et al., 2008). If the general population had no idea about physiotherapy, then a self- referral may not be sufficient for that population.

Lee et al. (2017) established that both mental health professionals and people with severe persistent mental illness had limited knowledge about the role and the relevance of physiotherapy in mental healthcare leading to poor physical health rather than mental health. The holistic care of the mental health patients wasn't realised for the mental health experts who failed to understand the input of physiotherapy services. Other health service providers are the primary source for patients for physiotherapy, and their perception and attitude towards physiotherapy are paramount to its utilisation (Alshehri et al., 2018).

In Saudi Arabia, some physicians on an online survey expressed that physiotherapists had not done enough to create adequate awareness about their profession (Alshehri et al., 2018). While other physicians asserted that physiotherapists were only technicians who were required to work under supervision and not to independently care for patients (Etrog et al., 2015), other physicians in Saudi Arabia accepted that they had limited information about the importance of physiotherapy and the scope of work for a physiotherapist on the patients' care (Alshehri et al., 2018).

The physicians in respiratory care were not sure of the role of physiotherapy in their patients' care (Al Mohammedali et al., 2016). However, the fewer physicians in gynaecology and obstetrics had high esteem for physiotherapists and appreciated their interaction with the patients under their care (Odunaiya et al., 2013). For holistic patient care, all the members should know their role and should understand the roles of other team players. However, the information from this study (Alshehri et al., 2018), there is a need for physiotherapists and physicians to create and learn how physiotherapy can benefit patients. Lack of knowledge about the scope and the importance of physiotherapy leads to poor attitude towards physiotherapy, and this affects the utilisation of physiotherapy services within the communities (Alshehri et al., 2018).

Over 75% of physicians in a study in Saudi Arabia knew physiotherapy, and yet only 11% referred patients to the physiotherapists (Al-Eisa et al., 2016). Most of the physicians perceived physiotherapists to subordinate without any skills of patients' management in Saudi Arabia (Al-Eisa et al., 2016). Through various learning forums like workshops and

lectures interactions with physiotherapists in Saudi Arabia, the physicians' perception and attitude changed (Al-Eisa et al., 2016). In many sets ups, the platform for physiotherapists to express their skills and knowledge has been a challenge, Al-Eisa et al. (2016) advocates for the acquisition of further qualifications and participation in research for creating physiotherapy awareness. However, in the United Kingdom and Australia, the physiotherapists' services were recognized by reputable organizations, and insurance could reimburse the patient's physiotherapy expenses.

In Northern Ethiopia, 50% of the medical doctors had inadequate knowledge about physiotherapy (Kutty et al., 2013). About 67% of medical doctors recognized the importance of physiotherapy in the management of disabilities and non-communicable diseases (Kutty et al., 2013). This study, however, only reported on the knowledge of doctors between the age of 22 to 45 years, and thus doctors of older age may have different levels of knowledge. The innovative training today appraises integrated learning while before the focus was individual and not team that is why this study need to get the views across the board about the doctors.

The health service referral system is fundamental to holistic care for patients (Duncan et al., 2015). Self-referral practice initiated in a health provision institution may improve the utilisation of physiotherapy services (Duncan et al., 2015). Some of the patients requiring physiotherapy may be lost through other health care providers who may not be having adequate knowledge about the use and importance of physiotherapy services. In some health institutions, physiotherapy services may not be available due to a lack of physiotherapists, or the necessary infrastructure and equipment for physiotherapy may be missing. However, self- referral system may work better in a population well equipped with knowledge about physiotherapy and enough physiotherapy workforce to meet the needs of that population.

It is the responsibility of those professionals who have information about a health service to share it with the general population (Chizoma & Ofi, 2012, Ndikom & Ofi, 2012). In their study on the utilisation of cancer screening services, the health service providers were

not sharing with the general population about the screening services (Ndikom & Ofi, 2012). In various communities and localities, there are myths and believes on how certain diseases occur; this leads to the failure of being curious about the actual cause of disease one is suffering from in good time. Ignorance and illiteracy leads to poor behaviour of not seeking information and knowledge about the importance of cancer screening. And therefore, it played a significant role on the side of the population leading to underutilisation of cancer screening services (Ndikom & Ofi, 2012). The study reports personal views and perceptions, and the number involved is small for generalization. However, the information is crucial, for it could be right for utilisation of physiotherapy services. Illiteracy and ignorance are deep-rooted in most of the communities. Therefore, just like in cancer screening utilisation it could as well play a role in physiotherapy utilisation in Kenya.

2.3. Level of knowledge about physiotherapy and its utilisation by PWD and patients seeking physiotherapy services

A review of the literature for utilisation of physiotherapy services revealed that the level of knowledge about physiotherapy services among the population influences the utilisation of physiotherapy services (Paul & Mullerpatan, 2015). Appropriate integrated patient management system right from the primary health care up to secondary health care through the correct referral procedures ensures the holistic delivery of healthcare , (Bernstein, 2011). In the absence of an appropriate referral system, identification of who needs which services become complicated and time will be lost by patients leading to delayed intervention. It is easy to manage acute health problems than to manage chronic cases that have developed complications; it takes longer and more resources. In all healthcare provision institutions, it is vital to put in place a clear and straightforward referral system to help both patients and service providers to act promptly and appropriately (Bernstein, 2011). Studies concerning the level of awareness of the role and importance of physiotherapy in the healthcare system are scarce. The available literature indicates a low level of awareness regarding the availability and the role of physiotherapy among various populations (Paul & Mullerpatan, 2015). The level of

knowledge about physiotherapy and its importance was even low in high human index countries, just like countries with low and medium human indexes (Paul & Mullerpatan, 2015). These factors might be attributed to other rural populations similar to Nigeria.

In Uganda, it was established that the low level of awareness about the role of physiotherapy in postnatal services led to reduced utilisation of physiotherapy services in postnatal care (Nankwanga & Phillips, 2008). This led to women developing preventable postnatal complications like the occurrence of vaginal fistula due to pelvic floor muscle weakness, both stool, and urine incontinence, low back pain due to stress of pregnancy, which could have been prevented by utilisation of physiotherapy services. Education of women on the importance, availability of physiotherapy, and reorganization of the service providers could enhance the utilisation of physiotherapy services among women during the postnatal period (Nankwanga & Phillips, 2008).

In Nigeria, Igwesi-Chidobe (2012) reported on various factors which hinder the rural population from utilising physiotherapy services. These included unavailability of physiotherapy services in rural Nigeria, poor knowledge of health workers and the community on the role of physiotherapy, poor health-seeking behaviour of the community, and patronage of traditional health workers and poor referral practice of health workers

Several factors influence the utilisation of physiotherapy services. These include inadequate knowledge of the scope of practice of physiotherapy (Holdsworth et al., 2008, Lee et al., 2017, Paul & Mullerpatan, 2015, Nankwanga & Phillips, 2008), the ability of patients to access physiotherapy services (Igwesi-Chidobe, 2012, Lee et al., 2017), and finally gender, age socio-economic level, and schooling (Siqueira et al., 2005). One of the key factors in determining the utilisation of physiotherapy was the level of awareness on the availability and importance of physiotherapy in both the general population and the health service providers (Lee et al., 2017).

The utilisation of physiotherapy services was low in Brazil when compared to both developed and developing countries. Utilisation was linked to gender, age, schooling, and

social-economic levels (Siqueira et al., 2005). Knowing the levels of physiotherapy utilisation assisted the public health authorities to organize services to meet the demand for physiotherapy (Siqueira et al., 2005). In areas where more innovative models of physiotherapy practice like Advanced Practice of physiotherapy have been put in place, physiotherapy is recognized as a major play in primary health care (Desjardins-Charbonneau et al., 2016). However, in the study by Desjardins-Charbonneau et al. (2016), the survey was through the electronic methodology, and it was done with an enlighted university community. It is challenging to meet the thresh hold for generalization to other communities that are still underdeveloped.

A well trained and experienced physiotherapist has a significant role to play in influencing utilisation of physiotherapy service by people living with disabilities through community-based rehabilitation (Nualnetr, 2009). Community-Based Rehabilitation (CBR) is a strategy within community development for the rehabilitation, equalisation of opportunities, and social integration of all people with disabilities (Nualnetr, 2009). It is implemented through the combined efforts of disabled persons themselves, their families and communities, networking with the appropriate health, education, vocational, and social services. To achieve high standard training for physiotherapy, some innovative schools training physiotherapists have entrenched community-oriented education programs in their curriculum (Nualnetr, 2009). Although this study has valuable information, it would have been better done in both rural and urban set up to get broader spectrum information. People living with disabilities have a big challenge in accessing physiotherapy services due to inadequate infrastructure for community-based rehabilitation in most regions (Bongo et al., 2018). The supportive referral system for CBR is unreliable due to inadequate funding and over-reliance on the donor funding in Zimbabwe, which is common in developing nations (Bongo et al., 2018). Through the qualitative methodology, relevant information in this study on the utilisation of physiotherapy is captured. Although CBR may be an excellent agent for improving utilisation for physiotherapy services, it requires a good and effective referral system to support its activities. The CBR stakeholders' role is paramount in improving utilisation of physiotherapy services for PWD at all levels (Bongo et al., 2018).

2.4. Challenges of the utilisation of Physiotherapy

Different regions and countries encounter different challenges on the utilisation of physiotherapy (Khan et al., 2018). There is inadequate knowledge about the requirements for the people living with disabilities, an inadequate number of human resources, insufficient infrastructure, clinical guidelines, and standards for the physiotherapy practice worldwide (Khan et al., 2018). In various regions, there is a lack of policies, coordination, and clear lead ship in the practice of physiotherapy (Duncan et al., 2015). In the study by Khan et al. (2018) through cross-sectional methodology, the information gathered could be generalized across other regions as the study captured a broader cross-section of health service providers. However, the study only compared the findings in Nigeria with other low and middle-income countries. It is also essential to compare this information with the information from the high-income countries for physical challenges due to underutilisation are a similar world over.

The majority of health institutions across the world are struggling with an inadequate number of health services providers, including physiotherapists (Igwesi-Chidobe, 2012). Health care-seeking behaviour, referral practice, and unavailability of physiotherapy services were a problem to one of the rural parts of Nigeria, which is common in other communities of the world (Igwesi-Chidobe, 2012). Some communities still recognize the traditional way of doing things, including seeking medical attention through patronage, which wastes time, and sometimes wrong information about a service is acquired (Igwesi-Chidobe, 2012).

The distance of the population from the health facility and lack of equipment for service delivery poses a challenge to the utilisation of physiotherapy services. The utilisation of physiotherapy was perceived to be active by the population when implemented through community-based practice, for it fostered self-management for chronic physical conditions (Gona et al., 2013). This information about fostering self-management is vital in light of the challenge of distance to the hospital and lack of service equipment. However, this was a qualitative study utilising focus group discussions generating personal perception of the participants, which may not be generalized to other

communities. Some of the physiotherapists handled patients carelessly creating a negative impression about the profession affecting utilisation of the services (Gona et al., 2013).

In some communities, there are barriers in the utilisation of physiotherapy services through the stigma from the community members (Hansen et al., 2014). There are challenges of acceptance by the communities for PWD in most communities, which may lead to reduced utilisation of physiotherapy (Hansen et al., 2014). This may lead to the persistence of disabilities and poverty within the community. However, the proactiveness of all the stalk holders of CBR changed this situation in Zambia and can do elsewhere in the world.

The referral system has a big role in the utilisation of health services. It needs to be given serious consideration by formulating and putting in place implementation strategies by all stakeholders (Amoah & Phillips, 2017). It is through the appropriate social engagement of both the professionals and the community that any strategies towards the improvement of service utilisation could be achieved (Amoah & Phillips, 2017). The creation of awareness and uplifting the level of knowledge about physiotherapy through various educative platforms could enhance the level of awareness and thus improve the utilisation of physiotherapy (Amoah & Phillips, 2017). Most of the physical challenges are not addressed in good time due to inadequate funds and lack of awareness on how to engage physiotherapy to manage them, thus becoming a big challenge in future (Amoah & Phillips, 2017).

There is a need to put in place a structure for the referral of patients to help improve the utilisation of the services. Most of the health service providers are not familiar with their institution referral system and procedures (Omole et al., 2017). In their study in Kaduna Nigeria, Omole et al. (2017) engaged health services providers of various categories to explore their level of knowledge and understanding of the institution referral systems. The perception and attitude expressed by most of the health service providers in this study showed that there was a lack of standard referral forms, and some of the health care

providers expressed that referral should be requested by the patients. This therefore could imply that if there is low level of knowledge about physiotherapy services patients will not request for it. This thus, implies that there will be limitations in referral for physiotherapy services leading to low utilisation.

The utilisation of physiotherapy could be enhanced through the integration of physiotherapy in primary health care (Ontario Physiotherapy Association, 2017). The researchers of the Ontario Physiotherapy Association in Canada asserted that this integration would increase the accessibility and affordability of physiotherapy care. The researchers advocated for physiotherapy as a first-line for the treatment of chronic physical and non-communicable diseases to prevent the occurrence of complications of those conditions (Ontario Physiotherapy Association, 2017); this leads to self-management, which is a strategy to improve on the utilisation of physiotherapy and improvement on general health. This study engaged the general population in Canada, and its findings could be generalized to other populations within a similar context. Putting in place a healthy physiotherapy regulatory body affiliated to the World Confederation of Physiotherapists (WCPT) Pakistan government ensured that innovative, progressive curriculum for training physiotherapists is put in place (Memon et al., 2016). To advance proactive activities to protect the physiotherapy profession as it develops is the strategy that has been employed by the Pakistan government, where physiotherapy has developed very fast (Memon et al., 2016).

Those people knowledgeable about physiotherapy still find it challenging to utilize physiotherapy services continuously (Siqueira et al., 2005). In a study in Brazil (Siqueira et al., 2005), established that the utilisation of physiotherapy realised in an urban area, Pelotas, was lower than what was reported in both developed and developing countries. The researchers asserted that through these findings, public health would be able to organize healthcare services in terms of essential health demands like physiotherapy services. The population worldwide hardly participate in meaningful physiotherapy activities unless diagnosed with a condition which may require physiotherapy intervention (Siqueira et al., 2005).

2.5. Conceptual framework for utilisation of physiotherapy services

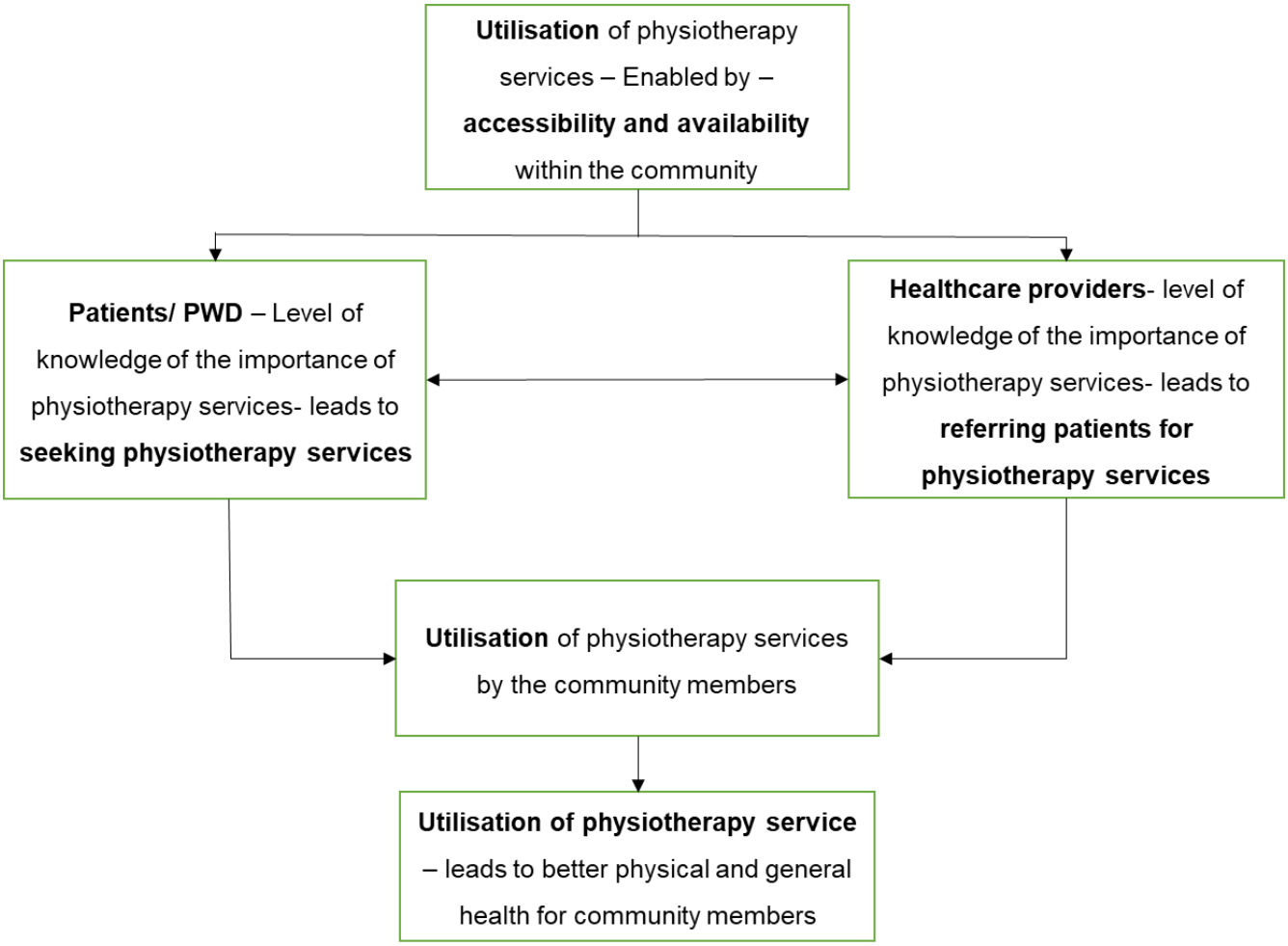


Figure 2:1: Conceptual framework for utilisation of physiotherapy services

This conceptual framework was developed by the researcher to enhance the understanding how physiotherapy services are utilised at BCRH. The key players in the utilisation of physiotherapy services are the health care providers and the patients/ PWD. The health care providers will refer patient/PWD for physiotherapy services when they are knowledgeable about its importance. Patients /PWD will seek for physiotherapy

services if they are aware of its accessibility, availability and its importance. Its utilisation will improve both physical and the general health of patients and PWD.

3. CHAPTER THREE: METHODOLOGY

3.1. Study Design

This was a quantitative descriptive cross-sectional study using both researcher assisted and self – administered questionnaire. It is a design whose aim is to obtain reliable data through observation of variables which could be individuals, cases or any other type of data performed in a single moment (Zangirolami-Raimundo et al., 2018)

3.2. Study site

This study was conducted at Busia County referral hospital (BCRH). Busia is a County in the western part of Kenya and has a total population of 825,836 people (Ministry of Health, 2017). It is a County referral hospital with bed capacity of 300 and a workforce of 1012 health workers, which included nurses, clinical officers, medical doctors, physiotherapists, radiographers, public health officers, occupation therapists, orthopaedic technologists, oral health officers, nutritionists, clerical officers, and support staff officers. The County referral hospital has the Association of Physically Disabled of Kenya unit taking care of the needs of people living with disability in Kenya. The hospital has a general outpatient clinic, surgical, internal medicine, Gynaecology and obstetrics, mother-child health clinic, dental, physiotherapy, occupational therapy orthopaedic for functional aids, and mental health.

3.3. Participants

3.3.1. Source of the study population

The population comprised of health care providers, patients attending physiotherapy and people living with disabilities from Busia County who were invited to participate in the study. The health care providers approached were 498 nurses and 124 participated, 117 clinical officers were approached and 57 participated, 45 medical officers were approached and 31 participated. PWD 120 registered with Association of physical disable of Kenya (APDK) were approached and 57 participated and 480 patients/clients being seen in physiotherapy OPD were approached and 100 participated.

3.3.2. Sample size

To obtain the sample required in this study, the researcher used the Raosoft® sample size calculator to estimate the minimum sample for all participants (health care providers, PWD and physiotherapy patients) required for this study. The software utilizes the following formula:

$$x = Z(c/100)^2 r(100-r)$$

$$n = Nx/((N-1)E^2 + x)$$

$$E = \text{Sqrt}[(N - n)x/n(N-1)]$$

Where '*n*' is the sample size, '*E*' is the margin of error, '*N'* is the population size, '*r*' is the fraction of responses and '$Z(c/100)$' is the critical value where '*c*' is the level of confidence (Raosoft.com, 2004). According to Raosoft® (Raosoft.com, 2004), to achieve an 80% confidence interval, a minimum of 124 nurses, 69 clinical officers, 36 medical officers, 70 PWD, and 123 patients/clients attending physiotherapy OPD was required for this study.

The distribution of the study participants

Table 3.1 below shows the study participants, which included service care providers, physiotherapy patients, and people living with Disability.

Table 3.1: Calculation of the sample size of the study

Raosoft Parameter	Nurses	Clinical officers	Medical officers	PWD	OPD Patients/clients
Margin of error	5%	5%	5%	5%	5%
Population size	498	117	45	120	480
Response distribution	50%	50%	50%	50%	50%
Recommended sample size with 80% confidence interval	124	69	36	70	123

3.3.3. Inclusion and exclusion criteria

The inclusion and exclusion criteria for the participants is outlined in Table 3.2.

Table 3.2: The attributes for inclusion and exclusion procedure for study participants

Category	Inclusion criteria	Exclusion criteria
Health care workforce	Medical doctors, Kenya Registered nurse and clinical officers who have been in Busia County for the last six months	The officers doing other duties-administration of health services outside the hospital but with Busia County
People living with disabilities	• Registered with APDK in Busia. • Those who had lived in Busia County for over six months.	Those with verbal communication challenges and cannot complete the questionnaires themselves
Patient and client attending physiotherapy outpatient	• Those who have attended physiotherapy out-patient services for more than three sessions	Those who are attending for the first time

3.4. Outcome measures and instrumentation

The questionnaire for utilisation of physiotherapy services for healthcare service providers in Appendix 3 addressed objectives one and two. The questionnaire for utilisation of physiotherapy services for patients/PWD in Appendix 4 addressed objectives three and four. The two questionnaires (Appendix 3 and 4) were adopted from Nankwanga and Phillips (2008) on the utilisation of postnatal physiotherapy services at Mulago and Mengo hospitals in Kampala Uganda which had been used in Lusaka Zambia on Lusaka women-friendly project by (Mackeith , Murray, Standing, Kumwenda & Ahmed, 2001) were used for this study. Modification on some questions based on the study population and type of services being studied was done to suit the situation at Busia County referral hospital in Kenya. Three patients who participated in the study did not understand English. The researcher verbally translated the questionnaire questions to Kiswahili as he guided the participants in filling the questionnaires for they understood Kiswahili language.

3.4.1. Content validity

The questionnaire was developed by Nankwanga and Phillips (2008) who adapted from (Mackeith , Murray, Standing, Kumwenda & Ahmed, 2001) for postnatal utilisation of physiotherapy interventions. For this study, this questionnaire was validated by six experts who had over ten years' experience in both clinical and academic physiotherapy platforms. Those experts were drawn from health service provisions and learning institutions in Kenya. The questionnaires were sent to them electronically to review and give their input on questionnaires ability to meet the objectives of this study. Apart from minor editing inputs, there was no significant input to change the questionnaires.

3.4.2. Reliability

The reliability of the questionnaires was established by carrying out a pilot study, with 10% of the study population. Cronbach's test was done on the results of the pilot study to determine internal consistency. From the test scale for (items) variables in the questionnaire for health care providers, Cronbach's Alpha score is = 0.703, which indicates that there is internal consistency for 0.703 scores indicate high internal consistency, and thus the questionnaire was reliable. For the questionnaire for physiotherapy patients and persons living with disability, the score is 0.765 on the test scare indicating high internal consistency of the questionnaire, which implies it is reliable.

3.5. Ethical consideration

The researcher applied for ethical clearance from various research ethics committees and were granted as follows; the University of the Witwatersrand Human Research Ethics Committee (Medical) clearance certificate number M 190249 (Appendix 5), Moi Teaching and Referral Hospital/ Moi University College of Health Science Research and Ethics Committee (IREC) (Research approval regional centre) clearance certificate number MU/MTRH- IREC – 0003346 (Appendix - 6) and National Commission of Science, Technology and Innovation (NACOSTI)**,** Clearance certificate number, P/19/76458/31509. Permission to access the patients and health workers was granted by the hospital administrators,' permission to access the people living with disabilities was granted by the administrator of APDK in Busia (Appendix 7). Informed written consent was obtained from all the participants by the researcher. Participants were informed that

there were no repercussions should one decide to withdraw from the study at any time. The participants were not exposed to any risk by participating in this study. Information was only to be used for the purpose intended for this study and was only to be released to the participants. Participants were assured that their confidentiality was to be kept at all times, ensuring that documents with any identification are kept away safely by the researcher. All the questionnaires filled in by the participants were assigned a number. The filled in questionnaires were only to be accessed by the researcher. All the requests and permission documents are in the Appendices.

3.6. Material and procedure

3.6.1. Pilot study

A pilot study was conducted with 10% (n = 35), (19 health care providers, 10 physiotherapy patients and 6 PWD) of the study participants at Busia County Referral Hospital. The pilot study helped to determine the reliability of the questionnaires, the amount of time it took to complete the questionnaire, and any ambiguity that existed in the questions.

Methodology of the pilot study

Once ethical clearance had been granted, participants were recruited from the department of nursing, clinical officers, general medicine, outpatient physiotherapy, and the Association of Physically Disabled of Kenya. An information sheet was given to the heads of those departments to familiarise themselves with the study. Consent was sought from the heads of departments to recruit participants in their departments. The heads of departments involved in the study were requested for lists of members in their departments. Names of members who met the inclusion criteria were randomly picked to get the number required for the study. Participants selected were contacted telephonically or personally, and an appointment time was made. The participants were given an information sheet and consent form to read, understand, and sign to participate. The participants who understood English were asked to fill in the questionnaire and identify questions they did not understand by highlighting them. The researcher guided them to ensure that the questionnaires were filled in correctly. For participants who didn't

understand English, the researcher translated the questionnaire verbally to Kiswahili for them as he guided them to fill it. After filling in the questionnaire, the participants handed them over to the researcher who took note of the time taken by each participant to fill in the questionnaires and put them in the box provided and carried the box along.

Results of the pilot study

The time taken to respond to the questions was within the expected time 15 to 20 minutes by all the participants. There were no noted ambiguity or confusion on all the questionnaire items. Therefore, there was no need to change the questionnaire.

Implication of pilot study on the data collection process

The main outcome of the pilot study was the amount of time it took the participants to complete the questionnaires, which were within the expected time. Cronbach's test was used to determine the internal consistency, which was positive. The pilot study results were included in the main study, for the findings were reliable.

3.6.2. Main study procedure

The researcher obtained permission from the institution administrators to carry out the study from the departments of nursing, clinical medicine, physiotherapy outpatient, general medicine, and the Kenya Association of Physically Disabled of Kenya office. There were no changes to the main study following the results from the pilot study. Self-administered questionnaires were used for this study; however, those who did not understand English were assisted in filling in the questionnaire by the researcher. The main study data collection process was the same as the pilot study procedure. Recruitment for the main study was done at Busia County Referral Hospital department of nursing, clinical medicine, and general medicine, physiotherapy outpatient, and Association of Physically Disabled of Kenya. Participants from the health services providers were approached through their departmental heads from APDK through the officer in charge and patients through the physiotherapy head of the department of outpatient. The heads of those departments were requested for a list of members in their departments. From these lists of each department, two sets of lists were made one for males and the other for females. Names of members who meet the inclusion criteria were

randomly picked, ensuring gender balance to avoid being biased in getting the number required for study from each department. Gender balance was necessary to ensure the ethical principle of justice and also capture views across for the perception of utilisation of physiotherapy could vary across gender.

For healthcare service *providers,* participants selected were contacted through their heads of departments in their work stations. Participants were given an information sheet and consent form to read, understand, and sign to participate. The participants were asked to fill in the questionnaire with the guidance of the researcher to ensure that the questionnaires were filled correctly. After filling in the questionnaire, the participants handed them over to the researcher who put them in the box provided and carried the box along.

The PWD were selected through the head of the department, in person or telephonically were to participate and given appointment date and time. They were given the information sheet helped by the researcher where necessary to understand and then given the consent form to sign. They were then given the questionnaire and guided by the researcher where necessary filled and handed them back to the researcher who carried them along.

Patients attending physiotherapy who met the inclusion criteria were engaged either as they wait to be attended to or after treatment in the physiotherapy department through the head of the department. They were given the information sheet, requested to sign the consent form, and guided by the researcher where necessary filled the questionnaire. The filled questionnaires were handed over to the researcher who carried them along.

3.7. Data analysis

The data from completed questionnaires filled by the respondents were entered into Microsoft excel® and then to Statistical Package for Social Sciences (SPSS) version 25 for analysis. SPSS generates central tendency, dispersion, and distribution of the factors, as well as correlation and significant tests, which are statistical measures. A confidence interval of 80% was used in this study to get a minimal sample size representation.

Cronbach's alpha coefficient was used to test for the reliability of the questionnaires. Pearson's Chi-square was used to test for the association between level of knowledge and demographic profile of health care providers, PWD, and patients attending physiotherapy at Busia County Referral Hospital. A multinominal logistic regression analysis was performed to determine the relationship that best fits the observed data in terms of the access and utilisation of physiotherapy. A p-value less or equal to 0.05 indicates the factor is significant. The variable in this study was illustrated using frequency tables, bar graphs, pie charts, and histograms.

4. CHAPTER FOUR: RESULTS

4.1. Introduction

The study undertook to determine factors that influence the utilisation of physiotherapy services at Busia County Referral Hospital and the specific study objectives were -

1. To establish the level of Knowledge of physiotherapy services among nurses, clinical officers, and medical officers in Busia County referral hospital. The result for this objective was present on distribution tables with responses being given as % of the sample size.
2. To establish the referral patterns and level of satisfaction of physiotherapy services amongst nurses, clinical officers, and medical officers in Busia County referral hospital. The result for this objective was presented on distribution tables with responses being given as % of the sample size.
3. To determine the level of Knowledge and use of physiotherapy service among patients and people living with disabilities in Busia County. The result for this objective was presented on distribution tables with responses being given as % of the sample size.
4. To establish the association between the level of Knowledge and demographic profile of health care providers, PWD, and patients attending physiotherapy at Busia County referral hospital. The results for this objective was presented in the table giving the responses in % of the sample size n and indicating the values of Pearson's chi-square test and p-values

The results of this study were presented as frequencies and percentages and tables where applicable. The Pearson's chi-square test was used to determine if any association existed between the variables.

4.2. Internal reliability of the modified questionnaire

This study takes into consideration the validity and reliability of the items in the two separate questionnaires. Reliability is when issues can be measured consistently. Notably, an item cannot be valid unless it is reliable. To individually and objectively evaluate and measure the reliability of items used in the questionnaires for utilisation of Physiotherapy Services for Health Care Service Providers and Patients or Persons with

Disability, alpha α was calculated. Cronbach's alpha reliability provides a measure for the internal consistency of a test or scale. It is expressed as a number between 0 and 1 and follows the tau equivalent assumption that each test item measures the same latent trait on the same scale. When measuring multiple items of a concept or construct reliability estimates, Cronbach's Alpha only requires one test administration. It is, therefore, more accessible and most preferred in comparison to other estimates (Tavakol & Dennick, 2011). In this study, the Cronbach's alpha coefficient α score for health care providers questionnaire was = 0.703, and for Patients and persons with a disability questionnaire, Cronbach's alpha coefficient α was = 0.7647. A score of over 0.7 indicates high internal consistency, thus reliable.

4.3. Sample size

The number of participants invited were 1260 which included 660 health care workers, 120 PWD and 480 physiotherapy patients. Those who participated included 192 (29.09%) health care workers and 158 (26.3 %) of physiotherapy patients and PWD. From a total of four hundred and twenty-two (422) questionnaires that were distributed, three hundred and fifty (83%) were correctly filled and returned. All the 350 met the inclusion criteria, which included 192 (54.85%) health care providers and 158 (45.14%) physiotherapy patients and people living with disabilities, and they were deemed valid. 22 (5%) of the questionnaires were not returned, and 50 (11%) had vital missing information, therefore, considered to be not – valid and not included in the results

4.4. Demographic information

4.4.1. Demographic information of healthcare providers

The detailed results for the demographic data are shown in Table 4.1, specifically the distribution of the sample, that is, age, gender, professional training, religion, marital status, and period worked in Busia County Referral Hospital for health care providers.

Table 4.1: Demographic distribution information for healthcare providers (n=192)

Sociodemographic variables	n	%
Gender		
Female	90	46.84
Male	102	53.16
Age group in years		
20 – 24	29	15.10
25- 29	47	24.48
30 – 34	52	27.08
35 – 40	49	25.53
>41	15	7.81
Profession		
Nurses	104	54.17
Clinical officers	57	29.69
Medical officers	31	16.15
Level of Professional training		
Diploma	107	55.73
Degree	70	36.46
Master's degree	15	7.81
Period of service at Busia hospital		
Six months to 1 year	40	20.83
1 – 2 years	29	15.10
2- 3 years	39	20.32
3 -4 years	34	17.71
4 – 5 years	50	26.04
Marital status		
Married	114	59.37
Never married	55	28.64
Separated	8	4.17
Divorced	8	4.17
Cohabiting	7	3.65
Religion		
Protestant	90	46.88

Roman Catholic	87	45.31
Muslim	12	6.25
Others	2	1.04
None	1	0.52

Table 4.1 above, it has been demonstrated that (54.17%) of the healthcare providers were nurses and (27.08%) of the respondents were aged between 30 -34 years. The majority (55.73%) of them have a diploma as their level of qualification and 25.26% have worked in Busia County Referral hospital for between 4 to 5 years. The majority of health care providers are married (59.37%) and are Protestants by religion (46.88%).

4.4.2. Demographic information for Physiotherapy patients and people living with a disability

The results for the demographic information are shown in **Table 4.2** below, specifically the distribution of the sample, that is, age, gender, and period of health problem for PWD and physiotherapy patients.

Table 4.2: Demographic distribution information for physiotherapy patients and PWD (n=158)

Gender	**N (%)**
Female	73 (46.20)
Male	85 (53.80)
Age	
15 – 25	5 (3.16)
26 – 35	25 (15.82)
36 – 45	45 (28.48)
46 – 55	59 (37.34)
56 and above	24 (15.19)
The average distance from the hospital (km)	15.50(14.32)

Disability history	
Since birth	10 (6.33)
A few days	3 (1.90)
Two weeks	6 (3.80)
A few months	46 (29.11)
More than one year	93 (58.86)
Level of education attained by patients	
None	22 (13.92)
Primary	64 (40.51)
Secondary	31 (19.62)
Tertiary	23 (14.56)
University	18 (11.39)
Occupation	
Government employee	47 (29.75)
Self-employed	41 (25.95)
Farmer	35 (22.15)
Domestic work	32 (20.25)
Others	3 (1.90)
Monthly income	
0 - 9,999 Kshs	31 (19.62)
10,000 - 39,999 Kshs	40 (25.32)
40,000 - 69,999 Kshs	68 (43.04)
70,000 - 79,999	13 (8.23)
> 80, 000 Kshs	6 (3.80)
Religion	
Protestant	75(47.47)
Roman Catholic	71(44.94)
Muslim	12(7.59)
Marital status	
Married	128(81.01)
Never married	15(9.49)
Widowed	9(5.70)
Divorced	6(3.70)

Separated	1(0.6)

The males are the majority (53.80%) among the physiotherapy patients and PWD. The highest number of patients and PWD is in the age range of 45 to 55 (37.34%). The majority (40.51%) of PWD and physiotherapy patients have attained primary education, 41%, and 14% had not achieved any education. The most common form of employment was by the government with 29.75% of physiotherapy patients as well as 25.95% of PWD this was followed by farming with 22.15 %. The majority of physiotherapy patients and PWD earned between Kshs.40, 000, and 69999 (43.04%) and are affiliated to protestant group (47.46%), and most of them are married (81.01%).

4.5. Common diagnosis of the physiotherapy patients and PWD

Table 4.3 outlines the diagnosis of physiotherapy patients and PWD

Table 4.3: Common diagnosis for the patients and PWD (n = 158)

Diagnosis	**n**	**%**
Stroke (hemiparesis/hemiplegia)	30	18.98
Knee arthritis	10	6.32
Hip arthritis (hip replacement)	12	7.59
Back pain	14	8.86
Trauma	17	10.75
Paraparasis	6	3.79
Paraplegia	5	3.16
Diabetes	14	8.86
Club foot	3	1.89
Peripheral nerve injuries	5	3.16
Ankle sprain	4	2.53
Post injection palsy	3	1.89
Amputee (above the knee, below knee and bilateral)	10	6.32
Sciatica	10	6.32
Post poliomyelitis	13	8.22

Others	2	1.26

There are several non-communicable diseases and road traffic accident complications. Hemiplegia due to stroke is leading with 18.98 %, followed by trauma at 10.75% and diabetes at 8.86% and the least congenital club foot at 1.89%.

4.6. Transportation access for physiotherapy patients and PWD

Table 4.4 outlines the type of transport used by physiotherapy patients and PWD.

Table 4.4: The type of transportation means used by physiotherapy patients and PWD (n=158)

What means of transport do you commonly use in everyday life?	n	%
Public transport (bus, taxi, and motorcycle)	64	40.51
Walk	59	37.34
Bicycle	12	7.59
Private vehicle	18	11.39
Pushed on a wheelchair	5	3.16
What means of transport do you commonly use to the hospital?		
Public transport (bus, taxi, and motorcycle)	118	74.68
Walk	26	16.46
Private vehicle	11	6.96
Bicycle	2	1.27
Pushed on a wheelchair	2	1.27

In everyday life the most commonly used means of transport by physiotherapy patients and PWD is public transport, which includes bus, taxi, and motorcycles 40.51%. The public transport (74.68%) is also most commonly used by physiotherapy patients and

PWD to travel to hospital. Wheelchairs 1.27% to travel to hospital and 3.16% for everyday life is the least used means by this population.

Figure 4.1 shows the areas where the physiotherapy patients and PWD come from to attend services at Busia County referral hospital sample size of n = 158

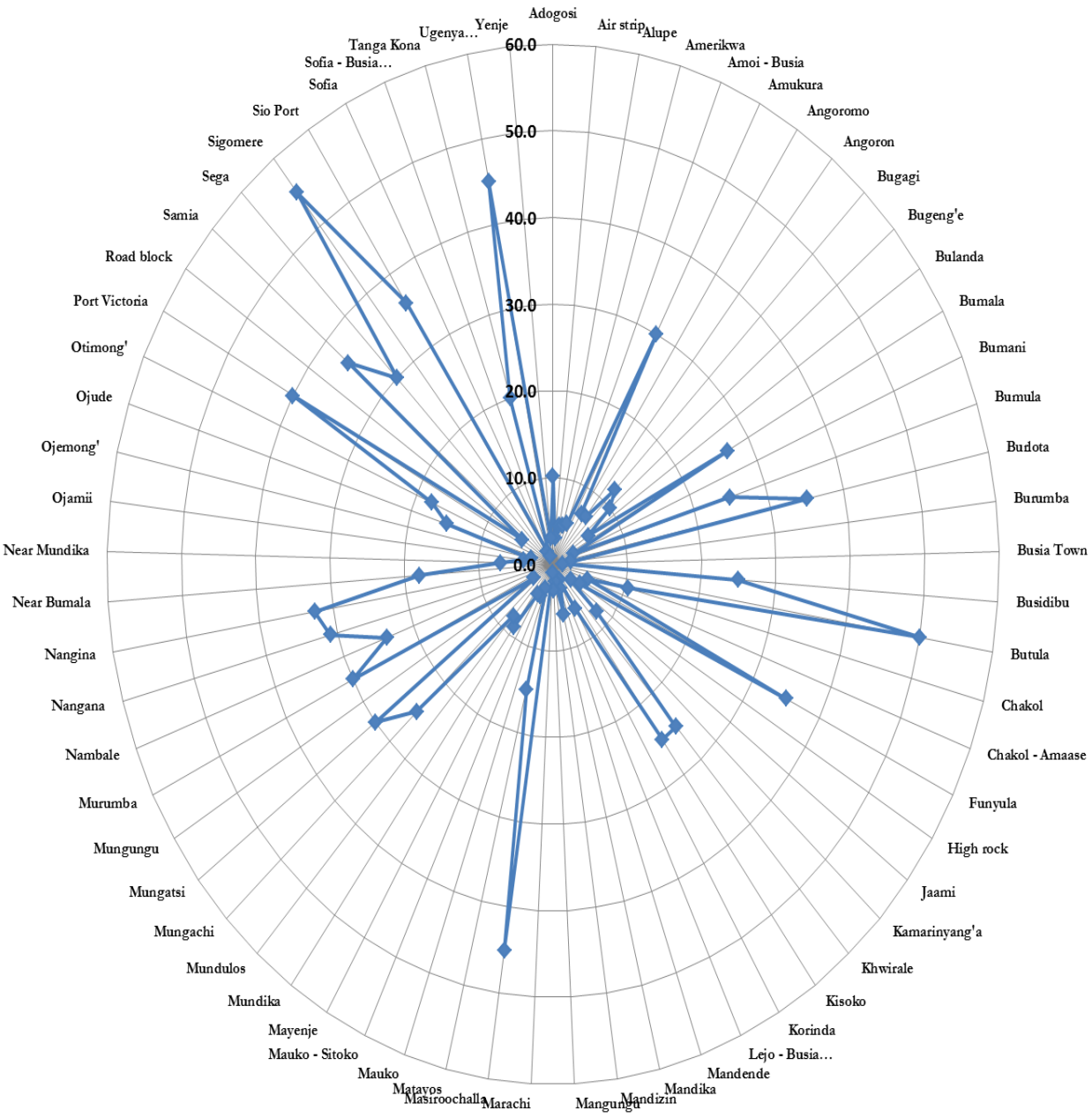


Figure 4:1: Place of residence and distance from the hospital.

The furthest distance traveled is 55km from the hospital. However, most of the physiotherapy patients and PWD travel more than 10 km to seek health care services

The figure above shows that 76 patients (47.8%) commute distances of 0 to 10 kilometres to access hospital. The number of patients who traverse from between 10 kilometres to 40 kilometres to reach the hospital is 78 patients (49.06%). Five patients (3.14 %) take the longest means travelling above 40 kilometres to get to the health facility

4.7. Level of Knowledge about physiotherapy and its utilisation among health care service providers

The results of the responses from the healthcare providers on the role and responsibility of physiotherapy services are outlined in Table 4.5 below.

Table 4.5: Knowledge of the role and responsibility of physiotherapists (n = 192)

	From both your training and working, has it been clear what the role and responsibility of physiotherapy in health care provision are?				
	Never, n (%)	Don't Know, n (%)	Some Of The Time, n (%)	Most Of The Time, n (%)	Always, n (%)
Clinical Officer	4(7.02)	1(1.75)	20(35.09)	7(12.28)	25(43.86)
Medical Officer	0(0)	2(6.45)	18(58.06)	7(22.58)	4(12.90)
Nurse	0(0)	3(2.86)	32(30.48)	33(31.43)	37(35.24)
Others	0(0)	0(0)	0(0)	0(0)	0(0)
Total	4(2.07)	6(3.11)	70(36.27)	47(24.35)	66(34.2)

Among the healthcare providers, more clinical officers (43.86 %) and nurses (35.24%) than medical doctors, (12.90%) indicated that they always knew the role of a

physiotherapist from both training and working. Majority of medical doctors (58.06%) were also not sure of the responsibilities of physiotherapists from their training and therefore indicated some of the time.

4.8. Assessment of the quality of physiotherapy services

The distribution on how healthcare providers described the quality of physiotherapy services are presented in **Table 4.6** below

Table 4.6; Assessment of the quality physiotherapy services by healthcare providers (n = 192)

	Describe physiotherapy services, n (%)					
Healthcare provider	**Clinical officer**		**Medical officer**		**Nurse**	
	n	**%**	**n**	**%**	**n**	**%**
Reliable	29	50.88	28	90.32	55	53.92
High quality	26	45.61	4	12.90	28	27.45
Useful	48	84.21	28	90.32	82	80.39
Unique	19	33.33	23	74.19	27	26.47
Good value for money	7	12.28	15	48.39	0	0.00
Overpriced	4	7.02	0	0.00	0	0.00
Ineffective	0	0.00	0	0.00	4	3.92

All health care providers expressed that physiotherapy is useful (medical officers- 90.32%, clinical officers- 84.21% and nurses- 80.39%). In pricing, none of health care providers expressed physiotherapy was overpriced. All the health care providers expressed that physiotherapy was effective, and about physiotherapy service being of high quality it was expressed as follows clinical officers - (45.61%), medical officers- (12.90%) and nurses – (27.45%). The healthcare providers, (48.39%) of the medical officers and (12.28%) of the clinical officers respectively expressed that physiotherapy services was good value for money.

4.9. Referral patterns to physiotherapy among healthcare providers

Table 4.7 outlines referral patterns for physiotherapy services by the healthcare providers.

Table 4.7: Referral of patients to physiotherapy by healthcare providers (N= 192)

	disagree completely	**somewhat disagree**	**somewhat agree**	**strongly agree**	**agree completely**
Most of the patients who attend health services in Busia county referral hospital require physiotherapy services	n%	n%	n%	n%	n%
Clinical officer	5 (9.26)	9 (16.67)	15 (27.78)	17 (31.48)	8(14.81)
Medical officer	0(0)	8(25.81)	15(48.39)	8(25.81)	0(0)
Nurse	12(11.43)	39(37.4)	17(16.19)	35(33.33)	2(1.9)
Total	17 (8.95)	56(29.47)	47(24.74)	60(31.58)	10(5.26)
All the patients who require physiotherapy are always referred for physiotherapy	n%	n%	n%	n%	n%
Clinical officer	7(12.73)	6(10.91)	25(45.45)	12(21.82)	5(9.09)
Medical officer	0(0)	12(38.71)	15(48.39)	4(12.9)	0(0)
Nurse	20(19.23)	15(14.42)	32(30.77)	24(23.08)	13(12.5)

Total	27(14.21)	33(17.37)	72(37.89)	40(21.05)	18(9.47)
Most of the patients suffering from mobility and other physical challenges are referred to physiotherapy	n%	n%	n%	n%	n%
Clinical officer	2(3.64)	3(5.45)	13(23.64)	24(43.64)	13(23.64)
Medical officer	0(0)	2(6.45)	12(38.71)	17(54.84)	0(0)
Nurse	14(13.33)	17(16.19)	29(27.62)	32(30.48)	13(12.38)
Total	16(8.38)	22(11.52)	54(28.27)	73(38.22)	26(13.61)
Physiotherapy given to a patient is determined by the reason for referral and the patients' condition	n%	n%	n%	n%	n%
Clinical officer	4(7.27)	1(1.82)	9(16.36)	33(60)	8(14.55)
Medical officer	0(0)	4(12.9)	5(16.13)	22(70.97)	0(0)
Nurse	4(3.81)	8(7.62)	22(20.95)	47(44.76)	24(22.86)
Total	8(4.19)	13(6.61)	36(18.85)	102(53.4)	32(16.75)

More clinical officers (74%), and medical officers (74%) compared to nurses (51%), expressed that most of the patients at Busia hospital required physiotherapy services. A lower percentage of medical doctors (61%) compared to clinical officers (76.36%), and nurses (71.44%) expressed that all patients who required physiotherapy were referred for

the services. Clinical officers (90.9%) and medical doctors 93.55% showed more compared to the nurses (70.48%) that patients who suffer from mobility challenges are referred for physiotherapy services. The healthcare providers expressed that physiotherapy service given to a patient is determined by the reason for referral and the patient's condition.

4.10. The level of satisfaction with referral to physiotherapy services

Table 4.8 outlines healthcare providers' level of satisfaction with physiotherapy services offered to referral patients at Busia County Referral Hospital

Table 4.8: The level of satisfaction of healthcare providers with physiotherapy services provided to referral patients (n = 192)

How satisfied or dissatisfied are you with physiotherapy services offered at Busia county referral hospital? n (%)	**very dissatisfied**	**somewhat dissatisfied**	**neither satisfied nor dissatisfied**	**somewhat satisfied**	**very satisfied**
Clinical officer	1(1.75)	1(1.75)	3(5.26)	28(49.12)	24(42.11)
Medical officer	0(0)	(0)	5(16.13)	21(67.74)	5(16.13)
Nurse	5(4.76)	1(0.95)	8(7.62)	62(59.05)	29(27.62)
Total	6(3.11)	2(1.04)	16(8.29)	111(57.51)	58(30.05)

A majority of clinical officers (91.2%) medical officers (83.9% nurses (86.67%) were satisfied with the physiotherapy services offered to referral patients

4.11. Communication between the physiotherapy department and other departments in the hospital.

The responses on how satisfied other departments were with communication with the physiotherapy department are outlined in **Table 4.9** below

Table 4.9: Communication with the physiotherapy department.

How satisfied are you with the communication you have with the physiotherapy in your current department, n (%)	Extremely dissatisfied n %	Somewhat dissatisfied n %	Somewhat satisfied n %	Very satisfied n %	Extremely satisfied n %	Participants n
Administration	0(0)	0(0)	7(58.33)	0(0)	5(41.67)	12
General outpatient	0(0)	6(13.33)	26(57.78)	0(0)	13(28.89)	45
Medical clinic	0(0)	3(6.52)	27(58.7)	3(6.52)	13(28.26)	46
Minor theatre	0(0)	1(50)	1(50)	0(0)	0(0)	2
Mobile clinic	0(0)	0(0)	0(0)	1(100)	0(0)	1
Surgical clinic	1(1.96)	1(1.96)	25(49.02)	2(3.92)	22(43.14)	51
Others	0(0)	18(51.43)	18(51.34)	1(2.86)	8(22.86)	45

All the departments were satisfied with communication with the physiotherapy department except minor theatre where (50%) (n= 1) were somewhat dissatisfied.

4.12. Management of self-referral patients by physiotherapists at BCRH.

The responses from the health care providers on the physiotherapist being knowledgeable enough to manage self-referred patients are shown in **Table 4.10**

Table 4.10: The response of health care providers on management of self – referred patients by the physiotherapist (n = 192)

A physiotherapist is knowledgeable enough to manage a self-referred patient n%	**disagree completely** n%	**somewhat disagree** n%	**somewhat agree** n%	**strongly agree** n%	**agree completely** n%
Clinical officer	3(5.26)	7(12.28)	5(8.77)	33(57.89)	9(15.79)
Medical officer	0(0)	0(0)	18(58.06)	12(38.71)	1(3.23)
Nurse	3(2.86)	2(1.9)	46(43.81)	51(48.57)	3(2.86)
Total	6(3.11)	9(4.66)	69(35.75)	86(49.74)	13(6.74)

Majority of the health care providers agreed that physiotherapists were knowledgeable enough to manage self-referred patients. All the medical officers, 82.45% of the clinical officers and 92.23% of the nurses agreed at various levels that physiotherapists were knowledgeable enough to manage self-referred patients.

4.13. The level of knowledge of the importance and the use of physiotherapy

The results of the level of knowledge and the utilisation of physiotherapy services from physiotherapy patients and PWD is outlined in **Table 4.11**

Table 4.11: Assessment of the level of Knowledge and utilisation of physiotherapy services from patients and PWD (n = 158)

To what extend do you agree with this statement?	Disagree Completely n%	Somewhat Disagree n%	Somewhat Agree n%	Strongly Agree n%	Agree Completely n%
Physiotherapy service is one of the five common services given in all health service institutions in Busia County.	30 (18.98)	40(25.31)	83(52.53)	2(1,26)	3(1.89)
There is a lot of information about the use and the importance of physiotherapy services among all the community members.	82(51.89)	35 (22.15)	30(18.98)	5(3.16)	6(3.79)
It is easy for one to get information about physiotherapy in the hospital than in the local community.	6(3 .79)	13(8.22)	26(16.45)	76(48.10)	38(24.05)

The majority of the physiotherapy patients and people living with disability agreed (55.68%) that physiotherapy was one of five standard services at Busia County Hospital.

Only 25.93% of physiotherapy patients and PWD agreed that there was a lot of information on the importance and utilisation of physiotherapy service among all the community members. The majority of physiotherapy patients and PWD (88.60%) agreed that information about the importance and utilisation of physiotherapy services was more accessible in the hospital than in the community.

4.14. Frequency of attendance of physiotherapy services by patients and PWD

The rate of attendance for physiotherapy patients and people living with a disability is presented in **Table 4.12** below.

Table 4.12: The frequency physiotherapy patients and PWD attended physiotherapy services (n = 158)

How frequently do you attend physiotherapy services in a week?	Total	Male	Female
Once	104 (66.67)	47(45.19)	57(54.81)
Two times	46 (29.49)	21(45.65)	25(54.35)
Three times	6 (3.85)	4(66.67)	2(33.33)

Majority of the physiotherapy patients and PWD attend physiotherapy once a week (67%), while those who attend three times a week is 4 %.

4.15. Assessment of satisfaction of patients and PWD with physiotherapy services

Table 4.13 outlines the results on whether physiotherapy services met the needs of physiotherapy patients and PWD and whether they were satisfied with those services.

Table 4.13: Assessment of satisfaction of physiotherapy patients and PWD with the treatment they were given (n = 158)

The performance measure of physiotherapy services		
How satisfied are you with the treatment you are being offered in the physiotherapy department?	n	%
Extremely dissatisfied	16	10.06
Somewhat dissatisfied	9	5.66
Somewhat satisfied	61	38.61
Very dissatisfied	13	8.18
Extremely satisfied	60	37.97
How well do physiotherapy services meet your needs?	n	%
Extremely well	9	5.66
Very well	61	38.36
Somewhat well	46	28.93
Not so well	22	13.84
Not at well	20	13.21

Physiotherapy patients and PWD (38.61%) expressed that they were somewhat satisfied with the treatment they received from physiotherapists, and only (10.06%) were not satisfied. The patients who expressed that physiotherapy met their needs extremely well were (5.66%).

4.16. Recommending physiotherapy services to a friend or a colleague

The responses of physiotherapy patients and PWD on recommending physiotherapy to be suitable for mobility and general health problems to a friend on colleagues outline in **Table 4.14**

Table 4.14: Recommending physiotherapy services to be ideal for mobility and general health problems (n = 158)

To what extent do you agree to recommend physiotherapy services to a friend or colleague as a suitable treatment for mobility and general health problems	n	%
Disagree completely	8	5.03
Somewhat disagree	12	7.55
Somewhat agree	62	38.99
Strongly agree	46	28.93
Agree completely	31	19.50

Majority of the patients agreed (87.42%) that they could recommend to a friend or colleague that physiotherapy was suitable for mobility and general health problems.

4.17. Satisfaction with the cost of physiotherapy service

Table **4.15** outlines the responses of physiotherapy patients and PWD on what they paid for physiotherapy services, on what determines access to physiotherapy services money or educational level, and finally whether making physiotherapy services free of charge will reduce mobility and general health problems.

Table 4.15: Assessment of satisfaction of the cost of physiotherapy services by patients and PWD (n =158)

	extremely dissatisfied n%	very dissatisfied n%	somewhat dissatisfied n%	somewhat satisfied n%	extremely satisfied n%
How satisfied are you with what you pay for physiotherapy services?	7(4.46)	14(8.92)	17(10.83)	80(50.96)	40 (24.84)
To what extent do you agree … it is the amount of money one has that determines access to physiotherapy service rather than the level of education	27(17.09)	29 (18,35)	45(28.48)	33(20.89)	24(15.19)
To what extent do you agree … if physiotherapy services were free of charge most of the mobility and general health problems will be less	3(1.94)	32(20.65)	60(38.71)	23(14.84)	37(23.87)

Majority physiotherapy patients and PWD (75.79%) were satisfied, and 63.92% disagreed that it was the amount of money one had that determined access to physiotherapy services and not level of education. Most of them also disagreed (61.3%), that making physiotherapy services free of charge will make mobility and general health problems less.

4.18. Barriers to attending physiotherapy by physiotherapy patients and PWD

Table 4.16 outlines the responses from physiotherapy patients and PWD on the various obstacles that could influence their attendance to physiotherapy services

Table 4.16: Barriers that could lead to failure to attend physiotherapy by patients and PWD (n = 158)

Barriers, n (%)	**Disagree completely n%**	**Somewhat disagree n%**	**Somewhat agree n%**	**Strong agree n%**	**Agree completely n%**
Cultural factors were a challenge	137 (86.70)	18 (11.39)	3(1.89)	0(0)	0(0)
Being handle roughly by the physiotherapist	147(93.03)	9(5.69)	2(1.26)	0(0)	0(0)
Sometimes you could find nobody to attend to you	145(91.77)	9(5.69)	0(0)	0(0)	4(2.53)
Busy with domestic responsibilities	71(44.93)	45(28.48)	34(21.51)	8(5.06)	0(0)
Waiting time is too long before being attended to	125(79.11)	25(15.82)	8(5.06)	0(0)	0(0)
Informed by traditional medicine person that it was not good	77(48.73)	40(25.31)	28(17.72)	9(5.69)	3(1.89)
Far from home	41(25.94)	29(18.35)	24(15.18)	37(23.41)	26(16.45)
No money for transport and treatment	38(24.05)	20(12.65)	16(10.12)	23(14.56)	61(38.60)

Attending to other family matters	65(41.13)	37(23.41)	37(23.41)	11(6.96)	9(5.69)

Majority of the patients agreed that hospital distance (55.71%) and lack of money for treatment and transport (63.3%) were their main obstacle to attending therapy. Majority of the physiotherapy patients and PWD expressed that culture (98.09%) and being handled roughly by the physiotherapy (98.72%) had the least influence on their obstacles on attending physiotherapy services

4.19. Association between level of knowledge and demographic profile of health care providers, PWD, and patients attending physiotherapy at Busia County referral hospital

4.19.1. The association between knowledge and demographic profile of healthcare providers

Table 4.17 presents the results of responses from health care providers on whether from both their training and working, it was clear what the role and responsibility of physiotherapy in health care provision were

Table 4.17: Association between knowledge and demographic profile of healthcare providers (n=192)

	From both your training and working, has it been clear what the role and responsibility of physiotherapy in health care provision are?					Chi-Square	p-value
	Never, n (%)	Don't Know, n (%)	Some Of The Time, n (%)	Most Of The Time, n (%)	Always, n (%)		
Clinical Officer	4(7.02)	1(1.75)	20(35.09)	7(12.28)	25(43.86)	27.38	0.001
Medical Officer	0(0)	2(6.45)	18(58.06)	7(22.58)	4(12.9)		
Nurse	0(0)	3(2.87)	32(30.48)	33(31.43)	37(35.24)		

Others	0(0)	0(0)	0(0)	0(0)	0(0)		
Total	4(2.07)	6(3.11)	70(36.27)	47(24.35)	66(34)		

The Chi-Squared test showed that there was a significant association between the role of the healthcare providers and their job description (X^2=27.38, p=0.001).

4.19.2. The association of knowledge of physiotherapy and religious affiliation

Table 4.18 presents the results of responses from health care providers about physiotherapy services being among the core services provided in their current departments and how it was associated with their religious affiliation

Table 4.18: Association of the level of Knowledge of physiotherapy with the religious affiliation of healthcare providers (n=192)

	To what extent do you agree that physiotherapy services are among the core services provided in your current department						
Religion	**Disagree completely n (%)**	**Somewhat disagree n (%)**	**Somewhat agree n (%)**	**Strongly agree n (%)**	**Agree completely n (%)**	**Chi-Square**	**p-value**
Roman Catholic	0(0)	5(5.68)	23(26.14)	46(52.27)	14(15.91)	59.03	0.00
Protestant	0(0)	9(10)	20(22.22)	42(46.67)	19(21.11)		
Muslim	0(0)	1(10)	3(30)	3(30)	3(30)		
Other	0(0)	1(50)	0(0)	1(50)	0(0)		
None	1(25)	0(0)	2(50)	1(25)	0(0)		
Total	1(0.52)	16(8.25)	48(24.74)	93(47.94)	36(18.56)		

From the Chi-square test, there is a significant association between the religion of affiliation and physiotherapy level of knowledge (X^2=59.03, p=0.00).

4.19.3. Association of the level of knowledge of physiotherapy services with work experience

The result of the association of the level of knowledge of physiotherapy services and the period of working experience at BCRH is outlined in Table 4.19.

Table 4.19: Association between the level of Knowledge of physiotherapy services and the period of working at BCRH of the healthcare providers (n = 192)

	Physiotherapy services are among the core services provided in your current department						
Working in Busia hospital for	**disagree completely n%**	**somewhat disagree n%**	**somewhat agree n %**	**strongly agree n%**	**agree completely n%**	**Chi-square**	**p-value**
6 months to 1 yr.	1(2.44)	4(9.76)	9(21.95)	16(39.02)	11(26.83)	25.75	0.058
1-2 yrs.	0(0)	1(3.45)	5(17.24)	15(51.72)	8(27.59)		
2-3 yrs.	0(0)	3(7.69)	9(23.08)	16(41.03)	11(28.21)		
3-4 yrs.	0(0)	4(11.11)	15(41.67)	14(38.89)	3(8.33)		
4-5 yrs.	0(0)	3(6.38)	10(21.28)	31(65.96)	3(6.38)		
Total	1(0.52)	15(7.81)	48(25)	92(47.92)	36(18.75)		

Majority (72.34%) of health care providers who had worked at BCRH for 4 to 5 years agreed that physiotherapy services are among the core services provided in their current departments. However, the Chi squared test showed that there was no significant association between the period one has worked at BCRH and physiotherapy services (X^2=25.75, p= 0.058).

4.19.4. The level of association between the knowledge of physiotherapy services and both the profession and the department health care provider works.

Table 4.20*:* The level of association between the knowledge of physiotherapy services and both the profession and the department in which the health care provider works. **(n= 192)**

	To what extent do you agree that physiotherapy services are among the core services provided in your current department						
Profession	Disagree completely n (%)	Somewhat disagree n (%)	Somewhat agree n (%)	Strongly agree n (%)	Agree completely n (%)	Chi-square	p-value
Clinical officer	1(1.75)	5(8.77)	14(24.56)	24(42.11)	13(22.81)	25.06	0.002
Medical officer	0(0)	3(9.68)	17(54.84)	10(32.26)	1(3.23)		
Nurse	0(0)	8(7.62)	17(16.19)	59(56.19)	21(20)		
Total	1(0.52)	16(8.29)	48(25)	93(48.43)	35(18.22)		

Most of the nurses (92.38%) agreed that physiotherapy services are among the core services provided in their current departments. The chi-square test showed that there was a significant association between professionals and department they work and physiotherapy services (X^2=25.06, p= 0.002).

4.19.5. Communication of various departments with the physiotherapy department

Table 4.21 presents the results of the assessment of the communication between physiotherapy other departments.

Table 4.21: Assessment of satisfaction of the communication between the various departments and physiotherapy department

	How satisfied are you with the communication you have with the physiotherapy department in your current department?						
Department	Extremely dissatisfied n (%)	Somewhat dissatisfied n (%)	Somewhat satisfied n (%)	Very dissatisfied n (%)	Extremely satisfied n (%)	Chi-square	P-value
Administration	0(0)	0(0)	7(58.33)	0(0)	5(41.67)	52.02	0.001
General out-patient	0(0)	6(13.33)	26(57.78)	0(0)	13(28.89)		
Medical clinic	0(0)	3(6.52)	27(58.7)	3(6.52)	13(28.26)		
Minor theatre	0(0)	1(50)	1(50)	0(0)	0(0)		
Mobile clinic	0(0)	0(0)	0(0)	1(100)	0(0)		
Surgical clinic	1(1.96)	1(1.96)	25(49.02)	2(3.92)	22(43.14)		
Others	0(0)	8(22.86)	18(51.43)	1(2.86)	8(2.86)		
Total	1(0.52)	19(9.9)	104(54.17)	7(3.65)	61(31.77)		

All the respondents from the administration unit at the BCRH expressed satisfaction with communication with the physiotherapy department. The chi-square test showed that there was a significant association between both profession and department the healthcare provider work and physiotherapy department (X^2=52.02, p= 0.001).

Association of the monthly income and payment for physiotherapy services

Table 4.22 outlines the results of the assessment of the association of the amount of money paid for physiotherapy service and the monthly income of physiotherapy patients and PWD.

Table 4.22: The evaluation of satisfaction with the amount of money physiotherapy patients and PWD paid for physiotherapy service (n = 158)

How would you rate your monthly income in terms of the amount?	Extremely dissatisfied n (%)	Very dissatisfied n (%)	Somewhat dissatisfied n (%)	Somewhat satisfied n (%)	Extremely satisfied n %	Chi-square	P-Value
0-9,999	6(19.35)	9(29.03)	10(32.26)	5(16.13)	1 (3.23)	87.02	0.000
10,000-39,999	0(0)	4(10.26)	4(10.26)	21(53.85)	10(25.64)		
40,000-69,999	1(1.47)	1(1.47)	3(4.41)	47(69.12)	16(23.53)		
70,000-79,999	0(0)	0(0)	0(0)	5(38.46)	8(61.54)		
80,000 and above	0(0)	0(0)	0(0)	2(33.33)	4(66.67)		
Total	7(4.46)	14(8.92)	17(10.83)	80(50.96)	39(24.84)		

Majority of the physiotherapy patients and PWD were satisfied with the cost of physiotherapy services, 19.36% of the patients with income between 0 to Kshs. 9,999 and 88.98% those who earn above 9,999 Kshs were satisfied with what they paid for physiotherapy services as shown in Table 4.22.

4.19.6. Association between the monthly income and accessibility to physiotherapy service by physiotherapy patients and PWD

Table 4.23 illustrates responses from physiotherapy patients and PWD on the issue that their access to physiotherapy services is determined by the amount of money they have and not their level of education and how that is associated with their monthly income.

Table 4.23: Assessment of the association of the monthly income and access to physiotherapy services by physiotherapy patients and PWD (n=158)

	To what extent do you agree … it is the amount of money one has that determines access to physiotherapy service rather than the level of education						
How would you rate your monthly income in terms of the amount	**Disagree n (%) completely**	**Somewhat disagree n (%)**	**Somewhat agree n (%)**	**Agree n (%)**	**Completely agree n (%)**	**Chi-square**	**p-value**
0-9,999	2(6.45)	1(3.23)	4(12.9)	15(48.39)	9(29.03)	88.08	0.000
10,000-39,999	5(12.5)	5(12.5)	14(35)	10(25)	6(15)		
40,000-69,999	6(8.82)	20(29.41)	26(38.24)	8(11.76)	8(11.76)		
70,000-79,999	8(61.54)	3(23.08)	1(7.69)	0(0)	1(7.69)		
80,000 and above	6(100)	0(0)	0(0)	0(0)	0(0)		
Total	27(17.09)	29(18.35)	45(28.48)	33(20.89)	24(15.19)		

Majority of the physiotherapy patients and PWD (90.32%), with income between 0, to Khs.9, 999 agreed that it was the amount of money one had that determined access to physiotherapy services. All the patients that earned Kshs. 80,000 and above disagreed that it was the amount of money one had that determined access to physiotherapy access. The Chi-squared test showed that there was a significant association between income of the patients and access to physiotherapy services at BCRH (X2=88.08, p=0.00).

4.19.7. Association between the monthly income and accessibility to physiotherapy services

Table 4.24 illustrates the results of the assessment of the association of free of charge physiotherapy, monthly income for physiotherapy patients and PWD, and the presence of mobility and general health problems.

Table 4.24: **Assessment of the association of the monthly income and the presence of mobility and general health challenges encountered by physiotherapy patients and PWD (n = 158)**

	to what extent do you agree … if physiotherapy services were free of charge most of the mobility and general health problems will be less						
How would you rate your monthly income in terms of the amount	Disagree completely n (%)	Somewhat disagree n(%)	Somewhat agree n (%)	Agree n (%)	Completely agree n (%)	Chi-square	p-value
0-9,999	1(3.33)	0(0)	9(30)	7(23.33)	13(43.3)	62.24	0.00
10,000-39,999	1(2.63)	0(0)	23(60.53)	7(18.42)	7(18.42)		
40,000-69,999	1(1.47)	18(26.47)	26(38.24)	8(11.76)	15(22.06)		
70,000-79,999	0(0)	9(69.23)	1(7.67)	1(7.69)	2(15.38)		
80,000 and above	0(0)	5(83.33)	1(16.67)	0(0)	0(0)		
Total	3(1.94)	32(20.65)	60(38.71)	23(14.84)	37(23.87)		

Majority of the physiotherapy patients and PWD, with income between 0 to Kshs. 9,999 (96%) agreed, while majority those with monthly income above Kshs. 80,000 disagreed (83.33%) that if physiotherapy treatment were free of charge, mobility and general health problems would be reduced. The Chi-squared test showed that there was a significant association between income of the patients and if it were free of charge most of the mobility and general health problems would be less ($X^2=62.24$, $p=0.00$).

4.20. Logistic regression

A multinominal logistic regression analysis was performed to determine the relationship that best fits the observed data in terms of the access and utilisation of physiotherapy**.** The data and culculations presented are based on the muitinominal logistic regression model for access and utilisation of physiotherapy at BCRH.

Health care providers

Multinomial logistic regression with religion

In the model, protestant is used as the category for the baseline comparison group. The model converged after 5 iterations at the log likelihood -184.51199.

In the table 1 below, the likelihood ratio chi-square of 8.981 with p-value at 0.062 shows that the model only fits at 10% level of significance.

Table 4.25: Multinominal logistic regression with religion

religion	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
none	-1.833	0.765	-2.40	0.017	-3.333	-0.334	**
Constant	2.199	1.971	1.12	0.264	-1.663	6.061	
muslim	0.016	0.395	0.04	0.969	-0.759	0.791	
Constant	-2.256	1.539	-1.47	0.143	-5.272	0.759	
roman catholic	-0.007	0.177	-0.04	0.970	-0.354	0.341	
Constant	0.003	0.688	0.00	0.997	-1.345	1.351	
o.protestant	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
other	-0.977	0.785	-1.25	0.213	-2.516	0.562	
Constant	-0.479	2.483	-0.19	0.847	-5.346	4.387	

Mean dependent var	3.404	SD dependent var	0.679
Pseudo r-squared	0.024	Number of obs	193.000
Chi-square	8.981	Prob > chi2	0.062
Akaike crit. (AIC)	385.024	Bayesian crit. (BIC)	411.125

*** p<0.01, ** p<0.05, * p<0.1

(1) x_{1i} is to what extent do you agree that physiotherapy services are among the core services provided in your current working department

The result show that Muslim health care providers were 0.016 times more likely to agree to physiotherapy services being the core services compared to protestant. However none, Roman Catholic and others with relative log odds of 1.833 times, 0.007 times and 0.977 times respectively are most unlikely to agree compared to the protestant

(1) Multinomial logistic regression with profession

Here, nurse was used as the category for the baseline comparison group. The model converged after 4 iterations at the log likelihood -185.80727. The likelihood ratio chi-square of 11.064 with p-value at 0.004 implying that the model fits well at 5% level of significance.

Table 4.26: Multinominal logistic regression with profession

profession	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
o.nurse	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
clinical officer	-0.160	0.197	-0.81	0.417	-0.546	0.227	
Constant	0.019	0.770	0.03	0.980	-1.490	1.528	
medical officer	-0.780	0.241	-3.23	0.001	-1.253	-0.307	***
Constant	1.589	0.863	1.84	0.066	-0.103	3.281	*
Mean dependent var		1.619	SD dependent var			0.747	
Pseudo r-squared		0.029	Number of obs			194.000	
Chi-square		11.064	Prob > chi2			0.004	
Akaike crit. (AIC)		379.615	Bayesian crit. (BIC)			392.686	

*** p<0.01, ** p<0.05, * p<0.1*

(11) $\mathbf{x_{1i}}$ is to what extent do you agree that physiotherapy services are among the core services provided in your current working department

Using x_{1i}

(12) $\mathbf{x_{1i}}$ is from both your training and working has it been clear what the role and responsibility of physiotherapy in health care provision are

Yields likelihood ratio chi-square of 7.714 with p-value at 0.021 that fits at 5% level of significance.

Table 4.27: Multinominal regression with profession

profession	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
o. nurse	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
clinical officer	-0.136	0.168	-0.81	0.418	-0.467	0.194	
Constant	-0.058	0.679	-0.09	0.932	-1.388	1.273	
medical officer	-0.568	0.209	-2.72	0.007	-0.977	-0.159	***
Constant	0.888	0.776	1.15	0.252	-0.632	2.408	
Mean dependent var		1.619	SD dependent var			0.747	
Pseudo r-squared		0.020	Number of obs			194.000	
Chi-square		7.714	Prob > chi2			0.021	
Akaike crit. (AIC)		382.964	Bayesian crit. (BIC)			396.036	

*** p<0.01, ** p<0.05, * p<0.1*

The result show that clinical officers and medical officers on relative log odds scale were 0.136 times and 0.568 times were unlikely to agree compared to the responses from the nurses.

(2) Multinominal logistic regression with department

The study used surgical clinic as the baseline comparison group. The model converged after 5 iterations at the log likelihood -299.79563. Likelihood ratio chi-square was 12.121 and p-value 0.059 thus fitting at 10% level of significance.

Table 4.28: Multinomial logistic regression with department

department	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
administration	0.337	0.510	0.66	0.508	-0.661	1.336	
Constant	-2.914	2.261	-1.29	0.198	-7.346	1.518	
general out-patient	-0.241	0.292	-0.82	0.409	-0.812	0.331	
Constant	0.889	1.247	0.71	0.476	-1.554	3.333	
o.surgical clinic	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
medical clinic	-0.365	0.286	-1.27	0.203	-0.926	0.197	
Constant	1.423	1.216	1.17	0.242	-0.961	3.807	
minor theatre	-1.132	0.755	-1.50	0.133	-2.611	0.347	
Constant	1.220	2.795	0.44	0.662	-4.257	6.698	
mobile clinic	-2.490	1.176	-2.12	0.034	-4.796	-0.184	**
Constant	4.242	2.847	1.49	0.136	-1.339	9.823	
others	-0.596	0.299	-1.99	0.047	-1.182	-0.009	**
Constant	2.077	1.251	1.66	0.097	-0.374	4.528	*
Mean dependent var		3.646	SD dependent var			1.825	
Pseudo r-squared		0.020	Number of obs			192.000	
Chi-square		12.121	Prob > chi2			0.059	
Akaike crit. (AIC)		623.591	Bayesian crit. (BIC)			662.681	

*** p<0.01, ** p<0.05, * p<0.1*

(13) x_{1i} is how satisfied are you with communication you have with the physiotherapist in your current department

The result show that health care providers in the administration were 0.337 times on relative log odds scale more likely to agree compared to surgical clinic responses. However general out patient, medical clinic, minor theatre and mobile responses with relative log odds of 0.241times, 0.365 times, 1.132 times, 2.490 times and .596 times respectively are most unlikely to agree compared to the surgical clinic responses

Physiotherapy patients and PWD

(3) Multinominal logistic regression with monthly income

An income of KS40, 000-69,999 was the baseline comparison group. The model converged after 5 iterations at the log likelihood -181.17138. The model was well fit having likelihood ratio chi-square was 69.524 and p-value 0.000.

Table 4.29: Multinominal logistic regression with monthly income

monthly income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
0-9,999	-1.691	0.313	-5.40	0.000	-2.304	-1.077	***
Constant	5.083	1.120	4.54	0.000	2.888	7.278	***
10,000-39,999	-0.316	0.275	-1.15	0.251	-0.856	0.224	
Constant	0.719	1.125	0.64	0.523	-1.487	2.925	
40,000-69,999	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
70,000-79,999	1.235	0.543	2.27	0.023	0.170	2.300	**
Constant	-6.969	2.470	-2.82	0.005	-11.811	-2.127	***
80,000 and	1.594	0.856	1.86	0.063	-0.084	3.272	*

above							
Constant	-9.473	3.993	-2.37	0.018	-17.299	-1.647	**
Mean dependent var		2.525	SD dependent var			1.026	
Pseudo r-squared		0.161	Number of obs			158.000	
Chi-square		69.524	Prob > chi2			0.000	
Akaike crit. (AIC)		378.343	Bayesian crit. (BIC)			402.844	

*** p<0.01, ** p<0.05, * p<0.1*

(14) $\mathbf{x_{1i}}$ is how satisfied are you with what you pay for physiotherapy services

The result show that patients and PWD with a monthly income of 70,000 – 79999 and 80,000 and above were 1.235times and 1.594 times on relative log odds scale likely to agree compared to those with income of 40000 – 69999. However those with income of 0- 9999 and 10,000 – 39999 were 1.691 times and 0.316 times on relative log odds scale were unlikely to agree compared to those with an income of 40000 – 69999.

Using x_{1i}

(15) $\mathbf{x_{1i}}$ is to what extent do you agree that it is the amount of money one has that determines compliance to physiotherapy service than level of education

Produces well-fitting model having likelihood ratio chi-square was 59.804and p-value 0.000.

Table 4.30: Multinominal regression with compliance to physiotherapy service

monthly income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
0-9,999	0.792	0.215	3.69	0.000	0.371	1.213	***
Constant	-3.490	0.811	-4.30	0.000	-5.079	-1.900	***
10,000-39,999	0.210	0.171	1.23	0.217	-0.124	0.545	
Constant	-1.168	0.560	-2.08	0.037	-2.266	-0.070	**
40,000-69,999	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
70,000-79,999	-1.128	0.353	-3.20	0.001	-1.819	-0.437	***
Constant	0.894	0.711	1.26	0.208	-0.499	2.288	
80,000 and above	-14.983	583.449	-0.03	0.980	-1158.522	1128.555	
Constant	14.492	583.449	0.03	0.980	-1129.047	1158.032	
Mean dependent var	2.522	SD dependent var				1.024	
Pseudo r-squared	0.138	Number of obs				159.000	
Chi-square	59.804	Prob > chi2				0.000	
Akaike crit. (AIC)	390.843	Bayesian crit. (BIC)				415.394	

*** p<0.01, ** p<0.05, * p<0.1*

The result show that patients and PWD with an a monthly income of 0 –9999 and 10000-39999 were 0.792 times and 0.210 times on relative log odds scale likely to agree compared to those with income of KS40000 – 69999. However those with income of 70000 – 799999 and 80000 and above were -1.128 times and -14.983 times on relative

log odds scale were unlikely to agree compared to those with an income of 40000 – 69999.

Using x_{1i}

(16) **x_{1i}** is to what extent do you agree that if physiotherapy services were free of charge most of mobility and general health problems will be less

Table 4.31: Multinominal regression with monthly income and access to physiotherapy services

Monthly income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
0-9,999	0.679	0.218	3.12	0.002	0.252	1.107	***
Constant	-3.299	0.859	-3.84	0.000	-4.983	-1.614	***
10,000-39,999	0.208	0.191	1.09	0.276	-0.166	0.582	
Constant	-1.285	0.683	-1.88	0.060	-2.624	0.053	*
40,000-69,999	0.000	.	.	.	.	.	
o.Constant	0.000	.	.	.	.	.	
70,000-79,999	-0.670	0.338	-1.98	0.047	-1.332	-0.008	**
Constant	0.384	0.970	0.40	0.692	-1.517	2.286	
80,000 and above	-1.439	0.619	-2.33	0.020	-2.651	-0.227	**
Constant	1.376	1.464	0.94	0.347	-1.494	4.246	
Mean dependent var		2.538	SD dependent var			1.025	
Pseudo r-squared		0.065	Number of obs			156.000	
Chi-square		27.880	Prob > chi2			0.000	

Akaike crit. (AIC)	413.899	Bayesian crit. (BIC)	438.297

*** p<0.01, ** p<0.05, * p<0.1

The result show that patients and PWD with a monthly income of 0- 9999 and 10,000 – 39999 were 0.679 times and 0.208 times on relative log odds scale likely to agree compared to those with income of 40000 – 69999. However those with income of 70,000 – 79999 and 80,000 and above were -0.670 times and 1.439 times on relative log odds scale unlikely to agree compared to those with an income of 40000 – 69999.

4.18 Summary of results

1. **Objective one - To establish the level of Knowledge of physiotherapy services among nurses, clinical officers, and medical officers in Busia County referral hospital**.
    - Majority of the health care providers (92%) understood the roles of physiotherapists from both training and working.
    - Majority of the health care providers (84.97%) described physiotherapy services as useful.
2. **Objective two - to establish the referral patterns to physiotherapy amongst nurses, clinical officers, and medical officers in Busia County referral hospital.**
    - Majority of the healthcare providers (66.53%) expressed that all the patients who attended Busia County Referral Hospital required physiotherapy services.
    - Majority of the health care providers (67.98%) expressed that those patients who required physiotherapy services were referred for it
    - Majority of healthcare providers (84.98%) expressed that patients with mobility challenges were referred for physiotherapy
    - Majority of the health service providers (87.19%) expressed that they were somewhat satisfied with physiotherapy services at BCRH
    - Most of the departments were satisfied (86.03%) with the communication they had with physiotherapists

- Almost all of the healthcare providers (91.56%) agreed that physiotherapists were knowledgeable enough to handle self-referral patients.

3. **Objective three - To determine the level of Knowledge and use of physiotherapy service among patients and people living with disabilities in Busia County.**
   - Majority of physiotherapy patients and PWD 52.53% somewhat agreed that physiotherapy was one of the common services at BCRH.
   - Only 25.93% of physiotherapy patients and PWD agreed that there was a lot of information in the community about physiotherapy services
   - Majority 88.60% of physiotherapy patients and PWD expressed that there was more information about physiotherapy in the hospital than the community
   - Majority of patients and PWD 67% attended treatment once a week due to various reasons –which includes lack of money, distance from the health facility limited number of the available physiotherapists.
   - Majority of the patients and PWD 38.61% were somewhat satisfied with physiotherapy services at BCRH.
   - Majority of the patients and PWD 38.99% somehow agreed that they could recommend physiotherapy services to a friend or a colleague
   - Majority of patients and PWD 50.96% were somewhat satisfied with what they paid for physiotherapy services
   - The patients and PWD 36.8% expressed that access to physiotherapy was determined by the amount of money one had and not the level of education
   - Making physiotherapy service free will make mobility and general health challenges less was expressed by the patients and PWD 38. 71% as satisfying.
   - Patients and PWD 1.26% agreed on the issue of being handled roughly by physiotherapists as a barrier to getting physiotherapy services.

Objective four - To establish the association between the level of Knowledge and demographic profile of health care providers, PWD, and patients attending physiotherapy at Busia County referral hospital.

- There was a significant association between the period the health care provider had worked at BCRH and their level of knowledge about physiotherapy services.
- There was a significant association between the profession, the departments and the level of Knowledge about physiotherapy services
- There was a significant association between the departments, the communication with the physiotherapy department, and physiotherapy services.
- There was a significant association between the monthly income for patients and PWD and the satisfaction of what they paid for physiotherapy services
- There was no significant association between the level of education for PWD and patients and access to physiotherapy services
- There was a significant association between the monthly income and accessibility to physiotherapy services
- Muslim health care providers were likely to agree that physiotherapy services are among the core services provided in their current working departments
- Clinical officers and medical officers were unlikely to agree that both from their training and working it has been clear what the role and responsibility of physiotherapy in health care provision were
- Healthcare workers in the administration were satisfied with communication they had with the physiotherapists.
- Patients and PWD whose monthly income was 0 – 9999 and 10000 – 39999 were unlikely to be satisfied with what they paid for physiotherapy services
- Patients and PWD whose monthly income was 10,000 and 39,999 were unlikely to agree that the amount of money one has determines compliance to physiotherapy service than level of education
- Patients and PWD with a monthly income of 70000 – 79999 and 80000 and above are unlikely to agree that if physiotherapy services were free of charge most of mobility and general health problems will be less

CHAPTER FIVE: DISCUSSION

5.1. Introduction

In Kenya This study was conducted to establish the level of knowledge and factors that influence the utilisation of physiotherapy services among healthcare providers physiotherapy patients and PWD at Busia County Referal Hospital. This was achieved through considering the level of knowledge about physiotherapy of health care providers, physiotherapy patients, and PWD. The referral patterns of physiotherapy patients to physiotherapy by health care providers were also considered. The study also looked at the utilisation of physiotherapy services by patients and PWD and the association of the demographic information of the health care providers, physiotherapy patients, and PWD and the level of knowledge and use of physiotherapy services was also explored.

5.2. Sample size and demographic information

The target population was 1260 respondents. Out of the 422 estimated sample size data was collected from 350 participants, 158 physiotherapy patients, and PWD and 192 health care providers. This is 82.93% of the estimated sample size, which was (27.77%) of the targered sample size which was sufficient for this study. All the 82.93% of the returned questionnaires were valid and statistically analyzed. In a similar study conducted in Papua New Guinea there, response rate was (15%) with nursing officers contributing (46%) and medical officers (10%) (Karthikeyan & Jones, 2015a). In this study the response rate was as follows nurses 104 (20.80%), clinical officers 57 (47.71%), medical officers 31(68.88%), physiotherapy patients 100, (20.83%) and PWD 57, (47.50%).

.

5.3. Level of knowledge about physiotherapy and its utilisation among health service providers

From the study, the majority of the medical doctors and nurses knew the roles and usefulness of the physiotherapist from their training and work experience. Healthcare providers who received or clerked patients at the entry point in the health institution referred patients and PWD who seeked for physiotherapy services. If the healthcare providers at the entry point in the health care system lack knowledge about a service, that may lead to reduced utilisation of that service (Karthikeyan & Jones, 2015b). Professionals in health care services collaborate to provide holistic services to patients and clients through referral systems. An important pillar for the referral systems is the level of knowledge about other cadres' roles and responsibilities for patient care. Through other cadres, physiotherapy services will be utilised through referral of patients who need physiotherapy. For example, inadequate knowledge about physiotherapy by professionals involved in mental health care led to poor physical health instead of poor mental health for patients with mental health problems (Lee et al., 2017). In the current study, the level of knowledge depicted by health care providers is high; the expectation would be high utilisation of physiotherapy service in this population. Increased physical activities and a healthy diet lead to a healthy body in general and less physical health challenges(Lee et al., 2017). However, the Busia population still struggles with non-communicable diseases like diabetes, arthritis, hypertension and obesity meaning the utilisation of physiotherapy service may be considered to be low.

In the current study, the health care services providers have indicated that they have confidence in the physiotherapists and deem them knowledgeable enough to handle referred patients. Busia County Referral Hospital health care workers have also indicated that there was good communication with the physiotherapy department. The two attributes, confidence, and good communication, are good indicators of good chances of influencing utilisation of physiotherapy services by other cadres in the health care team. Perception and attitude towards a service depend on the level of knowledge about that service by the intended users including other health workers and patients/clients, and this is a determinant of the usage of that service. Alshehri et al. (2018), expressed that physiotherapists need to do more to create awareness of the importance of physiotherapy

among physicians and other health care providers. One can see how even physician's knowledge of physiotherapy which in some countries is a first line practitioner can change their perception Alshehri et al. (2018). In literature various perceptions are expressed by physicians about physiotherapists, some express that physiotherapists cannot serve patients independently, need to work under supervision, (Etrog et al., 2015), respiratory physicians have no idea about the role of physiotherapy in the care of patients with respiratory problems (Al Mohammedali et al., 2016).

In a study conducted in Nigeria by Odunaiya et al. (2013), the physicians in gynecology and obstetrics expressed positivity about the interaction of physiotherapists with their patients. In a study in Saudi Arabia, 75% of the physicians who were aware of the role of physiotherapy in-patient care perceived physiotherapists as subordinates, and only 11% referred patients to physiotherapists (Al-Eisa et al., 2016). The healthcare providers' level of knowledge about the role of physiotherapy in healthcare at Busia County referral hospital leads to various perceptions and attitudes towards physiotherapy services, which may influence its utilisation. The current study indicates a supportive situation to positively influence the utilisation of physiotherapy services at BCRH.

The majority of the medical officers and nurses expressed that physiotherapy services were useful. The motivation to utilise a service may be determined by the perception of whether that service is useful or not (Allan Whitfield et al., 1996). In this study, the health care providers expressed differently on the usefulness of physiotherapy. All three cadres of health care providers scored very high on whether physiotherapy services were useful in patients' care, and this may lead to high utilisation of physiotherapy services, for they will refer patients for physiotherapy services. The health care providers at BCRH further expressed that patients under their care required physiotherapy services, 74% of clinical officers, 74.2% of medical officers, and 51.42% of nurses. This kind of response may imply that utilisation of physiotherapy is well supported by the main health care providers at BCRH. In return, there shall be indications of high utilisation for physiotherapy services within this community with clear-cut indicators like less occurrence of non- communicable diseases like diabetes, hypertension strokes obesity, and arthritis, which is contrary.

5.4. The referral patterns to physiotherapy amongst nurses, clinical officers, and medical officers in Busia County referral hospital

In this study, the majority of the health care providers expressed that patients who required physiotherapy services are referred for it. The majority of the clinical officers and medical officers, and some of the nurses expressed that patients with mobility and other physical problems are referred to physiotherapy for management at BCRH. Holistic care for patients in healthcare is determined by a well-structured referral system (Duncan et al., 2015). Maybe self –referrals were thought to be a strategy to boost utilisation of physiotherapy services (Holdsworth et al., 2008). However, with the low levels of awareness among the community members about physiotherapy service, makes it apparent that self-referral, as a strategy, may not work, (Holdsworth et al., 2008). In the current study, half of the health care provides expressed that physiotherapists were not knowledgeable enough to handle self-referred patients. It contrasts with what the health care providers indicated about the knowledge of the physiotherapist earlier. There is almost no difference in the approach of managing self- referred, and a patient referred to the physiotherapist by the other cadres in the health care team. There is a need to interrogate that perception expressed by the health care providers on self-referred patients. There is a need to establish more information on the increased occurrence of non-communicable diseases among the Busia County community members despite health care providers being supportive of physiotherapy utilisation by referring patients who require it.

Reasons for referral and the condition of the patient determines the kind of physiotherapy intervention health care providers expressed this in the current study. However, the percentage of the healthcare providers that are satisfied with the outcome from the referral to physiotherapy was low; only 27.6% of the medical officers expressed satisfaction. In all, the majority of the clinical officers were not satisfied with the outcome of the physiotherapy referral at the BCRH. Physiotherapy interventions' results are very practical and can be seen and felt practically. There is a need to interrogate why the healthcare providers, after indicating physiotherapy service, are essential and useful

thereafter they indicate the contrary that they were not satisfied with the results of cases they referred for physiotherapy. Clinical officers' expressions may be informed by the fact that they may not meet the patients they refer to physiotherapy again, and if they do, they may not be able to remember them because of nature of the workload they handle in a day. Other studies have identified the opinion of medical officers with regards to the competency of physiotherapists and their opinions include that - physiotherapists are subordinated without skills of managing patients on their own (Al-Eisa et al., 2016), and physiotherapists need to work under supervision and not independently (Etrog et al., 2015). This could be a clear indication of a low level of knowledge of the capabilities of physiotherapists as a profession and a strong team player of the healthcare provider.

5.5. The level of knowledge and use of physiotherapy service among patients and people living with disabilities in Busia County

At Busia County referral hospital, only 4% of physiotherapy patients and PWD agreed that physiotherapy services were one of the five standard services provided in all health institutions in Busia County. Only 7% of physiotherapy patients and PWD agreed that there was a lot of information about the use and the importance of physiotherapy services among the community members. This study at BCRH established that information about physiotherapy was less in the community compared to hospital 72% of patients, and PWD expressed so. The scores indicated the level of knowledge about the importance and the use of physiotherapy to be low; thus, those community members who have not been referred by the health care providers have no idea about the usefulness of physiotherapy. This implies that most of the patients who are referred to physiotherapy in the hospital are in their chronic stage. In Scotland, the level of awareness 34% of the general population of the importance and the use of physiotherapy hindered the advocacy for self-referral, which was thought could improve utilisation of physiotherapy services (Holdsworth et al., 2008). A low level of awareness of the importance of specific service will hinder one from seeking that service in case one is in need. Most of the physical challenges remain asymptomatic for some time, and the patient may not ask for help unless well informed about the availability and the importance of the services that can

help. Patients suffering from non-communicable physical challenges seek care from general practitioners in the hospital when pain. Therefore, for patients suffering from physical complications of non-communicable diseases may seek physiotherapy when it is too late.

Only 48% of the physiotherapy patients and PWD could refer friends for physiotherapy at Busia County Referral Hospital; this may imply that there could be a lack of satisfaction with physiotherapy services offered at the hospital. Most of the health conditions mentioned in this study require regular and consistent physiotherapy intervention for a specified period (David, 1985). However, physiotherapy patients and PWD who attended physiotherapy once a week was 67%, while those who attend three times a week was 4 %. The chronicity of those conditions may be increased by spacing the treatment frequency by less than two days in a week. They were attending physiotherapy treatment once a week, which may not be adequate to make a change in patients' condition; therefore, no satisfaction and not willing to refer a friend or a colleague for physiotherapy by some of patients and PWD

The facilitation by the health care providers of the accessibility and utilisation of physiotherapy was affected mainly by the department one worked and the profession one was affiliated to. For the patients their main challenge was the financial. Compared to a study by (Lee et al., 2017) where the main challeges was awareness on the availability and the importance of physiotherapy.

Physiotherapy patients and PWD within the Busia community in this current study indicated that money for transport 61% and the distance between hospital to home, 26% were the main barriers for physiotherapy utilisation. This may mean that the frequency of attendance for patients may be inadequate, therefore bring about the poor outcome for patients. As indicated before, the majority of patients attend physiotherapy once a week. This community may be struggling with low-income countries' socio-economic challenges like poverty, illiteracy and cultural beliefs complicated with a low level of knowledge of the availability and importance of physiotherapy.

Numerous barriers could lead to reduced utilisation of physiotherapy services, and this varies from communities to another in the world. Some physiotherapists handle patients carelessly (Gona et al., 2013), and this reflects negatively on the profession leading to reduced utilization (David, 1985). Lack of infrastructure, equipment, and physiotherapists are among the barriers that are commonly mentioned (Igwesi-Chidobe, 2012).

5.6. Limitation of the study

- The diversity of the Kenyan community and the environmental factors make it hard to generalise the results of this study to other regions of Kenya.
- To get the real situation of utilisation of physiotherapy, the three main players(physiotherapists, patients, and other healthcare service providers) views must be considered; hence, there need to get physiotherapists' views.

6. CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

From the results of this study, we can conclude that the healthcare service providers (clinical officers, medical officers, and the nurses) had a good understanding of the importance of physiotherapy in health care services; they all describe it as a useful service to patients who require it. The healthcare service providers had adequate information about physiotherapy services, and they did all it takes to foster its utilisation within BCRH. The healthcare providers had excellent communication with the physiotherapy department; they referred patients to physiotherapy when there was need and trusted that physiotherapists had sufficient knowledge to be able to manage self-referred patients.

Physiotherapy patients and PWD expressed notable gaps on the utilisation of physiotherapy services at BCRH which included-

- Limited information about physiotherapy within the community, therefore, failure for them to realise that it is core service at BCRH
- Most of the patients and PWD could not manage to attend physiotherapy service as required at least three times a week, and therefore physiotherapy service could not adequately meet their needs
- They could not recommend to a friend or a colleague physiotherapy services for it never met their needs.
- The majority were of the idea that not paying for physiotherapy services will help in reducing both physical and general health challenges.
- Being financially empowered was more useful than being more educated in accessing physiotherapy services
- Lack of finance and long distance from the for most of the patients and PWD was noted to be the main barrier of utilisation of physiotherapy services by the community members

From this study, it could be concluded that there was an association between the level of knowledge about physiotherapy services for healthcare service providers and period of service at BCRH, professional affiliation, and department one works.

It could also be concluded that there was an association between the utilisation of physiotherapy services by the patients and PWD and monthly income. There was no association between the utilisation of physiotherapy services and the level of education for patients and PWD. In the context of this study inadequate information about the importance of physiotherapy services and lack of financies by the general Busia County community influences utilisation of physiotherapy services.

6.2. Recommendations

6.2.1. Recommendations from the study

It is important to examine the gaps in knowledge about physiotherapy services among health workers. Additionally physiotherapists may need to assess the quality of service and ensure it meets expectations of the community. Physiotherapist must ensure that it is evidence based and meeting the perceived needs of both patients and fellow health care workers .Physiotherapists should market their profession in all forums available, including community meetings, high schools, and primary schools educate people on the importance of physiotherapy. Through community and religious leaders, forums can be created where the community members can be given the necessary information about physiotherapy.

Physiotherapists need to engage the community through outreach programs with other members of primary health care to help in creating awareness about physiotherapy services.

6.2.2. Recommendations for future studies

From the results of this current study, there is a need to look into the following issues:

- the perception expressed by most of the healthcare services providers that physiotherapist is not knowledgeable enough to manage self- referred patients.

- Why most of the health care services providers are not satisfied with the outcome of their referral to physiotherapy at BCRH.

Why most of the patients and PWD are not willing to recommend physiotherapy to their friends or colleagues.

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APPENDIX 1- INFORMATION SHEET

Study Title - Factors influencing utilisation of physiotherapy services in Busia County - Kenya

Researcher: *Johnstone Milimo Eyinda* (MSc. In Community Physiotherapy candidate)

Information sheet

Hello, my name is Johnstone Eyinda. I am a student in the Department of Physiotherapy at the University of Witwatersrand in South Africa, studying for MSc degree in Physiotherapy. I am looking at how People with Disability (PWD), health care providers, and residents make use of Physiotherapy services at Busia County Referral Hospital. I am inviting you to take part in this study. To help you make an informed decision, here are a few prepared questions and answers.

Why am I doing this?

This study aims to identify those factors, which influence the utilization of Physiotherapy services at Busia County Referral Hospital. To this end, I need to know what other health service providers know about services offered by a physiotherapist. I also need to find out what patients/clients and PWD know about the available physiotherapy services and any difficulties they may have in getting access to physiotherapy services at Busia County Hospital.

What do I ask from those participating in the study?

Participation is completely voluntary. Whether or not you participate will not affect either your working conditions (health service providers) or the medical treatment you receive (patients). Even if you initially agree to participate, you may change your mind and withdraw at any time, without having to give a reason.

After you have had a chance to read this Information Sheet or have it read to you and asked me any questions you may have, if you are willing to take part in the study, I will hand you a paper questionnaire; the questionnaire differs according to whether you are a health care provider or a patient. This questionnaire will take about 20 minutes to complete. The completed questionnaires may be deposited in a box located at receptions of the department of Nursing, Physiotherapy outpatient, Clinical officer head of

department office, Medical officer in charge's office, and Association of Physically Disabled office. The questionnaires will be anonymous. Your name will not appear in any reports coming out of my study. All the information will be aggregated to enable me to identify the critical trends. Thus your anonymity is safeguarded at all times.

Are there benefits to participants?

I will provide all participants with a complementary leaflet with information about the physiotherapy services available at the Hospital. While there will be no immediate benefit to participants, the outcomes of my study may assist patients in having a better understanding of how physiotherapy can assist them. Further, it may enable Hospital management to provide better services to patients. A summary of my findings will be freely available to all who request it.

Payment

There is neither cost nor payment involved in taking part in the study.

Further information

Further information may be obtained at any time by contacting me, or my two Supervisors, using the contact information below.

Johnstone Eyinda - Phone Number 0727004941/E-mail: jominda63@gmail.com

Hellen Myezwa – Phone Number + 0027834696249/E-mail: hellen.myezwa@wits.ac.za

Kganetso Sekome – Phone Number +27780118605/E-mail: kganetso.sekome@wits.ac.za.

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact the Chairperson of this Committee, who is Dr. Clement Penny, who may be contacted on telephone number +27 11 717 2301, or by e-mail on Clement.Penny@wits.ac.za. The

telephone numbers for the Committee secretariat are +27 11 717 2700/1234, and the e-mail addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Thank you for reading this Study Information Sheet.

August 2019

APPENDIX 2: INFORMED CONSENT FORM

Participant Consent

I have read and understood the Participant Information Sheet regarding the study. The researcher explained to me the purpose of the study, the procedures involved, and the risks and benefits. I understand that the report from the study will be anonymous, and my confidentiality will be guaranteed and that I may withdraw at any point.

I give consent to participate in the study titled: Factors influencing utilisation of physiotherapy services in Busia County - Kenya: An investigation into how PWD, health service providers, and residences make use of Physiotherapy services at Busia county referral hospital. I voluntarily agree that my information in response to the study questionnaire can be used in this research study.

_____

_____

Signature of the participant Date

_____ _____

Signature of Person Obtaining Consent Date

APPENDIX – 3: QUESTIONNAIRE FOR UTILISATION OF PHYSIOTHERAPY SERVICES FOR HEALTH CARE SERVICE PROVIDERS

Questionnaire number.....

Sex- Male…… Female……

Date of filling the questionnaire.....

Nurse..... doctor ..... clinical officer.....

This questionnaire aims to obtain information about factors influencing utilisation of physiotherapy services. The information obtained will be held in confidence and will only be used for this study (please do not indicate your name)

Instruction: Please **write or tick** required responses where applicable in the spaces provided.

Section 1: Basic demographic information

Answer the following Questions

1. Age

1= 20-24…..

2= 25- 29…..

3= 30-34…..

4= 35 – 50…..

5=. > 50….

2. Religion

1= none …..

2= Moslem……

3=Roman Catholic …..

4=Protestant……

5=other (specify)……

3. What is your present marital status?

1=Married …..

2=Never married…..

3=Separated

4 =divorced …..

5=Cohabiting …..

4. What is your level of professional training?

1= Certificate…..

2= Diploma…..

3= Undergraduate Degree…..

4= Master's Degree……

5= Ph.D…….

5 For how long have you been working in Busia Hospital?

1= 6 months to 1 year…..

2=1 - 2yrs…..

3= 2 – 3yrs…..

4= 3 – 4 yrs……

5 = 4 – 5 yrs……

6= over 5yrs…..

Section 2: Knowledge about physiotherapy services and referral patterns

6. Which are your current department

1= Administration…..

2 = General Outpatient…..

3 = Surgical clinic…..

4 = medical clinic…..

5 = Minor theatre …..

6 = Mobile clinic…..

7= others (specify).....

7. currently, who do you work within your department? (You can tick more than one)

1= nurses…..

2=doctors……

3= clinical officers……

4= clerical officers……

5= Physiotherapists……

6= Occupation therapists……

7= Orthopedic technologists……

8. From both your training and working has it been clear what the role and responsibility of physiotherapy in health care provision are?

1= Never

2= some of the time

3= most of the time

4= always

5= don't know

9. How satisfied are you with the communication you have with the physiotherapist in your current department?

1= is extremely dissatisfied …..

2 = very dissatisfied……..

3= is somewhat dissatisfied…..

4= is somewhat satisfied ……

5= is extremely satisfied……

10. To what extent do you agree with the following statement: Physiotherapy services are among the core services provided in your current working department?

1= Disagree completely …….

2 = somewhat disagree……

3 = somewhat agree …….

4 = strongly agree……

5 = Agree completely……

11. Which of the following words would you use to describe physiotherapy services? (Select all that apply)

1= reliable

2= high quality

3= useful

4= unique

5= good value for money

6= overpriced

7= impractical

8= ineffective

9= unreliable

12. To what extent do you agree with the following statement? Most of the patients who attend health services in Busia County Referral Hospital require physiotherapy services.

1= disagree completely

2= somewhat disagree

3= somewhat agree

4= strongly agree

5= agree completely

13. To what extent do you agree with the following statement? All the patients who require physiotherapy are always referred for physiotherapy.

1= disagree completely

2= somewhat disagree

3= somewhat agree

4= strongly agree

5= agree completely

14. To what extent do you agree with the following statement? Most patients suffering from mobility and other physical challenges are referred to as physiotherapy.

1= disagree completely

2= somewhat disagree

3= somewhat agree

4= strongly agree

5= agree completely

15. To what extent do you agree with the following statement? Physiotherapy given to a patient is determined by the reason for referral and the patients' condition.

1= disagree completely

2= somewhat disagree

3= somewhat agree

4= strongly agree

5= agree completely

16. Overall, how satisfied or dissatisfied are you with physiotherapy services offered at Busia County Referral Hospital?

1= very satisfied

2= somewhat satisfied

3= neither satisfied nor dissatisfied

4= somewhat dissatisfied

5= very dissatisfied

17. A physiotherapist is knowledgeable enough to manage a self-referred patient.

1= disagree completely

2= somewhat disagree

3= somewhat agree

4= strongly agree

5= agree completely

Thank you for your participation

APPENDIX 4: QUESTIONNAIRE FOR UTILISATION OF PHYSIOTHERAPY SERVICES FOR PATIENTS/PWD

Questionnaire number.....

Sex- Male…… Female……

Date of interview.....

Area for interview.....

This questionnaire aims to obtain information about factors influencing utilisation of physiotherapy services. The information obtained will be held in confidence and will only be used for the study (please do not indicate your name)

Instruction: Please write or tick required responses where applicable in the provided space

Section 1: Basic demographic information

Answers the following questions

1a). in which area do you live? .....

b) How far is that from the hospital?

1. Place …….. Km

2 Age

1= 15- 25yrs…..

2= 26- 35……

3= 36- 45……

4= 46- 55……

5= 56 – 65 and above……

3. Religion

1= none…..

2= Moslem……

3= Roman Catholic……

4= Protestant……..

5= other (specify)……

4 What language do you speak? ……..

5 Marital status

1=Married…..

2=Never married……

3=Separated

4 =divorced…..

5 =Widowed……

6. a) What is your health problem?

……

b) For how long have you had this problem?

1= since birth ….

2= a few days ….

3= two weeks …..

4= a few months…..

5= for years……

7. What means of transport do you use to get to the hospital?

1= walk….

2=public transport (bus, taxis, and motorcycle)…..

3= Bicycle……

4= Private vehicle……

5 = pushed on a wheelchair……

8. How frequently do you attend physiotherapy services in a week?

1= once ……

2= two times……

3= three times…...

4= four times……

5 = five times……

Section 2: Knowledge and utilisation of physiotherapy services

9. To what extent do you agree with this statement? Physiotherapy service is one of the five common services given in all health service institutions in Busia County.

1 = Disagree completely…..

2= somewhat disagree…..

3= somewhat agree……

4= strongly agree…..

5= agree …..

10. To what extent do you agree with this statement? There is a lot of information about the use and the importance of physiotherapy services among all the community members.

1 = Disagree completely…..

2= somewhat disagree….

3= somewhat agree….

4= strongly agree….

5= agree ….

11. To what extent do you agree with the following statement? It is easy for one to get information about physiotherapy in the hospital than in the local community.

1 = Disagree completely….

2= somewhat disagree….

3= somewhat agree….

4= strongly agree….

5= agree ….

12. Overall, how satisfied are you with the treatment you are being offered in the physiotherapy department?

1= is extremely dissatisfied….

2= very dissatisfied….

3= is somewhat dissatisfied….

4= is somewhat satisfied ….

5= is extremely satisfied….

13. How well do physiotherapy services meet your needs?

1= extremely well….

2= very well….

3= somewhat well….

4= not so well….

5= not at all well….

14. To what extent do you agree with the following statement? I would recommend physiotherapy services to a friend or colleagues as a good treatment for mobility and general health problems.

1= disagree completely….

2= somewhat disagree….

3= somewhat agree….

4= strongly agree….

5= agree ….

15. The following are statements about the barriers of attending physiotherapy by patients tick the extent you agree with each

Statements	Disagree completely	Somewhat disagree	Somewhat agree	Strongly agree	Agree completely
Attending to other family matters	1	2	3	4	5
No money for transport and treatment	1	2	3	4	5
Far from home	1	2	3	4	5
Informed by traditional medicine person that it was not good	1	2	3	4	5
Waiting time is too long before being attended to	1	2	3	4	5
Busy with domestic responsibilities	1	2	3	4	5
Sometimes you could find nobody to attend to you	1	2	3	4	5
Being handled roughly by the physiotherapist	1	2	3	4	5
Cultural factors were a challenge	1	2	3	4	5

Section 3: Socio-economic factors

16. What is the highest educational level you attained?

1= None….

2= Primary…..

3= Secondary…..

4= University

5 = Middle level College …..

17. What is your present occupation?

1 = Self - employed……

2= Central government employee…..

3 = Local government employee……

4 = Farmer….

5 = domestic work….

6 = others specify……..

18. What means of transport do you commonly use?

1= walk….

2=public transport (bus, taxis, and motorcycle)…..

3= Bicycle……

4= Private vehicle……

5 = pushed on a wheelchair……

19. How would you rate your monthly income in teams of the amount?

1= Above Kshs. 80,000….

2= Above Kshs. 70,000….

3= Between Kshs. 40.000 and 60,000….

4=Below Kshs. 20,000 ….

5= Below Kshs. 10,000….

20. Overall how satisfied are you with what you pay for physiotherapy services?

1= is extremely dissatisfied….

2= very dissatisfied….

3= is somewhat dissatisfied….

4= is somewhat satisfied….

5= is extremely satisfied….

21. To what extent do you agree with the following statement? It is the amount of money one has that determines access to physiotherapy services rather than the level of education.

1= disagree completely….

2= somewhat disagree….

3= somewhat agree….

4= agree….

5= in complete agreement…..

22. To what extent do you agree with this statement? If physiotherapy services were free of charge, most of the mobility and general health problems will be less.

1= disagree completely….

2= somewhat disagree….

3= neither agree nor disagree….

4= somewhat agree….

5= in complete agreement ….

Thank you for your participation

APPENDIX 5: ETHICAL APPROVAL

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Mr Johnstone Milimo Eyinda

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M190249

NAME: (Principal Investigator)	Mr Johnstone Milimo Eyinda
DEPARTMENT:	Physiotherapy Busia County Hospital Kenya
PROJECT TITLE:	Factors influencing utilisation of physiotherapy services in Busia County - Kenya
DATE CONSIDERED:	22/02/2019
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Hellen Myezwa and Kganetso Sekome
APPROVED BY:	CB Penny Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	10/09/2019

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **February** and will therefore be due in the month of **February** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX 6: ETHICAL APPROVAL TO CONDUCT STUDY IN KENYA

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471//2/3

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference: IREC/2019/58
Approval Number: 0003346

14th June, 2019

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
14 JUN 2019
APPROVED
P. O. Box 4606 - 30100 ELDORET

Mr. Johnstone Milimo Eyinda,
University of Witwaterand,
Faculty of Health Sciences,
JOHANNESBERG-SOUTH AFRICA.

Dear Mr. Milimo,

FACTORS INFLUENCING UTILISATION OF PHYSIOTHERAPY SERVICES AT BUSIA COUNTY REFERRAL HOSPITAL - KENYA

This is to inform you that ***MU/MTRH-IREC*** has reviewed and approved your above research proposal. Your application approval number is ***FAN:0003346*** .The approval period is ***14th June, 2019 – 13th June, 2020.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***MU/MTRH-IREC***.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***MU/MTRH-IREC*** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***MU/MTRH-IREC*** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to ***MU/MTRH-IREC.***

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Sincerely,

DR. S. NYABERA
DEPUTY-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc CEO - MTRH Dean - SOP Dean - SOM
Principal - CHS Dean - SON Dean - SOD

APPENDIX 7: PERMISSION TO CONDUCT STUDY AT BUSIA

COUNTY GOVERNMENT OF BUSIA
County Health Director
Health & Sanitation Department
P.O. BOX 1040 – 50400
BUSIA, KENYA

CG/BSA/H/ADM/1/56 VOL. II/34 Date: 18th June, 2019

JOHNSTONE MILIMO EVINDA
ALUPE UNIVERSITY COLLEGE
P.O. BOX 845
BUSIA

Dear Sir,

RE: PERMISSION TO CONDUCT A STUDY ENTITLED "FACTORS INFLUENCING UTILIZATION OF PHYSIOTHERAPY SERVICES AT BUSIA COUNTY REFERRAL HOSPITAL"

We are in receipt of your letter on the above subject matter and the Moi University IREC approval attached.

This office has no objection to your request and confirms that you are free to commence data collection **once you receive a research license** from National Commission for Science Technology and Innovation (NACOSTI).

Yours faithfully,

Dr. Melsa Lutomia,
COUNTY HEALTH DIRECTOR,
DEPARTMENT OF HEALTH AND SANITATION
BUSIA COUNTY.

C.c. C.E.CM - Department of Health and Sanitation

Chief Officers - Department of Health and Sanitation

MED SUPT. – BCRH

APPENDIX – 8 – INTERNAL CONSISTENCY FOR INTER-ITEM

Item	Obs	Sign	item-test correlation	item-rest correlation	average inter-item correlation	alpha
From both your training and working, has it been clear what the role and responsibility of physiotherapy in health care provision are?	194	+	0.5580	0.3961	0.2065	0.6755
How satisfied are you with the communication you have with the physiotherapist in your current department?	194	+	0.5149	0.3452	0.2140	0.6853
To what extent do you agree that physiotherapy services are among the core services provided in your current working department?	194	+	0.6367	0.4898	0.1939	0.6580
To what extent do you agree that most of the patients who attend health services in Busia county referral hospital require physiotherapy services?	191	+	0.5548	0.3860	0.2072	0.6764
To what extent do you agree that all the patients who require physiotherapy are always referred for physiotherapy?	191	+	0.5545	0.3858	0.2074	0.6767

To what extent do you agree that most of the patients suffering from mobility and other physical challenges are referred to physiotherapy?	192	+	0.5296	0.3555	0.2118	0.6825
To what extent do you agree that physiotherapy given to a patient is determined by the reason for referral and the patients' condition?	192	+	0.5382	0.3660	0.2101	0.6802
How satisfied or dissatisfied are you with physiotherapy services offered at Busia county referral hospital?	194	+	0.3356	0.1423	0.2447	0.7216
A physiotherapist is knowledgeable enough to manage a self-referred patient.	194	+	0.7131	0.5906	0.1787	0.6352
Test scale					0.2082	0.7030

[1]Health care providers

In **table 1** above, "Obs" show the number of non- missing values of the items. "Sign" indicates the direction in which an item variable entered the scale. **Column 4**, item test correlation fits items to the scale. Item rest correlation is the correlation between an item and the scale that is formed by all the other items. The average inter-item correlation (covariance if the standard is omitted) of all items excluding one is shown in **Column 6**. The last is **Column 7**, Cronbach's α for the test scale, which consists of all items but the one item.

Cronbach's alpha coefficient α = 0.7030. A score of over 0.7 indicates high internal consistency thus reliable.

Patients and persons with disability

Cronbach's alpha coefficient α = 0.7647. A score of over 0.7 indicates high internal consistency, thus reliable.

This study adopts standard where – mean is 0 and the standard deviation is 1 – the scale reliability α was computed using the formula (Nunnally and Bernstein, 1994, 232; Allen and Yen 1979, 85 – 88) below:

$$\alpha = \frac{\bar{r}k}{[1+(k-1)\bar{r}]}$$

Where k is the number of items considered, and $\bar{r}$ is the mean of the inter-item correlations.

The size of alpha is determined by both the number of items in the scale and the mean inter-item correlation. $\bar{r}$ is calculated below:

$$\bar{r} = \frac{\sum_{i=2}^{k}\sum_{j=1}^{i=1} s_i s_j n_{ij} r_{ij}}{\sum_{i=2}^{k}\sum_{j=1}^{i-1} n_{ij}}$$

Where $r_{ij}$is the correlation between x_i and x_j, n_{ij} is the number of observations and s_i the sign with which xi enters the scale.

In **table 1,** "Test" denotes the additive scale, where 0.2082 is the average inter-item correlation, and 0.7030 is the alpha coefficient for a test scale based on all items.

In **table 2** below**,** 0.1530 is the average inter-item correlation, and 0.7647 is the alpha coefficient for a test scale based on all items.

According to George and Mallery (2003), this study's alpha α is acceptable. The rules of thumb for α : ">.9 – Excellent, >.8 – Good, >.7 – Acceptable, >.6 – Questionable, >.5 – Poor and <.5 – Unacceptable.

Table 2: Cronbach's alpha

Item	Obs	Sign	item-test correlation	item-rest correlation	average interitem correlation	alpha

To what extent do you agree that physiotherapy service is one of the five common services given in all health service institutions in Busia County?	159	+	0.5873	0.4967	0.1446	0.7418
To what extent do you agree that there is a lot of information about the use and the importance of physiotherapy services among all the community members?	159	+	0.4106	0.2996	0.1550	0.7572
To what extent do you agree that it is easy for one to get information about physiotherapy in the hospital than in the local community?	159	+	0.1788	0.0555	0.1690	0.7757
How satisfied are you with the treatment you are being offered in the physiotherapy department?	159	+	0.7759	0.7185	0.1335	0.7237
How well do physiotherapy services meet your needs?	159	+	0.7443	0.6801	0.1355	0.7271
To what extent do you agree you would recommend physiotherapy services to a friend or colleagues as a good treatment for mobility and general health problems?	159	+	0.6576	0.5777	0.1405	0.7353
attending to other family matters	159	-	0.5043	0.4030	0.1497	0.7495
no money for transport and treatment	158	-	0.5223	0.4235	0.1486	0.7479
far from home	157	-	0.4355	0.3266	0.1537	0.7554

informed by traditional medicine person that it was not good	157	-	0.5078	0.4065	0.1495	0.7492
waiting time is too long before being attended to	158	+	0.2647	0.1438	0.1638	0.7690
busy with domestic responsibilities	158	-	0.2508	0.1291	0.1646	0.7701
sometimes you could find nobody to attend to you	157	+	0.2769	0.1558	0.1627	0.7676
being handle roughly by the physiotherapist	158	+	0.3007	0.1797	0.1614	0.7659
cultural factors were a challenge	158	+	0.3172	0.1989	0.1606	0.7649
How satisfied are you with what you pay for physiotherapy services?	158	+	0.7703	0.7121	0.1337	0.7241
To what extent do you agree that it is the amount of money one has that determines compliance to physiotherapy service than the level of education?	159	-	0.3836	0.2705	0.1568	0.7597
To what extent do you agree that if physiotherapy services were free of charge, most of the mobility and general health problems will be less.	156	-	0.1529	0.0269	0.1700	0.7769
Test scale					**0.1530**	**0.7647**

Patients and persons with disability

Cronbach's alpha coefficient α = 0.7647. A score of over 0.7 indicates high internal consistency thus reliable.