

**FACTORS AFFECTING STROKE PATIENTS' ACCESS TO PHYSIOTHERAPY
SERVICES IN A SEMI-RURAL TOWNSHIP IN SOUTH AFRICA**



UNIVERSITY *of the*
WESTERN CAPE

by

Moshoeshoe Nkafane

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Supervisor: Dr. Bey-Marrié Schmidt

Co-supervisor: Dr. Chanelle Mulopo

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ABSTRACT

Background: There is a significant rise in the incidence of stroke worldwide. It is common for people with stroke (PWS) to sustain physical impairments and subsequently require rehabilitation services such as physiotherapy to gain partial to full functional independence. Physiotherapy services are available in most low-and- middle-income countries (LMICs), but there are various factors which affect their accessibility to people.

Aim: This study aimed to explore factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa.

Methodology: A qualitative descriptive exploratory study was conducted. This involved the use of an interview guide with semi-structured interview questions to collect data from ten people with stroke. The participants were verbally recruited as they attended their scheduled physiotherapy appointments at Botshabelo District Hospital (BDH). The interview guide, informed consent form and participant information sheet were translated from English to Sesotho as this is the predominantly spoken language in Botshabelo. The interviews were audio recorded with permission from participants, transcribed verbatim and manually analysed using thematic coding analysis.

Ethics approval was obtained from the University of the Western Cape's Biomedical Research Ethics Committee (BMREC), University of the Free State's Health Sciences Research Ethics Committee, Free State Provincial Department of Health (FSDoH) and Botshabelo District Hospital's management.

Results: Barriers of access to physiotherapy services were classified into three broad themes, namely; (i) personal (ii) socio-economic and (iii) health system-related factors. Ninety percent (90%) of the participants cited long waiting times and distant physiotherapy facilities as barriers of access to physiotherapy services. Facilitators were also grouped into three general themes and those were, (i) personal, (ii) socio-economic, and (iii) health system-related factors. Having a stable source of income to afford transportation to and from BDH was the most recurring facilitator of access to physiotherapy services.

Conclusion: The study uncovered various factors affecting the accessibility of physiotherapy services for stroke patients in Botshabelo Township, Free State, South Africa. Even though, broadly categorised into barriers and facilitators, a striking interconnection between most of the factors was observed. This therefore calls for multi-pronged strategies to increase the accessibility and availability of physiotherapy services in the township.



DECLARATION

I **Moshoeshoe Ephraim Nkafane** declare that the research study titled “**Factors affecting stroke patient’s access to physiotherapy services in a semi-rural township in South Africa**” is my own work. This work has not been submitted for examination or degree purposes in any other institution of higher learning. All sources used in this research have been clearly indicated and acknowledged with complete references.

Signature: ORIGINAL MINI-THESIS HAS BEEN SIGNED

Date: 24 November 2023



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KEY WORDS

Physiotherapy services

Access to services

Disability

District hospital

In-depth interviews

Stroke

Stroke patients

Rehabilitation

Semi-rural

Township

South Africa



ABBREVIATIONS

ADLs	Activities of Daily Living
AIDS	Acquired Immunodeficiency Syndrome
BDH	Botshabelo District Hospital
BMREC	Biomedical Research Ethics Committee
CBAH	Chris Hani Baragwanath Academic Hospital
CVA	Cerebrovascular Accident
FSDoH	Free State Department of Health
FSPG	Free State Provincial Government
HICs	High-income countries
HIV	Human Immunodeficiency Virus
LMICs	Low-and middle-income countries
NCDs	Non-Communicable Diseases
NHI	National Health Insurance
OPD	Out-patient department
PHC	Primary Health Care
POPIA	Protection of Personal Information Act
PWS	People with Stroke
SA-CSR	South African Contextualised Stroke Rehabilitation Guidelines
SASSA	South African Social Security Agency
SDG	Sustainable Development Goal
SOPH	School of Public Health
SSA	Sub-Saharan Africa
TCA	Thematic coding analysis
UWC	University of the Western Cape
WHO	World Health Organisation
WSO	World Stroke Organisation
YLD	Years Lost to Disability

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1 INTRODUCTION

This chapter starts by detailing the epidemiology of stroke in high-middle and low-income countries across the globe. The terms stroke and cerebrovascular accident (CVA) will be used interchangeably throughout the entire mini-thesis. The problem statement, study purpose, aim, objectives and setting are also outlined in this chapter.

1.1 Background

Stroke, also known as cerebrovascular accident (CVA) is a brain injury caused by the disruption of blood supply to a part of the brain as a result of a rupture or an occlusion of a blood vessel by a clot (Nketia-Kyere *et al.*, 2017). There are two major types of strokes. According to Smit et al (2023), these are hemorrhagic and ischaemic strokes, with the latter accounting for more than 80% of all stroke cases globally. When blood flow to the brain is disrupted by a clogged blood vessel, an ischaemic stroke occurs, but when such a blood vessel ruptures and causes bleeding, a hemorrhagic stroke occurs (Tribelhorn, 2021). Stroke is the biggest cause of disability worldwide, with at least half of all stroke survivors in the world, sustaining disability and more than one-third becoming dependent on caregivers (Puthenpurakal & Crussell, 2017). A study conducted in the UK indicated that, more than 20% of stroke survivors are discharged from the hospital with a myriad of impairments and many often need moderate to maximum assistance with activities of daily living (ADLs) (Fisher *et al.*, 2023).

The kind and degree of disability after a stroke depends on the severity of stroke and the area of the brain affected (Puthenpurakal & Crussell, 2017). However, the most common post-stroke disabilities include impaired upper and/or lower limb active movement due to weakness or paralysis on one or both sides of the body, speech, cognitive, sensory and visual impairments (Cleland & Ramklass., 2021).

According to the World Stroke Organization (WSO) (2022), more than 12.2 million new stroke cases occur annually, and there are currently over 101 million people living with stroke globally. The global burden of stroke is expected to escalate in the next 20 years, and if appropriate interventions are not promptly implemented, close to 7.8 million people will die from stroke in 2030 (Nketia-Kyere *et al.*, 2017). Approximately 6.5 million stroke-related deaths are reported worldwide each year, and more than two-thirds of them occur in low-and- middle-income countries (LMICs) (WSO, 2022; Nketia-Kyere *et*

al., 2017). Pillay *et al* (2022) alluded that in the last four decades, the burden of stroke on the African continent and other LMICs has more than doubled. LMICs have a stroke burden of more than 80%, with sub-Saharan Africa (SSA) facing the highest stroke incidence at 316 per 100,000 person-years (Matizirofa & Chikobvu, 2021).

High-income countries (HICs) have experienced a decline of 42% in the age-adjusted incidence of stroke in the past four decades, while LMICs experienced a staggering increase of above 100% from 52 to 117 per 100,000 person-years in the same period (Mandizvidza *et al.*, 2021). This is because of an upswing in stroke-linked non-communicable diseases (NCDs) such as hypertension, diabetes mellitus and obesity in LMICs (van Niekerk *et al.*, 2020).

Like other LMICs, South Africa is currently undergoing an epidemiological transition, and this has led to the high prevalence of stroke risk factors such as the above-mentioned NCDs, hyperlipidemia, low physical activity levels, adoption of poor dietary habits, smoking and high alcohol consumption (Matizirofa & Ranganai, 2020). More than 50% of stroke cases in South Africa are attributable to hypertension (Maredza *et al.*, 2015). The high burden of HIV/AIDS, particularly among young adults in rural parts of South Africa, is also one of the most significant underlying risk factors for stroke (Maredza *et al.*, 2015). Tribelhorn *et al* (2021) indicated that South Africa has an HIV prevalence of about 20% and that HIV-related coagulopathies have been shown to increase the risk of stroke.

According to Smythe *et al* (2022), recent estimates in South Africa range between 75 000 and 132 000 CVA cases and 40 000 stroke-related deaths per year. Maredza *et al* (2015) stated that 95 000 years lived with disability in South Africa are attributable to stroke. In addition, Ntsiea (2019) revealed that rural parts of South Africa are disproportionately affected by stroke and that there were approximately 33 500 stroke cases in a South African rural population of 13, 000,000 in 2011. The prevalence rate of stroke in rural South Africa is currently estimated at 300 per 100,000 people (Feris & Naicker, 2020). The current crude mortality rates for stroke are at 127 per 100,000 people aged 35 and above in rural parts of South Africa (Tribelhorn *et al.*, 2021). Nevertheless, van Niekerk *et al* (2020) cautioned that these statistics are most likely underestimated because they are obtained from a limited number of studies done in selected parts of the country, as there is presently no national-level stroke database in South Africa. This high burden of stroke and related number of Years-Lost to Disability (YLD) significantly hampers social and economic development of the country (Matizirofa & Ranganai, 2020).

Mlambo & Hlongwana (2020) stated that physiotherapy is essential in minimizing the negative long-term societal and individual effects of stroke. It is an important part of post-stroke rehabilitation with main focus on physical function recovery (Olaleye & Lawal, 2017). Initiating physiotherapy during the acute phase of stroke improves neurological function, decreases stroke-related impairments, and promotes positive health outcome for survivors (Olaleye & Lawal, 2017). However, literature has indicated that despite evidence of the rising demand for rehabilitation, about 2.4 billion people worldwide have unfulfilled rehabilitation needs (Magaqa *et al.*, 2021). Access to quality rehabilitation services is much poorer in LMICs, particularly in sub-Saharan Africa. In LMICs including South Africa, only a small proportion of about 26% to 50% of the people get the rehabilitation services they need (SA-CSR, 2019). Defective and non-consistent uptake of physiotherapy services remains a huge challenge for stroke survivors in South Africa (Mlambo & Hlongwana, 2020). This study therefore explored factors affecting stroke patients' access to physiotherapy services in Botshabelo Township, Free State, South Africa.

1.2 Setting

This study took place at Botshabelo District Hospital (BDH), the only public health facility rendering physiotherapy services in Botshabelo Township, South Africa. There are 13 public health clinics in Botshabelo and all of them refer patients to BDH for physiotherapy. Some patients are referred to BDH physiotherapy department from different farm areas around Botshabelo and from several medical practitioners' private practices in the township. At the time of the study, BDH had one permanently employed and two community service physiotherapists. Botshabelo is a semi-rural township in Mangaung Metropolitan, Free State, South Africa and it is located about 55km east of Bloemfontein (Free State Provincial Government ((FSPG), 2021). It is situated at a latitude of 29°13'53" S and longitude of 26°43'01" E (Figure 1).

In 2019, the township had an approximate population of 204 796 (FSPG, 2021). About 53% of the population are females while the remaining 47% are males (FSPG, 2021). Ninety nine (99%) of the population in Botshabelo identify themselves as black Africans (Stats SA, 2011). Sesotho is the predominantly spoken language with at least 85% of the population being native sesotho speakers (FSPG, 2021). IsiXhosa is spoken by a small percentage of 8% of the population. A recent profile of

Mangaung District by Free State Provincial Government (2022) revealed that 32.9% of Botshabelo population is unemployed and that many residents depend on a nearby city of Bloemfontein for educational and job opportunities. According to Mangaung District Health Plan (2020/2021, unpublished), cerebrovascular diseases remain the leading causes of mortality at 12.4% for those aged 50 and above in the district. It can, therefore, be inferred that there is a high prevalence of stroke in Botshabelo Township.



Figure 1: Locality of Botshabelo Township and BDH (Source: Google Earth, 2023)

1.3 Problem Statement

The rate of stroke has almost doubled in rural parts of South Africa over the past four decades (South African Contextualized Stroke Rehabilitation Guidelines (SA-CSR) (2019). At least 240 adults suffer a stroke daily, and many sustain long-term disabilities (SA-CSR, 2019). Many stroke survivors in South Africa do not have access to stroke rehabilitation services such as physiotherapy (Feris & Naicker, 2020). Increasing the accessibility and affordability of rehabilitation services is paramount in realizing the third Sustainable Development Goal (SGD3), which aims to promote healthy lives and well-being for people of all age groups globally (WHO, 2017).

A study by Magaqa *et al* (2021), explored the accessibility of rehabilitation services in South Africa, but did not specifically focus on the accessibility of physiotherapy services for stroke patients in the country.

Similarly, a more recent South African study by Smythe *et al* (2022) examined the ability of stroke patients to access healthcare services in general and not their ability to access physiotherapy services in particular. There is a shortage of studies exploring factors affecting stroke patients' access to physiotherapy services in South Africa. This study, therefore, explored such factors, which include barriers and facilitators of access to physiotherapy services in Botshabelo Township, South Africa. The understanding of these barriers and facilitators from stroke patients' perspectives by FSDoH, will help with the conceptualization and implementation of patient-and community-centered solutions to prevent long-term complications of stroke caused by inadequate access to rehabilitation.

1.4 Aim

The aim of this study was to explore factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa.

1.5 Objectives

- To explore stroke patients' barriers of access to physiotherapy services in a semi-rural township in South Africa.
- To explore stroke patients' facilitators of access to physiotherapy services in a semi-rural township of in South Africa.
- To make recommendations on how stroke patients' access to physiotherapy services in a semi-rural township in South Africa can be improved.

1.6 Summary of the chapter

This chapter outlined the background of the study by defining stroke, its risk factors and causes. The burden and epidemiology of stroke in high-middle and low-income countries was also described in this chapter. The chapter has shown an increasing burden of stroke globally. Study setting, problem statement, aim and objectives were detailed in this chapter. The next chapter focuses on literature review.

1.7 Thesis Overview

The mini-thesis comprises of six chapters. The first chapter introduces the study, the setting, problem statement, the aim and objectives of the study. The second chapter will contain literature review on the research topic. The third chapter will focus on the methodology of the study and all the research

processes undertaken in the study. The fourth and fifth chapters will contain the results and discussion of the study, respectively. Lastly, conclusion and recommendations will be found in chapter 6.



2 LITERATURE REVIEW

2.1 Introduction

This chapter focused on the role of physiotherapy in stroke recovery. It explored international, regional and local literature on factors affecting stroke survivors' access to physiotherapy services. The terms stroke patients, individuals with stroke and stroke survivors were used interchangeably.

2.2 The value of timely physiotherapy intervention in stroke recovery

WHO Community-Based Rehabilitation Guidelines (2010) recommend the creation of conducive environments for the delivery of quality rehabilitation services. Feris & Naicker (2020) added that such services should be easily accessible to all people with stroke-related disabilities as a way of optimizing their community and economic participation. Rehabilitation services enhance functional independence by reducing disability and improving stroke survivors' psycho-social function (Tribelhorn *et al.*, 2021). However, in order to be effective, rehabilitation should be initiated timeously. The most common pathway of access to physiotherapy services for stroke survivors is through referral by a physician (Olaleye & Lawal, 2017). It is therefore clear that, referral by a physician determines the length of time between stroke incident and preliminary commencement of physiotherapy intervention (Olaleye & Lawal, 2017).

Ideally, post-stroke rehabilitation should begin early because the first week to a month after a stroke is the best time to regain neural plasticity (Ntsiea, 2019). Evidence from research shows that stroke survivors who receive early rehabilitation have better health outcomes than those who do not receive it (Ntsiea, 2019). According to Olaleye & Lawal (2017), stroke survivors who receive immediate physiotherapy as in-patients typically show quicker recovery and are discharged much earlier than those who receive physiotherapy late and those who do not receive it at all. A more recent study by Smythe *et al* (2022) indicated that the first 3 to 18 months post-stroke are the most critical for maximum recovery, and this is the period when the need for rehabilitation is at its peak.

Studies have indicated that globally, the establishment of hospital stroke units which comprise of physiotherapists, medical doctors, nurses and other rehabilitation professionals, results in quicker initial contact with rehabilitation personnel and drastic improvements in health outcomes for stroke patients

(Tribelhorn *et al.*, 2021). Even though previously proven to decrease chances of death and length of hospitalization for stroke survivors, there is paucity of data on the feasibility of stroke units in LMICs. Regardless of the drive to accelerate the formation of these units in South African hospitals, many stroke survivors in the country continue to experience limited access to rehabilitation (Tribelhorn *et al.*, 2021). It was, therefore, imperative to explore various factors affecting stroke patients' ability to access physiotherapy services.

2.3 Barriers and facilitators of access to physiotherapy services

2.3.1 Barriers

2.3.1.1 Intrinsic barriers

Patient's perceptions of their disease, education and motivation level, mental health state, and attitude towards physiotherapy are some of the intrinsic factors determining their uptake of physiotherapy services (Mlambo & Hlongwana, 2020). There are severe limitations regarding the awareness and knowledge about the significance of physiotherapy services within a health system in low-and-middle-income countries (LMICs) (Haimanot, 2022). This is indicative of low health literacy which has been strongly associated with low educational attainment by literature (Narain & Mathye, 2023). Poor awareness about the significance of physiotherapy in stroke recovery often contributes towards low utilization of physiotherapy services by survivors (Olaleye & Lawal, 2017). In South Africa, there is low physiotherapy-related health literacy, particularly among black, poor and uneducated communities (Narain & Mathye, 2023).

A study done in Pakistan indicated that, culture and religion considerably influence one's beliefs and perceptions about a given health condition, its treatment and potential prognosis (Basri *et al.*, 2017). This study further revealed that many stroke survivors in Pakistan, particularly those from least developed and rural parts of the country, believe that stroke is punishment from God, as a result needs repentance and not physiotherapy (Basri *et al.*, 2017). This may also be true for the entire African continent including South Africa, where beliefs about spiritual causes of illness are common.

In continuation, mental health issues such as post-stroke depression have been cited as barriers of access to physiotherapy and rehabilitation services in general (Vadas *et al.*, 2021). Stroke survivors often struggle with depression, feelings of hopelessness and demotivation, and hence default their outpatient physiotherapy appointments (Magwood *et al.*, 2019). Sarfo *et al* (2017) reported that about 75% of

stroke survivors sustain visible disabilities and are consequently prone to feelings of worthlessness, shame and low self-esteem (Zheng *et al.*, 2023). This normally leads to social isolation, decreased self-efficacy and poor utilization of rehabilitation services (Zheng *et al.*, 2023). Stigmatization of people with stroke-related disabilities negatively affects their health seeking behaviours (Stangl *et al.*, 2019).

2.3.1.2 Extrinsic barriers

Extrinsic barriers of access are factors that are largely beyond patients' control and these include the economy, health system, politics and national policies (Mlambo & Hlongwana, 2020).

Employment status

People from poor socio-economic backgrounds are more likely to suffer severe forms of stroke because of high prevalence of undiagnosed and poorly controlled diabetes and hypertension (Puthenpurakal & Crussell, 2017). Despite high referral rate to physiotherapy, physiotherapy uptake after discharge from the ward is often low and this is due to a myriad of factors including financial constraints and lack of health insurance (Olaleye & Lawal, 2017). Even though normally regarded as economic problems, unemployment and underemployment are two inextricably linked and multidimensional social determinants of health which often perpetuate inequities in access to healthcare (Pratap *et al.*, 2021). Economists define unemployment as a state of being without a job even though a person is available and actively looking for job opportunities (Pratap *et al.*, 2021). Conversely, underemployment occurs when people are employed in low-paying and sometimes part-time jobs that are usually below their level of expertise (Pratap *et al.*, 2021). Both have been proven to decrease people's ability to access healthcare services as will be elaborated below.

Transportation

Duri & Luke (2022) stated that regardless of public transport being the most commonly utilized means of transport on the African continent, many people, especially those with disabilities do not have access to it. This forces many rehabilitation services users in both HICs and LMICs to use private transportation to attend their scheduled appointments (Magaqa *et al.*, 2021). In South Africa, many stroke survivors depend on a limited disability grant of about R1780 per month, and this forces them to make trade-offs between using this money to support their families and honouring their physiotherapy

appointments (Mlambo & Hlongwana, 2020). Furthermore, poor socio-economic conditions such as lack of funds to pay for transport to rehabilitation facilities make it difficult for stroke patients to access rehabilitation services. For those who can afford transportation costs, the transport system itself becomes a structural barrier of access to rehabilitation (Magaqa *et al.*, 2021). For instance, the scarcity of public transport in certain areas and taxi drivers' poor attitudes towards people with disabilities decrease the accessibility of rehabilitation services (Magaqa *et al.*, 2021).

Maldistribution and shortage of physiotherapy workforce

In addition to the above, health facility resource capacity in terms of rehabilitation workforce and the availability of assistive devices can barricade access to physiotherapy services. This was echoed by Magaqa *et al.* (2021) who indicated that LMICs have a rehabilitation personnel ratio of 0.5 per 10,000 population in comparison to HICs with ratios of 13-16 per 10,000 population. This is regardless of the fact that LMICs have a higher burden of health conditions that require rehabilitation than HICs. In particular, the African continent is facing a critical shortage of physiotherapists, with a study conducted in Nigeria showing a physiotherapist to population ratio of 1:42000 people (Olaleye & Lawal, 2017). In 2022, Ethiopia had only 900 active physiotherapists serving a population of about 110 million, thus translating to a physiotherapist to population ratio of 0.08 per 10 000 population (Haimanot, 2022).

As indicated above, many countries in poor regions such as sub-Saharan Africa (SSA), are grappling with considerably low numbers of qualified physiotherapists (Haimanot, 2022). South Africa is no exception. For example, in April 2020, South Africa had approximately 8053 active physiotherapists rendering services to a population of about 60 million people (Narain & Mathye, 2023). About 82.5% of the 8053 physiotherapists worked in private health sector while 17.5% worked within the public health sector, thus creating a huge disparity in workforce distribution and access to physiotherapy services between the two health sectors (Narain & Mathye, 2023). This is despite the fact that at least 80% of the South African population is dependent on the public health sector while only 20% utilizes the private health sector (Sekome *et al.*, 2023). Some studies show that even with severe resource constraints, the South African public health sector has to provide healthcare to at least 84% of the population while the well-resourced private sector renders services to only 16% of the population (Kahere *et al.*, 2022).

Even though there is evidence of rehabilitation workforce shortage in South Africa, there is scarcity of literature on what the optimum ratios of rehabilitation personnel per population are. In addition to a low number of qualified physiotherapists, challenges facing equitable access to physiotherapy services in South Africa include high concentration of practicing physiotherapists at tertiary and regional hospitals (Pillay *et al.*, 2022). Most of these are located in urban areas and are as a result, out of reach for rural-based populations. Likewise, evidence illustrates irregular spread of physiotherapists between remote and urban areas, with the latter boasting more physiotherapists than the former (Narain & Mathye, 2023). This is the case for Botshabelo township, where at the time of this study, there was only one permanently employed public health sector physiotherapist to a population which stood at about 204 796 in 2019 (FSPG, 2021).

The South African rural population has the highest prevalence of stroke-related disabilities; however, due to dire poverty, rugged terrain and distant health centres, majority of them have little or no access to physiotherapy services (Haimanot, 2022). Regardless of making up only 20% of the South African population, rural areas in South Africa bear about half of the stroke burden in the country (Feris & Naicker, 2020). Consequently, the need for physiotherapy services post-stroke is substantially higher in rural areas than anywhere else in the country.

The recommended frequency of physiotherapy follow-up sessions for stroke survivors following discharge from the hospital ward is three days per week, but given the low physiotherapy workforce in many LMICs including South Africa, this is currently unattainable (Thompson *et al.*, 2019). More often than not, this leads to long waiting times between scheduled outpatient appointments. According to Speed (2022), long waiting times between consecutive appointments contribute to poor compliance to both physiotherapy home programmes and follow-up appointments. A study conducted in KwaZulu-Natal, South Africa, indicated that long waiting times between follow-up appointments are strongly associated with loss of patients from the health system and increased burden of disease from complications due to disruption in the continuity of care (Egbujie *et al.*, 2018).

Furthermore, delayed and in some instances, complete non-referral of stroke patients for physiotherapy diminishes the accessibility of physiotherapy services (Magaqa *et al.*, 2021). Timely referral is critical because early rehabilitation care improves health outcomes and decreases the risk of stroke-related

complications such as pressure ulcers, deep vein thrombosis (DVT), pulmonary emboli and pneumonia (Pillay *et al.*, 2022).

Lack of appropriate assistive devices

Due to impairments sustained after a stroke, many stroke survivors are forced to use assistive devices to compensate for functional deficits (Shahid *et al.*, 2023). The type of assistive technology used by a stroke survivor depends on the kind and degree of impairments they sustained (Demain *et al.*, 2013). However, the most commonly used mobility devices include wheelchairs, walking frames, rollators, crutches and walking sticks (Shahid *et al.*, 2023). Nonetheless, many people with stroke-related disabilities continue to struggle with access to assistive devices worldwide. Lack of appropriate assistive devices to aid stroke survivors with mobility to their scheduled appointments is a barrier of access to physiotherapy services. The World Health Organisation (2021) estimates that only one in ten people who need assistive devices has access to them. Boot *et al* (2021) further projected that in 2030, approximately 2 billion people across globe will need assistive devices. The scourge of lack of appropriate assistive devices for people with stroke-related physical impairments has been extensively highlighted in literature (McIntyre *et al.*, 2021).

Trafford *et al* (2021) stipulated that the use of contextually appropriate assistive devices by people with stroke-related disabilities significantly enhances their community and economic participation. It achieves this by improving their mobility and hence access to health and other services (Trafford *et al*, 2021). However, LMICs countries such as South Africa are plagued by deficiencies in the accessibility and availability of appropriate assistive devices (McIntyre *et al.*, 2021). For instance, a 2017 study conducted in Botswana and Eswatini indicated that respectively, 44% and 67% of people who needed assistive devices did not receive them (Eide & Matter, 2018). Rural areas in sub-Saharan Africa (SSA) are the hardest hit by the scarcity of customized assistive devices. Where the devices are available, they are often inappropriate and not designed for use on a rough and uneven topography in most remote settings (Trafford *et al.*, 2021).

The often exorbitant costs of assistive devices that are suitable for use on the rugged geography in rural areas hinders the procurement of such devices for rural-based stroke survivors (Nnene & Vanderschuren, 2021). For rural-based stroke survivors who can afford to privately purchase own assistive devices, shortage of physiotherapists means lack of advice on buying a suitable device, its

adjustment, maintenance and correct use (Saghir *et al.*, 2022). According to Edusei & Mji (2019), physiotherapists play an indispensable role of prescribing, fitting and training stroke survivors on the correct use of assistive devices. The incorrect use of assistive devices can cause harm in the form of pressure sores and postural deformities for wheelchair users and injuries from falls in the case of walking aids users (Saghir *et al.*, 2022).

Language barrier

Apart from the above, language barrier is another threat of access to quality rehabilitation services. Shamsi *et al* (2020) alluded that, where language barrier exists, it may be difficult for a healthcare professional to obtain full patient history to make a conclusive diagnosis as well as to give appropriate treatment and counselling. Olani *et al* (2023) further stated that optimum communication between healthcare professionals and patients is paramount in ensuring the delivery of quality healthcare services. However, language barrier continues to impede the provision of quality healthcare services, especially in countries with multiple official languages such as Ethiopia and South Africa (Olani *et al.*, 2023). Several studies have indicated that language barrier between patients and healthcare professionals may lead to misdiagnosis, wrong treatment regimens, poor patient-healthcare professional relationship as well as poor adherence to both treatment and follow-up (Shamsi *et al.*, 2020).

Health policy

Lastly, poor prioritization of rehabilitation by governments across the globe as evidenced by the lack of rehabilitation policies is a structural barrier of access to rehabilitation (WHO, 2017). Poor inclusion of physiotherapy in health policies across the globe contributes to lack of investment in the profession by governments (WHO, 2017). A study by Narain & Mathye (2023) revealed that physiotherapy is not prioritized within the South African health policy landscape. This was evidenced by the National Health Insurance (NHI) pilot study which portrayed medical doctors and nurses as main role players at Primary Health Care (PHC) level, leaving out other healthcare professions such as physiotherapy (Narain & Mathye, 2023). The main goal of NHI is to ensure that healthcare is universally accessible to all South Africans at all levels of care including primary health care level (Pillay *et al.*, 2022). However, local literature has highlighted poor integration of rehabilitation services including physiotherapy in primary healthcare (Haimanot, 2022).

2.3.2 Facilitators

Having basic knowledge about the positive role played by physiotherapy in post-stroke recovery promotes consistent uptake of the services among stroke survivors (MacDonald *et al.*, 2013). A New Zealand study found a positive association between stroke survivor-physiotherapist participatory goal setting and consistent uptake of outpatient physiotherapy services (MacDonald *et al.*, 2013). However, MacDonald *et al.* (2013) stated that a good patient-physiotherapist relationship is a prerequisite for effective participatory goal setting. Participatory goal setting occurs when stroke survivors have a full say and work closely with their physiotherapists in setting therapy goals (MacDonald *et al.*, 2013).

Moreover, emotional support which usually comes in the form verbal encouragement to attend physiotherapy appointments, help with exercises at home and words of affirmation that the condition will improve, has been proven to uphold physiotherapy services utilization (Magwood *et al.*, 2019). Financial support with basic needs and transportation costs to and from physiotherapy facilities also improves compliance to both the home programme and attendance of outpatient physiotherapy appointments (Saghir *et al.*, 2022).

2.4 Summary of the chapter

The explored literature showed that the rising global burden of stroke has led to a significant rise in the demand for rehabilitation services such as physiotherapy. The demand is even higher in LMICs than in HICs. Event though, the literature further uncovered factors affecting stroke patients' access to physiotherapy services, none of the studies were conducted in Botshabelo township. And to the researcher's knowledge, no study has been conducted on the barriers and facilitators of access to physiotherapy services in Botshabelo Township. This, therefore, necessitated an exploration of stroke patients' perceived factors affecting their ability to access physiotherapy services in Botshabelo. The chapter that follows will describe the methodology of the study.

3 METHODOLOGY

3.1 Introduction

This chapter described all the research processes undertaken in this study. Study design, population and sample, inclusion and exclusion criteria, data collection and analysis, rigour and ethical considerations are all covered in this chapter.

3.2 Study Design

A qualitative, descriptive exploratory study was conducted. A qualitative research methodology enables the researcher to explore and gain a deep understanding of people's experiences and perspectives (Smythe *et al.*, 2022). This study aimed to explore factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa. The researcher wanted to gain an in-depth understanding of stroke patients' perceived factors affecting their ability to access physiotherapy services in a semi-rural township of Botshabelo in South Africa. The objectives of this study were:

- a) To explore stroke patients' barriers of access to physiotherapy services in a semi-rural township in South Africa.
- b) To explore stroke patients' facilitators of access to physiotherapy services in a semi-rural township of in South Africa.
- c) To make recommendations on how stroke patients' access to physiotherapy services in a semi-rural township in South Africa can be improved.

3.3 Study Population and sample

The target population of this study were all stroke patients who attended physiotherapy at BDH. A heterogeneous sample of 10 individuals with stroke, 5 of whom had occasionally missed their scheduled physiotherapy appointments and the remaining group of individuals who never missed their scheduled appointments was purposively selected for inclusion in the study. Bruce, Pope and Stanistreet (2018) defined purposive sampling as a method of sampling where participants are deliberately chosen by the researcher because they have specific characteristics that are of relevance to a chosen study. They are usually chosen using clearly outlined inclusion and exclusion criteria and in such a manner that they represent the diverse features of the population from which they were drawn (SOPH UWC, 2022).

Participants were approached by the researcher to assess their eligibility and possible participation in the study when they attended their scheduled physiotherapy appointments at BDH. The researcher informed them about the study and asked for contact details of those who agreed to participate. They were then contacted by the researcher for participation when data collection started in July 2023. Those who missed their appointments were approached when they came to book new appointment dates and during a routine monthly defaulters' tracing programme run by BDH physiotherapy department. When a physiotherapy patient misses an appointment at BDH, an acronym DNA (did not attend) is written on their appointment card before a new appointment date is issued. The number of DNAs on the appointment cards was used to determine the number of appointments each participant missed.

3.3.1 Inclusion criteria

- Patients who had a stroke between June 2021 and December 2022. The optimum recovery time post-stroke is the first 3-18 months and this is the time when most stroke survivors are referred for physiotherapy (Smythe *et al.*, 2022).
- Stroke patients who have diligently attended all their scheduled appointments at Botshabelo District Hospital physiotherapy OPD for at least six months between June 2021 and December 2022.
- Stroke patients who have missed two or more of their scheduled appointments at Botshabelo District Hospital physiotherapy OPD between June 2021 and December 2022.
- Stroke patients aged 18 years and above.

3.3.2 Exclusion criteria

- Patients who had stroke outside the June 2021 and December 2022 time frame.
- Stroke patients who have been seen at BDH physiotherapy OPD for less than six months.
- Stroke patients with cognitive and speech impairments.
- Stroke patients below the age of 18 years.

3.4 Data Collection

Data collection was conducted from July to early September 2023. The researcher arranged one briefing session per participant where information regarding the nature and purpose of the study was verbally disseminated in Sesotho. These briefing sessions were also used to inform participants about their role

and contribution to the study and how their anonymity would be ensured. After the briefing sessions, Sesotho informed consent forms and information sheets were issued to the participants who agreed to participate in the study. An interview date was then set for each participant.

Pilot interviews were conducted with two people with stroke. Feedback from the pilot interviews was used to improve the interview guide and technique. Data from the pilot interviews was not included in the main study because of the modifications on the interview guide and technique. Thereafter, the researcher conducted face-face in-depth interviews using a semi-structured interview guide with ten people with stroke (PWS) (5 males and 5 females). These numbers were selected for fair representation of the target population and so that data saturation could be achieved. In-depth interviews enable the researcher to ask open-ended questions in order to elicit detailed accounts of participants' perspectives and experiences (Legard *et al.*, 2003).

Both the pilot and main interviews were conducted in Sesotho at BDH's conference hall, and each lasted for approximately 40 minutes. The researcher is a native Sesotho speaker, so there was no need for an external translator. Once data was collected, it was stored electronically in a password-protected laptop and folder until the successful completion of the mini-thesis write-up. To maintain patient's confidentiality, interview numbers and not participants' names were used to label the data. However, participants' demographics, such as age, gender and race were noted for each audio recording. This helped with data analysis. The audiotaped interviews were transcribed verbatim and translated from Sesotho to English by the researcher. The researcher ensured accuracy of the translated data by re-listening to the audiotapes and comparing them to the transcribed interviews. The transcriptions were also stored electronically in a password-protected laptop and folder.

3.5 Data Analysis

A thematic coding analysis (TCA) method was used to analyse the data. TCA is an inductive data analysis method because key data classifications and codes are not imposed on the data but are allowed to emanate from it (Braun & Clark, 2006). According to Robson & McCartan (2016), TCA is suitable for qualitative data analysis because it enables the researcher to extract and recognize patterns in people's perceptions, experiences and interactions within their social context. In a chronological order, the five phases of TCA that guided the data analysis process are; familiarisation, coding, identifying

themes, defining and naming themes as well as integration and interpretation (Pope *et al.*, 2000). According to Pope *et al.* (2000), during the familiarisation phase, a researcher immerses themselves into the transcribed and unprocessed data in all its formats to identify and note predominant ideas and responses. In this study, the researcher listened to the audiotapes, transcribed them and then noted down parts that best addressed the research objectives.

The data was manually coded. Coding is the second phase of TCA, which refers to the process of selecting parts of the data which appear to answer the research question and then clustering them into themes and sub-themes (Maguire & Delahunt, 2017). In this study, the researcher looked at recurring phrases and sentences from the transcribed interviews on the perceived factors affecting stroke patients' access to physiotherapy and assigned them codes using highlighters of different colours.

The third phase of TCA is identifying themes. This phase entails clustering the codes identified in phase 2 into themes in such a manner that similar codes are classified under the same theme (Pope *et al.*, 2000). The researcher grouped the codes according to the colour in which they were highlighted by placing those with the same colour under one potential and meaningful theme.

Reviewing themes is the fourth phase of TCA which entails revisiting the themes identified during phase 3 to examine their accuracy and whether or not they are a true representation and reflection of the whole data (Robson & McCartan, 2016). This is achieved by comparing the themes against the collected data (Maguire & Delahunt, 2017). The researcher revisited the identified themes, assessed if they represented all the perceived barriers and facilitators of access to physiotherapy or if there were any missing data. The researcher then modified the themes accordingly by either combining or splitting them or even creating new ones to ensure that all the perceived barriers and facilitators were captured.

The last phase of TCA is integration and interpretation. This phase includes describing and giving a meaning to each theme (Naeem *et al.*, 2023). This is often achieved by analyzing, deriving meaning and drawing conclusions from the themes in relation to the research topic, aim and question (Robson & McCartan, 2016). In this study, the researcher scrutinized a list of the identified factors influencing access to physiotherapy, attempted to make sense of their underlying meanings, examined their interrelatedness and implications and then applied each of them in addressing the main research objectives.

3.6 Rigour

Fathalla (2004) described rigour as the process whereby all the research processes of a given study fulfil the highest possible scientific standards in order to enhance credibility of the findings.

3.6.1 Credibility

Member checking is a strategy used to enhance the credibility of a qualitative study. Robson & McCartan (2016, 172) stated that this entails the use of different platforms and means of communication to avail the “transcripts, accounts and interpretations” of the study to the participants. This helps eliminate and minimize researcher bias (Robson & McCartan, 2016). The hardcopy of this study’s data analysis was availed to selected stroke patients, during their follow-up appointments at Botshabelo District Hospital physiotherapy department to establish whether their perceptions on the accessibility of physiotherapy services were captured and interpreted correctly. The researcher repeatedly listened to each audio recording and compared it with the transcripts as a way of eliminating any possible mismatches.

3.6.1 Confirmability

Robson & McCartan (2016) described an Audit trail as the concept of keeping a complete and comprehensive record of all the research activities at all stages of the study in order to augment the rigour of the study. The researcher kept a dairy and a journal of all the research processes including changes that were made during the course of the study.

3.6.2 Dependability

Dependability is the extent to which the research processes and findings can be reproduced, duplicated or replicated by other researchers (Fathalla, 2004). The researcher consulted their supervisor to reach a consensus on the selection of the right codes, themes and sub-themes and all the research processes in order to ensure the dependability of the findings. This was done through virtual meetings with supervisors.

3.6.3 Transferability

According to Malterud (2001), transferability as the extent to which findings of a particular study can be applied in similar settings to the one in which the original research was conducted. For the findings of qualitative research to be deemed transferable, a rich and thick description of the demographics of the study population, sample and study setting is mandatory (Malterud, 2001). A rich and thick description

of the setting, the participants and research processes were done in order to ensure the applicability of the findings from this study.

3.7 Ethical Considerations

Ethics approvals were obtained from the University of the Western Cape Biomedical Research Ethics Committee (**BM22/10/22**), University of the Free State's Health Sciences Research Ethics Committee (**UFS-HSD2023/0160**) and the Free State Provincial Department of Health. Letter of Permission was also obtained from Botshabelo District Hospital's management. An informed consent and participant information sheet written in both English and Sesotho (See Appendixes 1, 2, 3 & 4, 5, 6, 7& 8) and containing information on the risks and benefits of participating in the study were provided to the participants. Participants were granted an opportunity to ask questions about the study. Participation was voluntary, and no rewards were given to the participants. Participants could withdraw from the study at any given time without facing any negative consequences. The researcher covered the participants' transportation costs to and from the interview venue. A fixed amount based on the local cost of private car hire was provided to the participants. The interviews were audiotaped with permission from the participants.

Prior arrangements were made with a clinical psychologist at Botshabelo District Hospital to offer professional help to the participants if any of them became emotional during the interviews. Participants were not subjected to harmful processes during their participation in the study. To align with the requirements of the Protection of Personal information Act 4 of 2013, participants' details were not shared with third parties. Privacy and confidentiality were maintained throughout the study, and participants' personal information was never revealed because none of the participants needed professional help. All information about the study was made available to the participants as truthfully as possible to avoid deception. Fair participants' recruitment and selection strategies were used. All the participants were subjected to the same study processes.

3.8 Summary of the chapter

This chapter outlined all the research processes undertaken during the study. It described the population, sampling method, inclusion and exclusion criteria and how data was collected and analysed. Rigour and



ethical considerations were also outlined in this chapter. The next chapter will outline the results of the study.



4 RESULTS

4.1 Introduction

This chapter presents results of the study. It begins by describing the characteristics and demographics of the participants and continues to describe their perceived barriers and facilitators of access to physiotherapy services. The participants of the study were ten individuals with stroke who were attending physiotherapy at Botshabelo District Hospital at the time of the study.

4.2 Socio-demographic profiles of the study participants:

4.2.1 Age distribution, level of education, marital and employment status

The participants consisted of ten people with stroke (PWS), five males and five females who met the study's inclusion criteria. All the participants were black Sesotho native speakers. The mean age in years of the participants was 50.5 years. At least 40 % (n=4) of the participants were married, while 30 % (n=3) were single or never married. Default rates were lower among the married participants. Even though, a staggering 60% (n=6) of the participants described themselves as either employed or self-employed, only 10% (n=1) of them completed tertiary education.

4.2.2 Year of stroke incident, comorbidities, number of missed physiotherapy appointments and type of assistive devices

A high proportion (90%, n=9) of the participants had stroke in 2022 and only one participant, a female, had stroke in 2021. This was because majority of potential participants who had stroke in 2021 and fulfilled the study's inclusion criteria were already discharged from physiotherapy at the time of data collection. Hypertension was the most prevalent comorbidity with a prevalence rate of 60% (n=6) (See table 1). This comprised of an equal number of males and females. It was followed immediately by diabetes mellitus (DM) and HIV, both at 30% (n=3) prevalence rate. Approximately 20% (n=2) of the participants, all females had obesity while another 20% (n=2), all males, had chronic obstructive pulmonary disease (COPD). About four (n=4) of the five defaulters included in the study were males and one (n=1) was female. Thirty percent (30%, n=3) of the participants were not using any assistive devices. Crutches were the most commonly used assistive devices at 30% (n=3). All the socio-demographic profiles are summarized in table 1 below.

Table 1: Socio-demographic profiles of participants (n=10)

Variable	Male (n=5)	Female (n=5)
Age groups (in years)		
20 -29	1	0
30-39	0	1
40-49	1	1
50-59	1	1
60-69	1	2
70-79	1	0
Race		
Black	5	5
Coloured/mixed	0	0
White	0	0
Other	0	0
Marital status		
Single/never married	1	2
Married	3	1
Widowed	0	2
Level of education		
No formal education	2	2
Completed primary school	1	1
Completed high school	1	2
Completed tertiary education	1	0
Employment status		
Employed/self-employed	4	2
Unemployed	0	3
Retired	1	0
Mode of transportation to a physiotherapy facility		
Own car	1	0
Family member's car	0	0
Friend's/neighbor's car	0	0
Rented/hired a car for the day	3	1
Public transport	1	4
Number of physiotherapy appointments missed		
None	1	4
2	0	1
3	2	0
4 and above	2	0
Type of current assistive devices		
None	1	2
Crutches	2	1
Walking frames	0	2
Wheelchairs	2	0

Table 2: Year of CVA and comorbidities

Variable	Male (n=5)	Female (n=5)
Year of CVA		
2021	0	1
2022	5	4
Comorbidities		
Obesity	0	2
Hypertension	3	3
COPD	2	0
CCF	1	0
HIV	2	1
Osteoarthritis	0	1

Table 3: A summary table of themes and sub-themes on barriers and facilitators of access

Barriers	
Theme	Sub-theme
Personal factors	<ul style="list-style-type: none"> ➤ Support system at home ➤ Relocation ➤ Perceptions about condition/illness/disability and prognosis ➤ Self-efficacy
Socio-economic factors	<ul style="list-style-type: none"> ➤ Unemployment/underemployment ➤ Poverty ➤ Psycho-social support ➤ Accessibility and availability of public transport ➤ Road infrastructure ➤ Transportation costs ➤ Cultural and religious beliefs about stroke
health system-related factors	<ul style="list-style-type: none"> ➤ Poor access to accurate health information ➤ Ineffective and inefficient referral system ➤ Waiting times
Facilitators	
Theme	Sub-theme
Personal factors	<ul style="list-style-type: none"> ➤ Level of education/health literacy ➤ Support system ➤ Self-efficacy
Socio-economic factors	<ul style="list-style-type: none"> ➤ Employed ➤ Stable income
Health system –related factors	<ul style="list-style-type: none"> ➤ Health information and literacy ➤ Distance of a physiotherapy facility ➤ Physiotherapist-patient relationship

4.3 Barriers

4.3.1 Personal barriers

For the sake of this study, personal barriers were individual factors such as one's views on illness and prognosis as well as level of motivation. Personal barriers of access to physiotherapy that emerged from the data were poor support system at home, relocation to a new area of residence and feelings of shame after a stroke. In this study the support system referred to the availability of someone to assist a stroke survivor with activities of daily living (ADLs) at home. Relocation here was considered as temporary or permanent change of residence. Change of residence led to a disruption in the continuity of physiotherapy intervention as those who relocated never received the service in their new places of residence.

One participant reported that he could not attend some of his physiotherapy appointments because he had no one to help him bathe and get dressed on some of his appointment dates. This is what he had to say:

You see my right hand does not work properly, so I struggle with things like bathing and dressing because it is my dominant hand. I need someone to assist me. My kids live with my ex-wife, my nieces go to school and my sister works, so sometimes I don't come for physio because I have no one to help bathe, get dressed and bring me here (PWS 6, 60yrs, Male).

Lack of support resulted in temporary relocation to a place where an individual with stroke could receive more support. However, this may at times, result in an individual moving further away from a health facility causing them to miss their appointments. For example, one participant reported that he had to move in with his daughter who lived in Bethlehem and this resulted in him missing some of his appointments.

When I got discharged from the hospital, my daughter from Bethlehem took me in, she felt that my wife was too frail to look after me because at that time I could not do anything for myself. So, I was in Bethlehem that is why I missed my first physio date, I was not in Botshabelo (PWS 3, 70yrs, Male).

Another important aspect that the participants shared was that they felt ashamed. One participant who felt ashamed after a stroke, responded as follows when asked why she missed some of her physiotherapy appointments:

...I used to feel ashamed because now people were going to see me walking with a crutch, you know how they are, they stare at you and ask lots of questions. I did not like the gossip, it was better if I stayed at home where they could not see me (PWS 2, 33yrs, Female).

The extract below indicates how mental health issues such as depression and feelings of hopelessness caused patients to miss their physiotherapy appointments.

I missed some of those dates because, you know, having a stroke is hard...some of those days I felt very sad, I just didn't have the strength to get out of bed. I wanted to sleep and cry. And my family...I wanted to give them a break from having to bathe and dress me to come here. I hate being a burden...depending on people for everything is not nice. Luckily the sister at the clinic referred me to a psychologist and I am fine now (PWS 8, 29yrs, Male).

4.3.2 Socio-economic barriers

Socio-economic barriers consisted of structural factors such as the economy, employment status, cultural and religious beliefs. Underemployment, unemployment, and dependency on disability and old age grants were the social and economic barriers identified from the data. For the sake of this study, unemployment was considered as a state of being without a job even though one was employable. Underemployment was regarded as a scenario where a participant was employed either on a temporary basis or in a low-paying job which was below his/her skills set. Unemployed and underemployed participants did not have money to pay for, not only transportation but also for the physiotherapy services.

One underemployed participant stated that he missed his appointments because:

I don't always have enough money to come to physio. I did short courses in computer but I only work as a queue marshal (welcomes and directs people to different offices at a local municipality). I don't earn enough money, the money I get, gets finished after buying food and paying child support. Sometimes the physio dates are too far after I got my salary and then the money is finished before I have to come here. I can't keep borrowing transport money, people become tired of you when you are always borrowing money from them (PWS 8, 29yrs, Male).

Dependence on a limited disability grant is another barrier revealed by the data. When asked why she did not attend some of her physiotherapy appointments, one unemployed participant who is dependent on a disability grant stated that:

I was not getting SASSA (South African Social Security Agency) grant at that time. You see, no one works at home, so they did not have money to bring me here, I take two taxis to get here, the transport is too expensive. Now I am receiving SASSA, but still, I can only attend physio once per month after getting the SASSA. I also use it to look after my three children and my late sister's kids (PWS 2, 33yrs, Female).

Likewise, inaccessible public transport and poor road infrastructure made access to physiotherapy services difficult. Poor roads that were only accessible by 4x4 vehicles and taxi ranks, pickup and drop points off that were too far from participants' houses made it difficult for them to access physiotherapy services. Another barrier was public transport routes that did not pass within close proximities to participants' houses. Some participants reported negative attitudes and impatience by taxi drivers towards people with stroke-related disabilities.

One participant reported that he missed his appointments when his car broke down and when asked why he did not use public transport to come for his physiotherapy appointments, he responded by saying that he lives very far from the nearest taxi pickup point and that the road to his house is unpaved and therefore difficult for taxis to drive on.

The thing is, I can't use public transport because I live very far from the taxi stop, the taxis don't pass anywhere near my house. I once tried to hire a car when my car was broken...my wife asked one of the 4+1 (a meter taxi that carries four passengers) to come and pick me up at my house but he couldn't because the road to my house is not paved and with the rains, it has gotten really bad, you need a 4x4 (PWS 1, 55yrs, Male).

Similar sentiments were echoed by another participant who stopped using public transport because of poor treatment and impatience by taxi drivers. Using his old age grant money, he hires a car for R200.00 to attend his physiotherapy appointments. He complained that the taxi drivers were very impatient with him because he needed assistance to get into and out of a taxi.

I need a lot of assistance to get into and out of a taxi and the taxi drivers don't like that. They are always in a hurry to offload or pick up the next passenger. They did not say it, but you could see it on their faces that they were annoyed (PWS 3, 70yrs, Male).

A participant who never defaulted her physiotherapy appointments also raised concerns about taxi drivers' negative attitudes towards people with disabilities, especially those who use assistive devices such as wheelchairs. She relayed a story of how she once waited for hours at a pickup point because none of the taxis would stop to take her.

The taxis would stop and leave when they realize that I use a wheelchair. Some said my wheelchair takes too much space, so they would charge me double the taxi fare. This is hurtful and unfair, why should I pay more if I am travelling the same distance as everybody else? I didn't chose to have stroke (PWS 9, 57yrs, Female).

Moreover, participants' culture and religion negatively affected their adherence to physiotherapy intervention. Beliefs that stroke is caused by witchcraft, consultation of traditional healers, *sangomas*, and church leaders before seeking medical care was another set of barriers that emanated from the data. These often led to delayed presentation to the healthcare system and defaulting of booked physiotherapy appointments among the participants.

Limited support and cultural beliefs about the cause of stroke played a role in this patient missing their physiotherapy appointments. As indicated in the excerpt below, this particular participant missed his physiotherapy appointments because he believed he was bewitched and therefore chose to consult a traditional healer.

I think my ex-wife and her family bewitched me. You see, I own a small taxi business and they wanted that, but the court gave her other things including the house. That is why I live with my sister now. I went to a traditional doctor, and he saw it, he told me that my ex-wife and her mother caused me a stroke. Another thing is that the physio dates clashed with the days on which I had to go and see the traditional doctor that is why I missed those (PWS 6, 60 yrs, Male).

Perceptions that physiotherapy would not help with recovery led to some participants missing their appointments. One participant did not think physiotherapy would help because his stroke was caused by witchcraft. He, as a result, defaulted physiotherapy to consult a traditional healer. This also revealed

conflicts of interest in consulting both physiotherapy services and traditional healers. The excerpt below was his response when asked why he missed some of his physiotherapy appointments:

I did not think physio would help because my stroke was caused by pure witchcraft. Everyone in my family agreed that I should see a traditional doctor to protect me against witchcraft and to help me gain strength and ability to use my right side of the body again (PWS 6, 60yrs, Male).

Furthermore, participants showed conflicting interests because in other instances, they chose to attend church instead of honouring their scheduled physiotherapy appointments.

On that day, I think it was when my church held a prayer session for me at my house. I could not leave them when they came to pray for me. I have gotten better since the prayer. The holy water really helped (PWS 3, 70yrs, Male).

4.3.3 Health System-related barriers

Poor health literacy, ineffective referral system, long waiting times, and lack of appropriate assistive devices were barriers that emanated from the data. Additional barriers were language barrier between stroke survivors and healthcare professionals, long follow-up dates and out-of-reach physiotherapy facilities.

First and foremost, majority of the participants including the non-defaulters did not know what stroke, its risk factors and causes were. They also did not know what physiotherapy was when they were first referred. This indicates poor access to health information and may increase defaulter rate. Another barrier was poor access to health information due to language barrier between stroke survivors and healthcare professionals. Two participants reported that the doctors who explained to them what stroke is, what caused them stroke and the importance of physiotherapy in stroke recovery spoke English hence they did not understand them. They stated that they missed some of their physiotherapy appointments because they did not fully understand how physiotherapy was going to help them in their recovery journey. The two extracts below were their responses:

Yes, the doctor explained to me, but she was speaking English, she looked Indian so she could not speak Sesotho. I did not really understand what she was saying, she said something about stroke and physio but I couldn't make out what she was saying (PSW 6, 60yrs, Male).

Another participant said,

Maybe the doctor did or did not explain to me what stroke is and how physio was going to help me get better, but he was white and was speaking in English. I can't speak English, if he spoke Afrikaans, at least I would have understood him. I wasn't even sure what physio was afterwards, so I didn't bother coming for it, I thought maybe it was an operation, I did not want any operation done on me, that's why I did not come for physio (PWS 3, 70yrs, Male).

Secondly, some of the participants were referred to physiotherapy late while others were only referred when they asked a healthcare worker to refer them. In this study, inefficient referrals were considered as delayed or complete non-referral of stroke patients for physiotherapy. A participant who never defaulted any of her physiotherapy appointments was first seen by a physiotherapist almost a month after she had stroke. She reported that she was never referred for physiotherapy after spending a night at the hospital's casualty department on the day she had stroke, and was only referred to a physiotherapist by a nurse at a local clinic a month later. This is the patient who had prior knowledge about the role of physiotherapy in stroke recovery because she had a close family who attended physiotherapy after suffering from stroke. That is why she asked to be referred for physiotherapy. One of the reasons she was not referred could be because her stroke was not severe. This is what she had to say:

I was asking myself why I was never sent to attend physio like my sister did after she had stroke, so when I went to the clinic to collect my high blood and sugar pills, I asked the nurse how come I was never sent for physio, because I knew my sister saw physio after she had stroke. That nurse is the one who then wrote me a letter to come here for physio (PWS 4, 61yrs, Female).

In addition to the above, nine of the ten participants complained about the long waiting times at the hospital's admissions department where they have to register and get their files before proceeding to the physiotherapy department for their appointments. Irrespective of the services they are coming for, all the patients at BDH register at one department (patient admissions/administration department) before proceeding to different departments for consultation. In this study, waiting time referred to the amount of time it took for a healthcare user to enter and leave a health facility after getting the services they came for.

Sometimes when I thought of how long my wife had to wait in the line at admissions to register for me, I felt discouraged and ended up deciding not come here for my appointments. She leaves me in the car when she goes to register for me, I wait for so long that by the time she comes back, I am too tired when the physiotherapist sees me (PWS 1, 55yrs, Male).

It would be nice if you had a clerk here, haai! Sir, the lines at admissions are too long. I usually get to hospital at seven in the morning but I only get to the physio department the earliest at 9. If you had your own clerk then we could register from here instead of going to those long lines with hundreds of people who are going to other departments (PWS 8, 29yrs, Male).

Furthermore, when stroke survivors are discharged from the hospital ward, they are issued appropriate assistive devices based on their disabilities. If an assistive device is not available at the time of discharge, a patient is placed on a waiting list and will be contacted telephonically to come and collect it once it is available. The assistive devices improve stroke survivors' mobility and hence ability to access services. Appropriate devices are customized functional aids or equipment designed to enhance a stroke survivors' functional independence in their respective environments. Examples include crutches, walking frames and wheelchairs. Lack of appropriate assistive devices such as wheelchairs that patients can use to go to the physiotherapy department for their appointments was another barrier. This was highlighted by an extract below:

I did not yet receive a wheelchair from the hospital. If I had a wheelchair it would be easy for my wife to push me outside of the house to the car with it, she cannot carry me on her back and neighbours weren't always available to help, so I was just stuck in bed. But once I got the wheelchair I never missed my dates because I could get into the wheelchair with my wife's help and get into the car (PWS 1, 55yrs, Male).

In addition to the aforementioned health system-related barriers, poor coverage and outreach by physiotherapy departments emerged as a challenge of access to physiotherapy services. Outreach programmes occur when physiotherapists who are often based at district hospitals, visit clinics and patients' homes to provide physiotherapy services there. This is particularly beneficial for participants who for various reasons are not able visit health facilities such as hospitals. Examples include patients who live too far from health facilities.

I also have arthritis and sometimes I have a lot of pain, especially on a cold weather, maybe you must visit us at our homes. I saw physios in the Eastern Cape doing it when I visited my family that side. It would really help old people like me, if you could see us at our homes even if it's just once per month (PWS 4, 61yrs, Female).

Maybe you can do house-to-house or see me at the clinic, I have seen house-to-house being done for people who have HIV and TB. Why can't you do it for us who have stroke and live too far from the hospital? I live with my sister now and her house is very close to the clinic, I can just walk there (PWS 6, 60yrs, Male).

4.4 Facilitators

Personal, socio-economic and health system-related facilitators of access to physiotherapy services were identified during the interviews.

4.4.1 Personal facilitators

Personal factors such as a good support system at home, prior knowledge about stroke and the role of physiotherapy in recovery, appeared from the data as enablers of access and adherence to physiotherapy services.

Prior knowledge about the benefits of physiotherapy in recuperation post-stroke emerged as an enabler of access. The excerpt below highlights how prior knowledge about physiotherapy and its perceived benefits post-stroke may enhance compliance to follow-up appointments. When asked why she never missed her physiotherapy appointments, one participant responded as follows:

My sister had stroke in 2014, and after that she was really bad, she couldn't talk and was using a wheelchair because she could not walk. But after a few months of seeing a physiotherapist, she was able to use a crutch and now she is not even using it. I am sure you know her, she also attended physio here. After my stroke, I wanted to get better like her, that's why I wanted to attend physio and never missed a single date (PWS4, 61yrs, Female).

Majority of both defaulters and non-defaulters cited having someone to assist them with bathing, dressing and getting ready on the day of their physiotherapy appointments as an enabling factor for them to attend most of their appointments. They further stated that having someone to motivate them, to

remind them about their appointment dates and to accompany them to their appointments were other reasons why they consistently attended their physiotherapy appointments. The extract below demonstrates how a good support system at home may promote consistent uptake of physiotherapy services.

When I don't want to come, maybe on a cold or rainy day or when I am feeling down, my cousin always encourages me to come, she helps me with bathing and getting dressed because my right hand does work properly. She helps me a lot even with doing my physiotherapy exercises at home (PWS 7, 50yrs, Female).

4.4.2 Socio-economic facilitators

Socio-economic facilitators of access that were distilled from the data included being employed, owning a car or having an immediate family member who owned a car or had a financial means to support a person with stroke. Most of the non-defaulters were participants who had financial means to afford transportation to and from the physiotherapy department.

One individual with stroke, the only male participant who never missed his appointments, answered a question on why he never defaulted as follows:

...I stay a walking distance from the hospital, so it's easy for me to walk here. I also have a car, so if I don't feel like walking, I just drive myself here (PWS 5, 45yrs, Male).

It is worth noting that the above participant was the only one who completed tertiary education of all the participants. His response shows how owning a car and living close to a health facility can enhance adherence to follow-up.

Ability to afford transportation costs to and from a physiotherapy facility can improve compliance to follow-up. Another person with stroke stated that she has never missed her appointments because:

...my son would kill me! (Laughs). He makes sure that I have enough money to hire a car that brings me here, I don't have to use my grant at all (PWS 3, 61yrs, Female).

Being married to a supportive partner was also highlighted as a facilitator of access to physiotherapy services.

My wife asked a 4+1 driver that she knows to bring me here when our car broke down....the car is fixed now, she has a driver's license, so she usually drives whenever I have to come for physio (PWS 1, 55yrs, Male).

4.4.3 Health system-related facilitators

Access to health information about stroke and physiotherapy, timely referral to a physiotherapist after stroke, proximity of physiotherapy facilities to participants' places of residence and good patient-physiotherapist relationship emerged as the common enablers of access to physiotherapy services. Majority of the participants, especially those who were admitted were seen by a physiotherapist within a day post-admission. A fair number of non-defaulters received healthcare professional's counselling on stroke and the importance of physiotherapy in recovery. At least two (n=2) of the ten participants cited living within close proximity to the hospital as the reason why they consistently attended their physiotherapy appointments.

A good patient-physiotherapist relationship appeared to enhance adherence and compliance to follow-up appointments as illustrated by the quote below;

...I also get along well with my physiotherapist, we have come too far since I started coming here, she was very patient with me when I started attending physio, so I don't want to disappoint her by missing my physio appointments. We are always setting new goals whenever I come here (PWS 10, 45yrs, Female).

On the issue of access to health information on stroke and the role of physiotherapy in recuperation, one participant with history of consistent attendance to physiotherapy said:

The nurse who was helping me told me that you get stroke when part of your brain is no longer able to do its job because it did not receive enough blood and air. So it died because it not get food and air from the blood. She explained a lot of things in details but I do not remember the other things she told me about stroke...but she also said that physiotherapy will make my right side strong, that is why I made sure I attend all my physio appointments, I want to get better (PWS 7, 50yrs, Female).

4.5 Summary of the chapter

What stood out from this chapter was how closely linked the different factors affecting stroke survivors' access to physiotherapy services are. For instance, educational achievement could have led to limited access to employment opportunities, which could have in turn contributed to dependence on SASSA grants and inability to afford transportation costs to the physiotherapy department. One barrier that was common for both defaulters and non-defaulters was long waiting times at the hospital's admission department where patients had to register before making their way to the physiotherapy department for treatment. The next chapter will discuss these results based on the international, regional, and local literature.



5 DISCUSSION

5.1 Introduction

Even though multitudes of stroke survivors are timely referred for physiotherapy, some of them end up defaulting (Mlambo & Hlongwana, 2020). This qualitative inquiry therefore sought to explore stroke patients' perceived barriers and facilitators of access to physiotherapy services in a semi-rural township of Botshabelo, Free State, South Africa. A semi-structured interview guide was used by the researcher to interview ten individuals with stroke as a means to gain deeper understanding of barriers and facilitators of access to physiotherapy services. In this chapter, the researcher will discuss the main findings of the study in relation to previous and current international, regional and local literature.

5.2 Demographic profiles of the participants

5.2.1 Age, comorbidities and gender

Although this study did not focus on the risk factors of stroke, the results show that, of the 10 PWS involved, 60% (n=6) had hypertension followed by diabetes and HIV, both at 30% prevalence rate. These findings correlate with those of a study conducted from 2018 to 2019 at Chris Hani Baragwanath Academic Hospital (CHAH) in Gauteng, South Africa, in which at least 69.8% of the 567 stroke survivors were hypertensive while 20.1% and 18.9% had diabetes and HIV respectively (Pillay *et al.*, 2022). Chronic obstructive pulmonary disease (COPD) is another risk factor for stroke and it is more prevalent in men than women (Abdool-Gaffar *et al.*, 2019). This is consistent with the findings of this study because, the only two participants who had COPD were men (see table 1). About 22% of the female participants had obesity, while none of the males had it. According to Quinones-Ossa *et al.* (2021), obesity is a risk factor for numerous cardiovascular diseases including stroke. A number of South African studies also reported a high prevalence of obesity in females than males (Manafe *et al.*, 2022).

In this study an equal number of males and females were involved. Nevertheless, several South African studies have shown that stroke is highly prevalent among females than males and that, due to their higher life expectancy, females have an increased risk of suffering more stroke events than their male counterparts (Pillay *et al.*, 2022). Even though, previous literature indicated that the average age of stroke survivors ranges between 59.8 and 61 years, more recent studies are showing an increased

incidence of stroke in younger age groups (Pillay *et al.*, 2022). This is comparable to results of this study as 60% (n=6) of the participants were below the age of 50 (see table 2). The mean age in years of the participants in this study was 50.5 years, which is significantly lower than that reported by literature.

5.3 Barriers

5.3.1 Personal barriers

Only 30% (n=3) of participants completed matric, indicating low educational attainment. According to Basri *et al.*, (2017), low educational attainment is linked to poor awareness of the existence, availability, benefits and ways of accessing physiotherapy services. Seven of the 10 participants did not know what physiotherapy was when they were referred for it. This is inclusive of all the 5 defaulters and 2 non-defaulters. Those who understood the benefits of physiotherapy, either knew someone who underwent physiotherapy or were themselves, previously seen by a physiotherapist for a different condition. Due to the apartheid regime, physiotherapy has never been well-known in black communities as it was and still is viewed as an exclusive white profession reserved for white people (Narain & Mathye, 2023). This maybe one of the reasons why physiotherapy defaulter rates are high in black townships such as Botshabelo.

One participant indicated that he was not able to attend some of his scheduled physiotherapy appointments because he was feeling hopeless and sad. This highlights the plight of mental health issues among stroke survivors and how it affects their self-efficacy and compliance to healthcare services (Magwood *et al.*, 2019). Another participant relocated from Botshabelo immediately after discharge from the hospital because there was no one to look after him at home. When he got discharged, the physiotherapist gave him outpatient follow-up dates but he never attended them until a few months later when he came back to Botshabelo. If this participant had communicated to the physiotherapist that he would be relocating upon discharge, he would have been given a referral letter to attend physiotherapy at his destination. There is paucity of literature on the impact of unplanned relocation by stroke survivors on the continuity of physiotherapy.

Nonetheless, there are a few South African studies on the impact of migration on access to health care services. One such study was conducted in Agincourt, Bushbuckridge, Mpumalanga, and it showed that migration, whether internal or external, leads to a disruption in the continuity of healthcare for the migrants at their destinations (Ginsburg *et al.*, 2021). This participant relocated because of no support

from home. He was not the only one who missed his appointments due to lack of support from home. Support from stroke survivors' social circle is usually strong during the acute phase after a stroke but diminishes as the condition becomes more chronic (Magwood *et al.*, 2019).

In most cases, when stroke survivors feel marginalized by societies they live in, they disengage from the health services (Sarfo *et al.*, 2019). One young defaulter in this study reported that she felt ashamed after a stroke because people would stare at her and gossip. She then resorted to staying indoors at her house and because of this, she missed her physiotherapy appointments.

5.3.2 Socio-economic barriers

Three of the five defaulters in this study came from poor socio-economic backgrounds because they were unemployed and therefore reliant on social grants. One of them alluded that she missed her physiotherapy appointments because she did not have the taxi fare as she had to use the disability grant to look after hers and her late sister's children. Several South African studies have indicated that while critical for the survival of destitute households, disability and old age grants are hardly sufficient to eradicate poverty in a sustainable way (Trafford *et al.*, 2021).

Four of the five defaulters in this study did not have a car and were as a result forced to hire a private car or use public transport. They all complained that the taxi fare was too expensive and made it difficult for them to attend their booked physiotherapy appointments. Transportation costs to physiotherapy facilities can be prohibitive for stroke survivors who are reliant on public transport because they often need a caregiver or a family member to accompany them (Boot *et al.*, 2021). This means that they have to pay taxi fare for themselves and the person (s) accompanying them.

A participant in this study reported that even though he had a car and could afford transportation to and from the physiotherapy facility, when his car broke down he was unable to attend his physiotherapy appointments. He elaborated that he attempted to rent a car but a non-paved road to his house made this difficult as his house is only accessible by 4x4 vehicles. Research has repeatedly shown that poor road infrastructure and the difficult to maneuver terrain in rural areas make accessing health services difficult for rural populations (Magaqa *et al.*, 2021).

Two participants from this study reported that the designated public transport routes and taxi pickup and drop off points were not within close proximities to their houses. This made it difficult for them to

access public transport. Obstacles such as public transport drivers' bad attitudes towards people with disabilities, vehicles that are not designed to accommodate those with physical disabilities, scarcity of public transport in remote areas and dilapidated road infrastructure impede access to health services (Varela *et al.*, 2019).

Another participant believed that he had stroke because God was trying to communicate something to him and as a result, missed his physiotherapy appointments for prayer sessions. A study conducted in Ghana indicated that one of the reasons for low out-patient attendance of physiotherapy appointments, is because some stroke survivors consult traditional healers who often claim to have paranormal powers to cure and heal stroke (Olaleye & Lawal, 2017). This literature correlates with the findings of this study as one of the participants believed his stroke was caused by witchcraft and consequently defaulted physiotherapy to consult a traditional healer.

5.3.3 Health system-related barriers

Health system barriers are factors such as physiotherapy facility resource capacity, distance of the physiotherapy facility and the quality of patient-physiotherapist relationship (Nketia-Kyere *et al.*, 2017).

Delayed referral and long waiting times

In this study, eight of the ten PWS were referred for physiotherapy and thus translating to a stroke-specific referral rate of 80%. These findings are similar to those of a study done in Nigeria which showed that at least three quarters of stroke survivors often referred for physiotherapy on time (Olaleye & Lawal, 2017). In this study, eight of the ten PWS were referred and seen by a physiotherapist within 24 hours post-admission. This aligned with recommendations from existing literature that stroke survivors should be referred for rehabilitation within 24 to 48 hours of admission (Pillay *et al.*, 2022). Even though referred at the beginning of March 2022, one of this study's participants was seen by a physiotherapist for the first time in April 2022.

Nine of the ten PWS who participated in this study complained about the long waiting times at the hospital's admissions department where they have to register and collect their files before proceeding to the physiotherapy department for treatment. These findings were corroborated by Kahere *et al* (2022) who stated that, long waiting times at non-specialized health facilities such as district hospitals in SA are caused by the fact that everyone, regardless of the services they are seeking, has to register at the same

department within the health facility. Besides long waiting times at the hospital's admissions department, some participants in this study complained about the frequency of their follow-up appointments. They expressed dissatisfaction with the fact that they were only given one physiotherapy appointment per month even though they could afford to attend at least twice per month. Deslauriers *et al* (2019) found that long waiting periods between successive out-patient physiotherapy appointments have detrimental consequences on stroke survivors' overall quality of life and long term prognosis.

Lack of appropriate assistive devices and distance from a health facility

In this study one participant complained that when he got discharged from the hospital ward he was placed on a waiting list for a wheelchair. Evidence has shown that the public health sector waiting lists for assistive devices such as wheelchairs are painfully long, especially for stroke survivors from poor socio-economic backgrounds (Trafford *et al.*, 2021). He reported that he was stuck in bed when waiting for the wheelchair because it was difficult for his wife to carry him on her back. He, as a result, missed his physiotherapy appointments. Lack of appropriate mobility devices and equipment such as wheelchairs is a discouraging factor for stroke survivors to continue attending or seeking rehabilitation services (Magaqa *et al.*, 2021). Some of the participants in this study complained that the hospital is too far from them as some of them had to take two to three taxis to get to the hospital. Physiotherapy facilities that are too far often lead to inflated transportation costs and concomitant low attendance of booked appointments (Boot *et al.*, 2021).

5.4 Facilitators

5.4.1 Personal facilitators

Three of the five non-defaulters in this study had prior knowledge about physiotherapy and its role in post-stroke recovery. One of these participants was never referred for physiotherapy when at the hospital, but because she had prior knowledge about physiotherapy and stroke, she went to her local clinic and asked to be referred. This is consistent with literature that, people are more likely to seek health services such as physiotherapy if they know about their existence and value (Mlambo & Hlongwana, 2020).

5.4.2 Socio-economic facilitators

Adequate support from family and friends is a facilitator of access to physiotherapy services for many stroke survivors in South Africa (Mlambo & Hlongwana, 2020). Vadas *et al* (2021) concurred that good psycho-social support from friends and family does indeed enhance stroke survivors' compliance to the prescribed home exercises and booked physiotherapy appointments. In this study 40% (n=4) of the participants were married and 3 of them were non-defaulters. Some studies have alluded that being married or having a supportive partner facilitates access to health services including physiotherapy (Magwood *et al.*, 2019). One participant indicated that his wife was very supportive, helped him with the exercises at home and drove him to his physiotherapy appointments as he could no longer drive after having a stroke. The availability of adequate income, good emotional and financial support are enablers of access to physiotherapy services for stroke survivors (Magwood *et al.*, 2019). In this study, many of the non-defaulters were able to attend their appointments because they had their own cars or had a family member or a friend who owned a car. Even though some did not have cars, they had family members who provided financial support to cover transportation costs.

5.4.3 Health system-related facilitators

Positive relationship between physiotherapists and stroke survivors improves adherence to follow-up appointments (Vadas *et al.*, 2021). Two participants in this study reported that they were motivated to attend their appointments because they got along well with their physiotherapists and that they were always setting realistic goals with their therapists whenever they came for their appointments. Another pair of participants stated that they lived very close to the hospital and could therefore easily walk to the physiotherapy department for their appointments. The transportation costs which are frequently determined by the distance travelled, were lower for these participants in comparison to others who lived far from the hospital. These findings were corroborated by a study conducted in SA which revealed that stroke survivors who lived closer to physiotherapy facilities were more compliant to their follow-up appointments than those who lived far (van Niekerk *et al.*, 2020).

5.5 Limitations of the study

This study focused only on the stroke patients who were already using the physiotherapy services, this may have led to missing out on important data from stroke patients who never had contact with the health system. Due to restrictions in the scope of a mini-thesis, the study could not explore perspectives

of stroke survivors' caregivers and physiotherapists. Nevertheless, the study was still able to uncover perceived barriers and facilitators of access to physiotherapy as per aim and objectives. A more comprehensive study that considers the perspectives of caregivers and physiotherapists should be conducted. Physiotherapists' perspectives will give an important insight into the health system-related factors affecting stroke patients' access to physiotherapy services in low-income settings.

Stroke survivors with limited cognitive and speech ability may struggle a bit more to access healthcare. To avoid underrepresentation of this segment of stroke survivors, the exclusion criteria could be improved by excluding only those with cognitive and speech impairments that make communication difficult. It could be argued that the sample size of 10 PWS was too small, but data saturation was reached. Since the study did not provide information on the extent of stroke problem in Botshabelo Township, quantitative studies may be needed to determine the prevalence and incidence of stroke in the township. A prevalence study will shed a light on the magnitude of the burden of stroke and the scale of resources needed to tackle it. The findings of the study cannot be generalized but they can be transferred to similar settings to the one in which the study was conducted (Robson & McCartan, 2016).



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6 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter contains a summary of the key findings of this study. Six overarching recommendations to improve the accessibility and availability of physiotherapy services for stroke survivors in Botshabelo Township and other similar settings are also outlined in this chapter.

6.2 Conclusion

South Africa is undergoing epidemiological transition and this has led to an unprecedented increase in the prevalence of non-communicable diseases (NCDs). Due to increased life expectancy and an upswing in the prevalence of NCDs such as hypertension, diabetes, obesity and others linked to stroke, the country is experiencing a surge in the burden of stroke. Consequently, the demand and need for stroke rehabilitation has risen. However, studies have documented strong evidence that multitudes of stroke survivors, especially those residing in rural parts of the country, continue to experience limited access to physiotherapy services.

This study therefore sought to explore factors affecting stroke patient's access to physiotherapy services in a semi-rural township of Botshabelo, Free State, South Africa. The study uncovered stroke patients' perceived barriers and facilitators of access to physiotherapy services, most of which were consistent with existing literature. Barriers of access to physiotherapy services for rural-based stroke survivors in SA include high transportation costs associated with distant physiotherapy facilities, shortage of physiotherapy workforce and unavailability of appropriate assistive devices.

Poverty and unemployment, low health literacy often associated with low educational attainment, and poor awareness of physiotherapy services existence, impede access to physiotherapy services for stroke survivors. Beliefs that stroke is caused by witchcraft and other spiritual causes led to participants seeking help from traditional healers and pastors, thus missing their scheduled physiotherapy appointments. Structural issues such as inefficient public transport system pose an obstacle of access to physiotherapy services for stroke survivors. Poor psycho-social support system also make access to physiotherapy services difficult for the stroke survivors in the study.

Personal, socio-economic and health system-related enablers of access were also uncovered by this study. This study found that personal factors such as stroke survivors' prior knowledge about physiotherapy and its role in post-stroke rehabilitation, good psychosocial support system, and self-efficacy contributed to high adherence rates to outpatient physiotherapy appointments. Socio-economic factors such as having a stable source of adequate income enhanced stroke survivors' uptake of physiotherapy services. A stable source of income helped stroke survivors afford transportation costs to and from the physiotherapy facility. Participants who had access to private transportation such as own cars or cars owned by close family and friends had high attendance rates to outpatient physiotherapy appointments. Health system-related facilitators such as good patient-physiotherapist relationship and living within close proximity to the hospital were identified by this study. Perceived barriers of access to physiotherapy services were the same for both defaulters and non-defaulters in this study, however, the distinguishing factor was that the non-defaulters had resources to overcome them. There was also a strong interconnection between the different barriers identified by this study. The different facilitators were also strongly linked to each other.

6.3 Recommendations

1. **Establishment of stroke units:** Establishment of stroke units has potential to improve stroke survivors' access to physiotherapy services. These units can be established at all levels of care, but they are more important at primary healthcare settings because this is where majority of stroke survivors receive healthcare. The available infrastructure can be repurposed while the existing workforce can be trained and tasked with the establishment and running of these units. However, studies should be conducted to determine the feasibility and cost-effectiveness of these units. The formation of stroke units would ensure a well-coordinated and timely initial contact of stroke survivors with rehabilitation personnel. Evidence from literature is increasingly proving that, a well-coordinated and organized multidisciplinary approach, which includes physiotherapy, does not only prevent stroke-related secondary complications but also leads to positive long term prognosis for stroke survivors.
2. **Incorporation of physiotherapy in health policy:** Literature on the significance of physiotherapy within the health system is widely publicized and therefore available to policy makers. What is needed is for policy makers to translate the data to policies that will promote

equitable access and availability of physiotherapy services to all citizens. However, physiotherapy regulatory bodies such as Health Professions Board of Physiotherapy, Podiatry and Biokinetics still need to conduct further research and gather data that will enhance strong representation of physiotherapy in health policy. In this way, the government and other relevant stakeholders will optimally invest in the profession. This will help attain the NHI's main goal of ensuring the delivery of affordable and equitable healthcare to all citizens, especially at PHC level.

3. **Promotion of physiotherapy services in historically marginalized and underserved communities:** Research has shown that physiotherapy remains unpopular in SA, particularly in black and other historically prejudiced communities. It is therefore imperative that physiotherapy is promoted in these communities through awareness raising campaigns, using local languages that members of these communities understand. Studies have documented strong evidence on the positive association between awareness of the significance of physiotherapy and its uptake. When people know what physiotherapy is, how it can help them and ways of accessing it, they are more likely to consistently utilize it.
4. **Upscale and strengthen stroke-related health promotion initiatives:** Health promotion activities on the etiology of stroke, its risk factors and causes, should be strengthened and intensified in semi-rural townships such as Botshabelo where access to health information and services remains low. This should not be confined to educating people about stroke, but should also focus on lobbying different sectors to address the proximal and distal determinants of stroke. Multi-sectoral collaboration is mandatory if the South African public health sector is to overcome the escalating burden of stroke.
5. **Physiotherapy services capacity building:** The inclusion of physiotherapists in ward-based outreach teams (WBOT) is highly recommended to enhance the availability of physiotherapy at PHC level. Incorporation of basic rehabilitation content into the CHWs' curriculum, decentralization of physiotherapy services, training and recruiting more physiotherapists into the public health sector and procurement of appropriate assistive devices and equipment will improve access to physiotherapy services. The South African National Department of Health should conceptualize and implement strategies to attract and retain physiotherapists in rural health facilities which currently face high staff turnover rates. This will help eradicate the

disproportionate distribution of physiotherapists between urban and rural settings and between private and public health sectors. Comprehensive indicators should be developed to strengthen current health information systems in order to deliver context-specific, equitable, evidence-based and quality physiotherapy services.

6. **Further research:** Further investigations on the impact of patients' relocation on adherence to follow-up should be conducted. Researchers should further carry out studies featuring voices of health care providers on the issue. It is essential to conduct prevalence studies to determine the burden of stroke in Botshabelo Township. Future studies exploring the role of traditional medicine and spirituality on health seeking behaviour are also equally important.



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LIST OF APPENDIXES



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 1: INFORMATION SHEET (ENGLISH)

Project Title: Factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa

What is this study about?

My name is Moshoeshe Nkafane, and I am a Master of Public Health (MPH) student at the University of the Western Cape (UWC) in South Africa. I am conducting a research on factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa. This is a mini-thesis requirement for the MPH programme at UWC. I am inviting you to participate in this research project because you are a stroke patient in the township of interest, and you meet the inclusion criteria for the study. The purpose of this research project is to understand factors which make it difficult or easy for stroke patients in semi-rural townships to access physiotherapy services. The findings will therefore be used to conceptualize contextually and culturally appropriate solutions that will make it easier for stroke patients in semi-rural townships in South Africa to access physiotherapy services.

What will I be asked to do if I agree to participate?

I will ask you about factors which affect your ability to access physiotherapy services. The interview will be conducted in the hospital's conference hall. The interview will be audiotaped and will last for about 60 minutes. I will first ask for your permission to audiotape the interview so that I can listen to it afterwards.

Would my participation in this study be kept confidential?

Yes, I will not include your name in the collected data. However, your age, gender, race and date of stroke diagnosis will be included in the data. It will not be easy for any other person except me to link the study to you. The informed consent form, which will have your name will be separated from the information you provided during the interview and will be stored in a lockable cabinet only accessible to me. The interview recording will be assigned a numerical code to protect your identity. Your personal details will also not be revealed during the mini-thesis write-up.

What are the risks of this research?

There may be some risks from participating in this research study because all human interactions and talking about self or others carry some amount of risks. For instance, you may experience some psychological distress or emotional discomfort when you reflect on the impact that the stroke has had on your life and family. Talking about the challenges that make it difficult for you to attend physiotherapy may also trigger emotional distress. However, I will minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, I will refer you to a suitable professional for further assistance or intervention. Throughout the interview, I will not blame and judge you for the challenges that you will mention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the researcher to understand factors that make it difficult for stroke patients to access physiotherapy services in South African semi-rural townships. I hope that, in the future, stroke patients will benefit from this study through improved understanding of factors which impede their access to physiotherapy services. This will help to conceptualize and implement suitable solutions to ensure increased access to physiotherapy services.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is entirely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you

choose not to participate in this study or stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by Moshoeshoe Nkafane, a Master of Public Health student at the University of the Western Cape and has been approved by the University of the Western Cape Biomedical Research Ethics Committee (UWC BMREC). You may contact UWC BMREC at 021-9592988 or research-ethics@uwc.ac.za. If you have any questions about the research study itself, please contact Moshoeshoe Nkafane of Bloemfontein, Namibia Square, at 076 065 5245 or nkafanem@gmail.com. Should you have any questions regarding this study and your rights as a research participant, or if you wish to report any problems you have experienced related to the study, please contact:

Prof U Lehmann

Head of Department: School of Public Health

University of the Western Cape

Private Bag X17

Bellville 7535

ulehmann@uwc.ac.za

Prof Anthea Rhoda

Dean: Faculty of Community and Health Sciences

University of the Western Cape

Private Bag X17

Bellville 7535

chs-deansoffice@uwc.ac.za

Prof. A. Sherriff

Health Sciences Research Ethics Committee

University of the Free State

Faculty of Health Sciences

P.O. Box 339 (G40)

Bloemfontein, 9300

Tel: 051 401 7795/7794

Email: ethicsfhs@ufs.ac.za

This research has been approved by the University of the Western Cape's Biomedical Research Ethics Committee.

Biomedical Research Ethics Committee

University of the Western Cape

Private Bag X17

Bellville

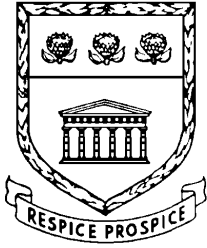
7535

Tel: 021 959 4111

e-mail: research-ethics@uwc.ac.za



UNIVERSITY of the
WESTERN CAPE



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 2: Leqephe la dikateng tsa boithuto bona (Sesotho)

Sehlooho sa Boithuto: Dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku torotswaneng ya Afrika Borwa

Dikateng tsa boithuto boo ke di fe?

Lebitso laka ke Moshoeshoe Nkafane, mme ke moithuti wa lengolo la Master of Public Health (MPH), Yunivesithing ya Kapa Bophirima. Ke etsa boithuto mabapi le dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku torotswaneng ya Afrika Borwa. Boithuto bona ke karolo ya lengolo la MPH, Yunivesithing ya Kapa Bophirima. Ke o memela ho ba le seabo boithutong bona hobane o mokudi wa setorouku ya dulang torotswaneng e hlwahilweng e le sebaka sa boithuto. Sepheo sa boithuto bona ke ho utlwisisa mabaka kapa dintlha tse thatafatsang kapa ho bebofatsa ho fihleleha ha ditshebeletso tsa physiotherapy ditorotswaneng tsa Afrika Borwa. Diphetho tsa boithuto bona di tla thusa ho ntlafatsa kanetso le ho fihleleha ha ditshebeletso tsa physiotherapy ditorotswaneng tsa Afrika Borwa.

Ke tl'o botsa eng haeba ke dumela ho ba le seabo boithutong boo?

Ke tl'a o botsa dipotso mabapi le mabaka kapa dintlha tse etsang hore o bebofallwe kapa o thatafallwe ke ho tla ditshebeletsong tsa physiotherapy. Dipotso di tl'a nka nako e ka bang metsotso e mashome a tshelletseng mme di tl'a tshwarelwa sepetleng sa Botshabelo moo ho tshwarelwang dikopano teng. Ke tl'a kopa tumello ya hao hore ke hatise lentswe la hao ha o ntse o araba dipotso. Lebaka la ho nka khatiso ya lentswe ke hore ke tle ke mamele dikarabo tsa hao ha morao.

Na ho ba le seabo h'aka boithutong boo e tlabala lekunutu?

E, ho jwalo, e tl'a ba lekunutu. Ha ke na ho sebedisa mabitso a hao hohang. Ke tl'a sebedisa feela dilemo, boleng, mohlobo wa hao le nako yeo o bileng le setorouku ka yona. Ka hoo, ha ho motho ya ka tsebang hore o bile le seabo boithutong bona kante ho nna. Pampiri yeo o tl'a e tekena haeba o dumela ho ba le seabo boithutong bona e tl'a arohangwa le khatiso ya lentswe la hao e be e notlellwa se bakeng se fihlellwang ke nna feela. Mabitso a hao ha ana ho sebediswa nakong yeo ho ngolwang raporoto ya boithuto bona.

Ho ka ba le kotsi e fe ho ba le seabo boithutong boo?

Ho ka nna haeba le kotsi ho ba le seabo boithutong bona hobane dipuisano dipakeng tsa batho, ho bua ka wena, kapa ka batho ba bang ho na le kotsinyana e itseng. Mohlala, o ka nna wa thonkgeha maikutlo ha o sheba kamoo setorouku se o ammeng ka teng le ba lelapa la hao. Ho bua ka diphephetso tseo o thulanang le tsona mabapi le ho fihlela ditshebeletso tsa physiotherapy ho ka nna ha o sithabetsa maikutlo. Empa ke tla fokotsa sekgahla sa kotsi kapa tsela yeo o ka amehang ka yona ka ho o romella ditshebeletsong tseo o ka fumantshwang thuso jwaloka tsa bohlabolli.

Melemo ya ho ba le seabo boithutong boo ke e fe?

Boithuto bona ha bo na ho o tswela molemo ka kotloloho, empa diphetho tsa bona di ka thusa moithuti ho utlwisisa ka botebo dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku ditorotswaneng tsa Afrika Borwa. Ke tshepa hore bakudi ba setorouku ba tl'a una molemo kaha diphetho tsa boithuto bona di tla thusa ho ntlafatsa kanetso le ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bona.

Na ke tlameha ho ba le seabo boithutong boo mme nka emisa/ikgula nako yohle ha ke batla?

Ho ba le seabo ha hao boithutong bona ke kgetho ya hao. Ha se qobello. Ebang o etsa qeto ya ho ba le seabo, tseba hore o dumeletswe ho ikgula nako e fe kapa e fe kante ho kotlo kapa tahlehelo ya letho. O dumeletswe ho latola ho ba le seabo boithutong bona.

Haeba ke ena le dipotso ke etse jwang?

Boithuto bona bo etswa ke Moshoeshe Nkafane yeo e leng moithuti wa lengola la Master of Public Health, Yunivesithing ya Kapa Bophirima, mme bo dumeletswe ho tswelapele ke komiti

ya Biomedical Research Ethics Yunivesithing ya Kapa Bophirima. Komiti ena e fumaneha dinomorong tsa 021-9592988 kapa ho research-ethics@uwc.ac.za. Haeba o ena le dipotso mabapi le boithuto bona o ka botsa Moshoeshoe Nkafane wa Bloemfontein Namibia Square dinomorong tsa 076 065 5245 kapa ho nkafanem@gmail.com. Haeba o na le dipotso ka boithuto bona le ka ditokelo tsa hao jwaloka motho ya nang le seabo ho bona kapa o batla ho tlaleha mathata ao o bileng le ‘ona nakong ya boithuto bona bua le:

Prof U Lehmann

Head of Department: School of Public Health

University of the Western Cape

Private Bag X17

Bellville 7535

ulehmann@uwc.ac.za

Prof Anthea Rhoda

Dean: Faculty of Community and Health Sciences

University of the Western Cape

Private Bag X17

Bellville 7535

chs-deansoffice@uwc.ac.za

Prof. A. Sherriff

Chairperson: Health Sciences Research Ethics Committee

University of the Free State

Faculty of Health Sciences

P.O. Box 339 (G40)

Bloemfontein, 9300

Tel: 051 401 7795/7794

Email: ethicsfhs@ufs.ac.za

Boithuto bona bo hlapantshitswe le ho ananelwa ke lefapha la Biomedical Research Ethics Committee la Yunivesithi ya Kapa Bophirima.

Biomedical Research Ethics Committee

University of the Western Cape

Private Bag X17

Bellville

7535

Tel: 021 959 4111

e-mail: research-ethics@uwc.ac.za





UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 3: Information Sheet/Privacy Notice (ENGLISH)

In terms of the requirements of the Protection of Personal Information Act (Act 4 of 2013), personal information will be collected and processed:

Information regarding your age, gender and race will be collected but it will not be publicised or shared with any third parties. It will be stored in a password-protected laptop and folder. This information will be used to analyse factors affecting your ability to access physiotherapy services here in Botshabelo Township.

The information sheet and informed consent form will be separated from the collected data and be kept in a lockable cabinet, only accessible to me.

Your name, surname, address and contact details will not be included in the write up of the mini-thesis and all your information will be destroyed as soon as the mini-thesis has been successfully completed.

I hereby give consent for my personal information to be collected, stored, processed and shared as described above.

I do not give consent for my personal information to be collected, stored, processed and shared as described above.

Participant's name **Witness's name.....**

Signature..... **Signature.....**

Date..... **Date.....**

Researcher.....

Signature.....

Date.....



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 4: Leqephe la dikateng tsa boithuto bona/Tshepiso ya ho boloka boitsebiso ba hao e le lekunutu (SESOTHO)

Boipapisong le molao wa tshireletso ya boitsebiso ba motho, e leng Protection of Personal Information Act (Act 4 of 2013), ditaba tse amanang le boitsebiso ba hao di tla sebediswa boithutong bona:

Ditaba tse kenyelatsang dilemo tsa hao, bong ba hao le mohlobo wa hao di tla sebediswa boithutong bona empa di keke tsa phatlaletswa mang kapa mang. Di tla bolokwa komporong e sebediswang ke nna feela. Ditaba tsena di tla sebediswa ho manolla lintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa hao mona torotswaneng ya Botshabelo.

Leqephe la dikateng tsa boithuto bona le foromo ya ho dumela ho ba le seabo boithutong bona di tla arohangwa le dikarabo tsa hao dipotsong tse amanang le boithuto bona mme di tla bolokwa sebakeng se notlelwang se fihlelwang ke nna feela. Lebitso, fane, sebaka sa bodulo le dinomoro tsa hao ha di na ho kenyeletswa nakong yeo ho ngolwang raporoto ya boithuto bona hape di tla senngwa hang hoba raporoto ya mofuta o jwalo e phethelwe.

Ke fana ka tumello ya hore ditaba tsa boitsebiso baka tse hlahositsweng ka hodimo di ka sebediswa boithutong bona ka mokhwa o hlahositsweng ka hodimo.

Ha ke fane ka tumello ya hore ditaba tsa boitsebiso baka tse hlahositsweng ka hodimo di sebediswe boithutong bona ka mokhwa o hlahositsweng ka hodimo.

Lebitso la ya nkang karolo..... Lebitso la paki.....

Tekeno..... Tekeno.....

Letsatsi..... Letsatsi.....

Lebitso la Radiphuputso.....

Tekeno.....

Letsatsi.....





UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 5: CONSENT FORM (ENGLISH)

Title of Research Project: Factors affecting stroke patients' access to physiotherapy services in a semi-rural in South Africa

The study has been described to me in a language that I understand. My questions about the study have been answered. I understand what my participation will involve, and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits. I also understand that the researcher will bear transportation costs to and from the interview venue.

___ I agree to be [audiotaped] during my participation in this study.

___ I do not agree to be [audiotaped] during my participation in this study.

I hereby give consent for my personal information to be collected, stored, processed and shared as described in the information sheet.

I do not give consent for my personal information to be collected, stored, processed and shared as described in the information sheet.

Participant's name.....

Witness's name.....

Participant's signature.....

Signature.....

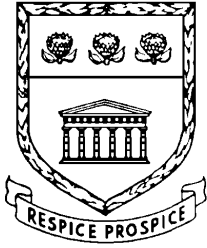
Date.....

Date.....

Researcher's name.....

Signature.....

Date.....



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 6: Foromo ya ho dumela ho ba le seabo boithutong bona (SESOTHO)

Sehlooho sa Boithuto: Dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku torotswaneng ya Afrika Borwa

Ke hlaloseditswe dikateng tsa boithuto bona ka puo yeo ke e utlwisisang. Dipotso tsohle tseo ke neng ke ena le tsona mabapi le boithuto bona di arabilwe ka mokgwa o kgotsofatsang. Kea utlwisisa hore boitsebiso baka e tl'a ba sephiri ha bona ho phatlaletswa mang kapa mang. Kea utlwisisa hore nka ikgula boithutong bona nako e fe kapa e fe kante ho kotlo kapa tahlehelo ya letho. Hape kea utlwisisa hore Radiphuputso ke yena ya tla ntsha ditjeo tsa hoya le ho kgutla setsing sa dipotso.

___ Ke dumela ho nkuwa [**kgatiso ya lentswe**] ho nkeng seabo h'a ka boithutong bona.

___ Ha ke dumela ho nkuwa [**kgatiso ya lentswe**] ho nkeng seabo h'a ka boithutong bona.

Ke fana ka tumello ya hore ditaba tsa boitsebiso baka tse hlalositsweng ka hodimo di ka sebediswa boithutong bona ka mokhwa o hlalositsweng ka hodimo.

Ha ke fane ka tumello ya hore ditaba tsa boitsebiso baka tse hlalositsweng ka hodimo di sebediswe boithutong bona ka mokhwa o hlalositsweng ka hodimo.

Lebitso..... **Lebitso la paki**.....

Tekeno..... **Tekeno**.....

Letsatsi..... **Letsatsi**.....

Lebitso la Radiphuputso.....

Tekeno.....

Letsatsi.....



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

APPENDIX 7: INTERVIEW GUIDE (ENGLISH)

Topic: Factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa

Interviewer: Moshoeshoe Nkafane.

Date & time: _____

Participant interview identifier: _____

Participant demographics (age, gender and race): _____.

Highest qualification: _____

Comorbidities: _____

Employment status: _____

Marital status: _____

Welcome and thank the participant. The purpose of this research project is to understand the factors which affect stroke patients' access to physiotherapy services in a South African semi-rural township. The findings will therefore be used to improve the accessibility and availability of physiotherapy services for stroke patients in the township of interest. The Informed Consent form is complete. The participant will be a stroke patient who meets the inclusion criteria. This interview will take about 50-60 minutes.

1. When were you diagnosed with stroke? [To get the conversation going]

Probes: What exactly happened on that day?

What did you do immediately afterwards?

Did you seek medical care?

Where did you seek medical care?

How did you get to the doctor/hospital/clinic?

2. What is stroke?

Probes: Who told you what stroke is and when?

What do you think could have caused you a stroke and why?

3. When did you first see a physiotherapist?

➤ **Probes:** who referred you?

When you were referred for physiotherapy, did you already know what it was?

How did you know about it?

Have you missed any appointments?

How do you normally get to the physiotherapy department from home?

Own transport/public transport?

Is physiotherapy helping you?

4. How often do you attend physiotherapy?

How do you feel about the frequency of your physiotherapy appointments?

Why do you feel that way?

Have you missed any physiotherapy appointment? How many and why?

What do you think could be done to help you attend physiotherapy as regularly as you would love to?

What makes it difficult/easy for you to attend physiotherapy?

Do you think you are getting the quality of physiotherapy you deserve and why?

What can we do to make our services more accessible to you?

What motivates/demotivates from coming to physiotherapy?



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Private Bag X 17, Bellville 7535, South Africa

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E-mail: soph-comm@uwc.ac.za

APPENDIX 8: Moralo wa dipotso (SESOTHO)

Sehlooho sa Boithuto: Dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku torotswaneng ya Afrika Borwa

Mmotsi wa dipotso: Moshoeshe Nkafane.

Letsatsi: _____

Se hlwahang ya botswang dipotso: _____

Dilemo, boleng le mohlobo wa ya botswang dipotso: _____.

Amohela le ho leboha ya nkang karolo boithutong. Sepheyo sa boithuto bona ke ho fuputsa dintlha tse amang ho fihleleha ha ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku ditrotswaneng tsa Afrika Borwa. Diphetho tsa boithuto bona di tla thusa ho ntlafatsa kanetso le ho fihleleha h'a ditshebeletso tsa physiotherapy bakeng sa bakudi ba setorouku ditrotswaneng tsa Afrika Borwa. Foromo ya ho dumela ho ba le seabo boithutong bona e tlatsuwe le ho tekenwa. Ea bang le seabo ke mokudi wa setorouku ya nang le ditshiya tse hlokalang ho ka kenyeletswa boithutong bona. Dipotso tsena di tla' nka bonyane metsotso e 50 ho isa ho e 60.

1. O bile le setorouku neng? [ho qala moqoqo]

Dipotso-tlatsetso: ho etsahetseng letsatsing leo o neng o eba le setorouku?

O ile wa etsang kamor'a ho otlwa ke setorouku?

Na o ile wa ya ngakeng kapa setsing sa bophelo?

E/Che, hlalosa?

U ile jwang setsing sa bophelo?

2. Setorouku ke eng?

Dipotso-tlatsetso: ke mang wa hokae a o rutileng ka setorouku?

U nahana ke eng e o bakeng setorouku hona hobaneng/jwang?

3. O qalile neng ho bonwa ke physiotherapist?

- Dipotso-tlatsetso: ke mang a o romele seng ho physiotherapist?
Ke neng ha o romellwa ho physiotherapist?
Na physiotherapy ya o thusa? Hlalosa.

4. O tla ditshebeletsong tsa physiotherapy ha kae?

Dipotso-tlatsetso: Maikutlo a hao ke a fe mabapi le makgetlo a o tlang ditshebeletsong tsa physiotherapy ka 'ona?

Hobaneng o ikutlwa jwalo?

O kile wa lofa ho tla ditshebeletsong tsa physiotherapy? Hobaneng?

Ke dintlha/mabaka a fe ao bebofaletsang ho tl'a ditshebeletsong tsa physiotherapy?

Ke dintlha/mabaka a fe ao thatafaletsang ho tl'a ditshebeletsong tsa physiotherapy?

Ke ding dintho tse o fang morolo wa ho tshepahalla ho tla ditshebeletsong tsa physiotherapy?

Ke ding dintho tse o nyahamisang ha o nahana ho tla ditshebeletsong tsa physiotherapy?

Maikutlo a hao ke afe ka boleng ba ditshebeletso tsa physiotherapy tse o di fuwang?



Appendix 9: Application for permission to use the hospital's conference hall for interviews

Moshoeshoe Nkafane
2711 Namibia Square
Bloemfontein, 9301

10th December 2022

Chief Executive Officer
Botshabelo District Hospital
Private Bag X527
Botshabelo, 9781

Dear Sir/Madam

Re: Permission to use the hospital's conference hall for research interviews

I hereby apply for permission to use the hospitals' conference hall to conduct interviews for my Master of Public Health research.

My study will explore factors affecting stroke patients' access to physiotherapy services in a semi-rural township in South Africa. I will be using in-depth interviews to collect data on factors that enable and those that make it difficult for stroke patients to access physiotherapy services in Botshabelo Township. The study has been approved by University of the Western Cape Biomedical Research Ethics Committee which can be contacted at research-ethics@uwc.ac.za. All ethical considerations and guidelines will be observed.

Thank you for your assistance in this matter.

Kind Regards



M. Nkafane

