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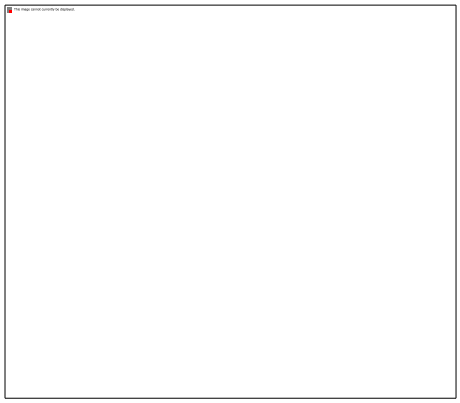
FACULTY OF SOCIAL SCIENCES AND HUMANITIES
DEPARTMENT OF SOCIAL WORK



THE INCLUSION OF CHILDREN WITH MOTOR DISABILITIES IN THE PROVISION OF ASSISTIVE TECHNOLOGY. A CASE OF SEKE RURAL DISTRICT, WARD 1.

BY (200958)

A dissertation submitted to Bindura University of Science Education, Faculty of Social Sciences and Humanities, Department of Social Work, in partial fulfilment of the requirements for the Bachelor of Science Honours Degree in Social Work.

June 2024

APPROVAL FORM

I certify that I supervised **Tania Chipo** in carrying out this research titled: **The inclusion of children with motor disabilities in the provision of assistive technology. A case of Seke Rural District, Ward 1** in partial fulfilment of the requirements of the Bachelor of Science, Honours Degree in Social Work and recommend that it proceeds for examination.

Supervisor

Name …… Signature…… Date……

Chairperson of the Department Board of Examiners

The departmental board of examiners is satisfied that this dissertation report meets the examination requirements and therefore I recommend to Bindura University of Science Education to accept this research project by Tania Chipo titled: **The inclusion of children with motor disabilities in the provision of assistive technology. A case of Seke Rural District, Ward 1** in partial fulfilment of the Bachelor of Science, Honours Degree in Social work.

Chairperson

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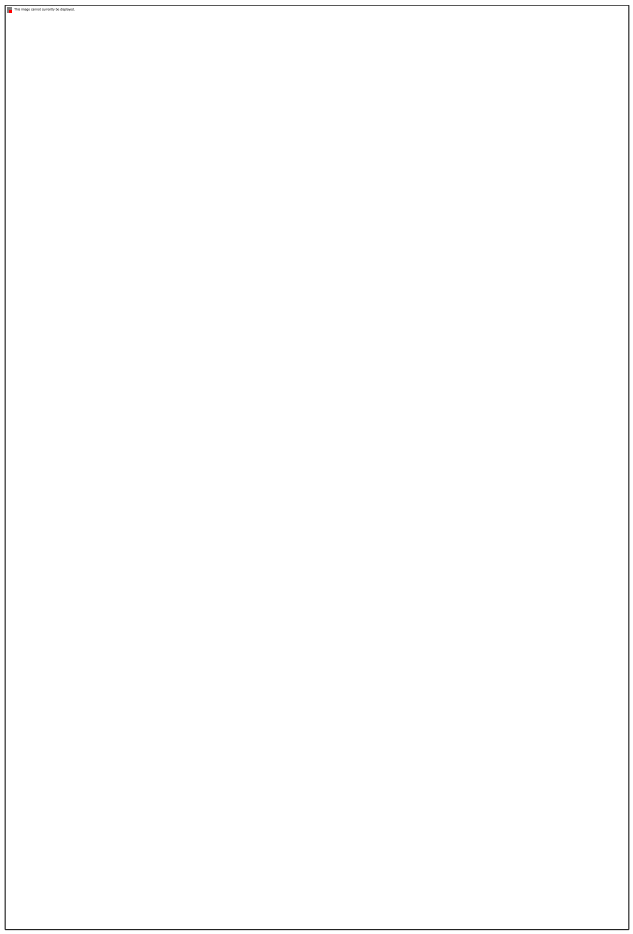

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I, Tania Chipo studying for a Bachelor of Science Honours Degree in Social Work, aware of the fact that plagiarism is an academic offense and that falsifying information is a breach of the ethics of Social Work research, I truthfully declare that:

1. The dissertation report titled: **The inclusion of children with motor disabilities in the provision of assistive technology. A case of Seke Rural District, Ward 1** is my original work and has not been plagiarized.

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DEDICATION

I would like to dedicate this project to my parents, Ronny Chipo and Loveness Chamboko, who have been my rock and inspiration throughout my life. Their unwavering belief in my abilities and potential has been a constant source of motivation, driving me to work hard and persevere through the various challenges I have faced. I also dedicate this project to my loving husband, Gerald Chideme, who has been my partner in every sense of the word. His encouragement, patience, and understanding have enabled me to pursue my academic goals with determination and passion. To my loving family and friends, who have supported me financially, socially, and emotionally, I

extend my heartfelt gratitude. Your collective efforts have enabled me to complete this project, and I am deeply thankful for your presence in my life. Your love, kindness, and generosity have made a significant difference in my journey, and I am honored to have you all by my side.

This project is a reflection of the power of love, support, and determination. I hope that it will inspire others to pursue their passions and dreams.

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I would like to acknowledge the divine providence that has enabled me to pursue my academic endeavors. I thank the LORD for granting me the opportunity to continue my education and for the strength and resilience to overcome the challenges I faced during this journey

I would also like to express my deepest gratitude to my Supervisors, Mr. Muzingili and Ms Chigondo, for their exceptional guidance and unwavering support throughout the duration of this dissertation. Their expertise and encouragement have been instrumental in shaping my research and helping me achieve the highest standards.

My sincere appreciation goes to the Social Development Officers at Seke Rural District Office, who gave me a warm reception and facilitated my research with kindness and professionalism, I am grateful for their contributions to this study. Last but not least, I would like to extend my heartfelt thanks to the participants who generously devoted their time and shared their insights with me. Their contributions have enriched this dissertation and will hopefully contribute to the betterment of lives in the future.

Thank you all for your unwavering support, guidance, and encouragement. This achievement would not have been possible without you.

ABSTRACT

This study investigated the challenges faced by caregivers in accessing assistive technology (AT) for children with motor disabilities residing in Seke Rural District, Ward 1, Zimbabwe. The primary objective was to identify these barriers and their impact on the children's participation in daily activities. Employing a qualitative, multiple case study design, the research utilized semi-structured interviews, key informant interviews, and focus group discussions with 35 participants. The social model of disability served as the theoretical framework, guiding the understanding of disability as arising from environmental and societal barriers rather than solely from individual impairments. The findings revealed a significant number of obstacles hindering caregivers' access to AT. These included limited awareness among caregivers regarding available AT options, difficulties navigating the application process for obtaining AT, resource constraints, encompassing both financial limitations and a lack of readily available AT devices within the

district., Technological limitations in the availability of appropriate and advanced AT solutions, and social challenges such as stigma and negative societal attitudes towards disability. These barriers were found to restrict the participation of children with motor disabilities in various aspects of life. The study identified limitations in the following categories; Physical play, due to a lack of mobility aids, Educational opportunities as a result of inaccessible learning tools and environments, Participation in child-leadership programs and social activities, Performing essential self-care tasks independently. Based on these findings, the study proposes several recommendations to improve access to AT for children with motor disabilities which include Investment in the development and provision of AT within the district, enhancing the technological capabilities of Social Development Officers to better support families in accessing AT, decentralization of AT services to increase accessibility for rural communities, promoting partnerships between government and non-governmental organizations to combine resources and expertise., implementation of inclusive programs that cater to the specific needs of children with motor disabilities. By addressing these barriers and implementing the proposed recommendations, this study suggests that the participation of children with motor disabilities in everyday activities can be significantly enhanced, fostering their inclusion and improving their overall well-being.

LIST OF ABBREVIATIONS

AT	Assistive Technology
CCW	Community Child-Care Worker
CG	Caregiver
CMO	Case Management Officer
CWD'S	Children with Disabilities
CWMD'S	Children with Motor Disabilities
DSDO	District Social Development Officer
FGD'S	Focus Group Discussions
KI	Key Informant

KII	Key Informant Interviews
NGO	Non-Governmental Organization
SDO	Social Development Officer
SSI	Semi-structured Interviews
WHO	World Health Organization

Contents

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.0 Introduction

This chapter lays the groundwork for the present study by establishing its context and outlining its key components. It delves into the background information that necessitates this research, clearly defines the problem being investigated, and articulates the study's overall aim and specific purpose. It presents the research questions that guide the inquiry and underlying assumptions upon which the research rests. It then highlights the significance of the study, emphasizing its potential contribution to the field. It acknowledges any limitations or delimitations inherent in the research design or methodology. Essential key terms are then defined to ensure a shared understanding of the terminology employed throughout the study. Finally, the chapter outlines the organization of the entire study, providing a roadmap for the reader, and concludes with a concise summary of the key points covered.

1.1 Background of the study

The inaccessibility of assistive technology (AT) for children with motor disabilities has been a persistent global concern. This problem affects developed, developing, and underdeveloped countries alike, with children from low-income nations experiencing the most significant marginalization (WHO-UNICEF Global Report on Assistive Technology 2022). The Convention on the Rights of People with Disabilities (CRPD) defines AT as products and services that improve the functioning of people with disabilities. The United Nations on the Rights of Persons with Disabilities (CRPD) considers children with disabilities to include those who have a long-term

physical, mental, intellectual, or sensory impairment, which, when combined with various barriers, may hinder their full and equal participation in society.

Despite interventions by governments, international organizations, and local agencies, children with motor disabilities around the world still have limited access to AT (WHO-UNICEF Global Report on Assistive Technology 2022). The report further reveals that over 2.5 billion people need assistive devices like wheelchairs, hearing aids, or communication and cognitive applications. However, nearly one billion lack access, particularly in low- and middle-income countries, where access can be as low as 3%. UNICEF (2023) highlights that nearly 11 million children with disabilities in Europe and Central Asia have the right to be supported through responsive care and social protection, but access to these rights is often denied due to stigma, institutionalization, and a lack of accessible services and physical barriers. Recent estimates in the United States show that 17 percent of children aged 3 to 17 year have some form of special needs (Centers for Disease Control and Prevention, 2020).

Zimbabwe ratified the CRPD in 2013, committing to ensuring all children with motor disabilities have access to the AT they need (Article 20). This aligns with the UN Convention on the Rights of the Child (UNCRC), which Zimbabwe ratified in 1990. UNICEF (2022) estimates 230 million children globally live with disabilities, with 28.9 million in Eastern and Southern Africa. A study by Moyo (2023) emphasizes how economic factors like poverty and inadequate services in Sub-Saharan Africa exacerbate the challenges faced by people with disabilities. The study also cites UNESCO data reporting 1.4 million people with disabilities in Zimbabwe, 11.6% of Malawi's population, 3 million in Kenya, and 4.5% in Botswana.

Regionally, Zimbabwe also ratified the African Charter on the Rights and Welfare of the child (ACRWC) in 1995, a regional framework adopted by the African Union in 1990 which recognizes

the right of children with disabilities to have access to basic needs, including assistive technology. Research suggests a higher number of people in low- and middle-income countries lack access to AT they need (Cote, 2021). Common reasons include limited government funding, lack of AT awareness, a shortage of trained personnel, and inadequate policy support. The World Health Organization (WHO) estimates that one in ten children in Sub-Saharan Africa has a disability, with a significant proportion having motor disabilities.

In Zimbabwe, an estimated 6.2% of children aged 5-14 have disabilities (Global Report on Disability 2016). This data highlights the significant need for AT among children with motor disabilities in Zimbabwe and Sub-Saharan Africa. Stigma, caregiver knowledge gaps, and resource constraints are significant challenges limiting AT inclusion for these children (Trafford et al., 2021).

Zimbabwe has enacted policies addressing the rights of people with disabilities. Section 83 of the constitution guarantees access to AT for people with disabilities, aligning with the CRPD and other international human rights treaties. The National Disability Policy of 2021 promotes social and economic inclusion for people with disabilities and commits to providing AT. Additionally, a National Disability Board coordinates and monitors disability policy implementation.

Despite these efforts, gaps remain in providing AT to children with motor disabilities, particularly in rural Zimbabwe. This research is significant because it aims to identify these barriers, assess their impact on everyday activities for children with motor disabilities, and develop strategies to enhance AT access for children with motor disabilities in Seke Rural District Ward 1.

1.2 Statement of the problem

Despite the right of children with motor disabilities to access assistive technology, there is limited inclusion of such children in the provision of assistive technology in Seke Rural District Ward 1. This gap in provision creates barriers to the full participation of children with motor disabilities in public spheres. It limits the children's educational opportunities, restricts their ability to access public spaces and hinders their meaningful participation in their respective communities. Limited provision of assistive technology to children with motor disabilities also create challenges for caregivers who may find it difficult to meet the children's needs and provide them with the support they need for critical learning and development. The provision of such technology is hindered by quite a number of factors including ignorance of available services, limited government funding and stigma associated with children with motor disabilities.

1.3 Purpose of the study

To establish the challenges faced by children with motor disabilities residing in Seke Rural District Ward 1 in accessing assistive technology, in order to enhance their participation in everyday activities.

1.4 Research objectives

The objectives of this research are:

- To identify barriers encountered by caregivers of children with motor disabilities living in Seke Rural District Ward 1 in accessing assistive technology.
- To assess how these barriers are affecting the participation of children with motor disabilities in everyday activities.

- To identify strategies to enhance the inclusion of Children with motor disabilities in Seke Rural Ward in the provision of Assistive Technology.

1.5 Research questions

The study sought to address the following research questions;

- Which challenges are faced by caregivers of children with motor disabilities in Seke Rural District Ward 1 in accessing assistive technology?
- How are these challenges affecting children with motor disabilities in their everyday living?
- What strategies can be put forward to enhance the inclusion of children with motor disabilities residing in Seke Rural District Ward 1 in the provision of assistive technology?

1.6 Assumptions

The study assumed that children with motor disabilities residing in Seke Rural District Ward 1 have limited access to assistive technology and that there are specific challenges making it difficult for them to access it. The study also assumed that these challenges could be identified and addressed to improve the lives of these children.

1.7 Significance of the study

The aim of the study was to understand the several reasons why there is minimum inclusion of children with motor disabilities residing in Seke Rural District Ward 1 in the provision of assistive technology. As a result, this study will greatly contribute in strengthening the existing literature, will influence the crafting and amendment of related policies and provide ways to address challenges faced in trying to access assistive technology

.1.7.1 Existing literature

Without doubt, there are a lot of past studies which have been carried out on the issues of disability and the provision of assistive technology. A study by Mutale 2020 which explored the exclusion of children with disabilities in community development also highlighted factors of limited access to assistive technology, stigma and discrimination as barriers to participation. Other studies by Sibanda 2018, Smythe 2022 also present similar findings and add to the knowledge base on the issues of exclusion caused by limited access to assistive technology by children with disabilities However, these studies focused more on other types of disabilities without narrowing focus to motor disabilities and were not particular to a study setting of a peri-urban rural community. Based on this background, the current study will compliment past research by adding data on the case of children with motor disabilities and their inclusion in the provision of assistive technology. The study is worth carrying out as issues of social inclusion are being championed in several countries around the world.

1.7.2 Policy Implications

Zimbabwe has policies promoting AT access and public sphere participation for children with disabilities. This study can identify gaps in these policies and areas requiring stricter enforcement. The National Disability Policy of 2021, The Disabled Persons Act 17:01 among other programs such as the Community-Based Rehabilitation for rural people with disabilities are efforts by the government to provide for the rights of people with disabilities and makes it its legal obligation to provide for their needs. While these legal instruments are crucial, gaps still remain in the inclusion of children with disabilities in the provision of assistive technology and this study will identify areas which are lacing and those in need of enforcement.

1.7.3 Community

The study is significant to the communities which children with motor disabilities live as it will lead to improved social inclusion and quality of life. It may also inform the development of community-based programs that provide support and resources to children with motor disabilities and their families. It will improve the lives of children with motor disabilities by identifying and addressing the challenges they encounter in obtaining assistive technology. Caregivers will have an opportunity to express their views on the available social protection schemes by the government to provide for assistive technology. These views will be incorporated in the crafting of social protection programs.

1.7.4 The Ministry of Public Service, Labour and Social Welfare

The study provides valuable insights for the Ministry concerning the current situation of children with motor disabilities in rural areas and their AT access barriers. This information can inform policy decisions and program development for this vulnerable group

1.7.5 Innovation and Industrialization

The study may also influence local industries to develop assistive technologies that are tailored to the needs of people with disabilities in the rural areas, thus contributing to the overall goal of industrialization and innovation. It will contribute to the crafting and amendment of models used to address issues of assistive technology to children with motor disabilities and challenges faced in trying to access them.

1.8 Delimitations of the study

The study was conducted in Seke Rural District Ward 1 out of the 21 wards in Seke Rural District. The study was conducted to focus only on children with motor disabilities in their different

categories and did not focus on any other forms of disabilities. It focuses on the current situation of availability of assistive technology to children with motor disabilities.

1.9 Limitations

The researcher encountered financial challenges in conducting the research. I required funding for printing and travelling to and from the research area. The financial support I got from my family members helped me to overcome this challenge. The other challenge was time constraints to gather data for the study. This was mostly due to work demands and studies which I had to do concurrently. I worked overtime and prioritized my activities so as to overcome this challenge.

1.10 Definition of key terms

The key terms in this study are children, inclusion, motor disability, provision and assistive technology. These terms are defined as they are used in the study.

1.10.1 Child

As per the Zimbabwean Constitution and the United Nations Convention on the Rights of the Child, a child is anyone under the age of eighteen. For the purpose of this study, the researcher used the definition of a child in Zimbabwe as stated in the constitution that is a person below the age of eighteen.

1.10.2 Inclusion

Inclusion means ensuring that all children who need assistive technology have access to it and can use it effectively. Johnson and Smith (2011), present that it is essential for children with disabilities to have access to have the same opportunities and experiences as their fellow counterparts. It also means ensuring that the assistive technology is appropriate for the child's needs and that it is compatible with the child's other assistive technology and learning materials. Within the scope of

this research the phrase inclusion refers to the process of assuring that children with motor disabilities are incorporated in social protection schemes to provide assistive technology to persons with disabilities. This will enable them to engage and participate in public spheres as other children.

1.10.3 Provision

This refers to providing the necessary equipment, support, and services to enable children with disabilities to access and utilize AT. It should consider the child's overall needs and promote well-being and full enjoyment of human rights. According to Kuppers (2014), provision should be considered in the context of the child's overall needs and promote their well-being. The aim is to ensure equal access to AT for full participation in education, society, and the community. In this study, provision involves ensuring children with motor disabilities receive AT to enhance their independence, participation, and quality of life

1.10.4 Motor Disability

Motor disability is a disability that affects one's ability to move, control or coordinate their muscles. This can include physical disabilities such as cerebral palsy, spina bifida or muscular dystrophy which can affect the ability to use the arms, legs and other parts of the body. According to WHO these are disorders of movement that arise from damage to the central and peripheral nervous systems and musculoskeletal structures. The definition emphasizes that motor disabilities can be caused by a number of factors including damage to the muscles or bones and other neurological conditions. Motor disabilities can also include developmental disabilities such as autism or Down Syndrome, which can affect a person ability to control and coordinate their

movements. They can have a wide range of severity and can vary from person to person. In this study, the term motor disabilities is comprehensive and encompasses many different conditions.

1.10.5 Assistive Technology

Assistive technology encompasses a wide range of devices, software and equipment designed to facilitate individuals with disabilities in completing everyday tasks. This can include items such as wheelchairs, hearing aids, communication devices, screen readers among others. According to World Health Organization (2001), assistive technology are products, services or equipment that are used to maintain or improve the functional capabilities of individuals with disabilities. It also emphasizes that AT should be person-centered meeting the individual's needs. Assistive Technology can be either simple or complex and can be tailored to the individual needs of the person using it. The aim of AT is to help persons with disabilities to live more independently, participate more fully in society and improve their quality of life. In the context of this study, assistive technology refers to all forms of devices that are provided to improve the functional capabilities of children with motor disabilities.

1.11 Organization of the study

The study is made up of five chapters. **Chapter one** focuses on the introduction and background of the study. It presents the background of the study, statement of the problem, purpose of the study, research objectives and questions, limitations, delimitations, assumptions, definition of key terms and organization of the study.

Chapter two deals with review of related literature. It gives the theoretical and conceptual framework of the study and also reviews literature related to motor impairment.

Chapter three looks at the research methodology. It outlines the research approach, research design, population of the study, sampling procedures and sample size. The chapter also looks at data collection methods and instruments, data analysis procedures and ethical considerations.

Chapter four focuses on the data presentation, analysis and discussion

Chapter five presents the summary, conclusion and recommendations of the study.

1.12 Chapter summary

This chapter discussed the background of the study, problem statement, the significance of the study, the aims and objectives of this study, research aims and questions, delimitations and limitations of the study and definition of key terms. The next chapter will focus on the theoretical framework and the literature review related to the topic.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presents a comprehensive review of existing research on the inclusion of children with motor disabilities in assistive technology provision. It examines key theoretical frameworks, global, regional and local literature and sheds light on the unique needs of this population, the barriers hindering access to assistive technologies and strategies that have been employed to address them.

2.1 Theoretical framework

2.1.1 The Social Disability Model

The Social Disability Model is a theoretical framework that considers disability as a social construct rather than an inherent individual attribute. It was developed in the 1970's by disability rights activists, the main proponent being Michael Oliver who later coined the term social disability model in 1983. It provides a comprehensive framework for researching the inclusion of children with motor disabilities in the provision of assistive technology. It is premised upon key tenets, that disability has a social origin, recognizing that disability is rooted in societal structures and attitudes, disability arises from an interplay between individuals and environmental barriers, the need to remove and address these societal barriers that promote exclusion and promote the participation of people with disabilities. It conceptualizes disability as a result of the interaction between individuals with impairments and the barriers present in society which include systemic barriers and social factors that prevent them from fully participating in society. It draws a crucial distinction between impairments and disabilities, emphasizing that impairments are functional limitations an individual can face while disabilities result from societal attitudes and structures that

perpetuate exclusion and marginalization, effectively turning impairments into disadvantages. The key tenets of the model are crucial as they address the research objectives; to identify barriers encountered in accessing assistive technology, establish how these barriers hinder the participation of children with motor disabilities in everyday activities and to identify strategies to enhance the inclusion of children with motor disabilities in the provision of assistive technology

2.1.2 Barriers: The Social Disability Model

- **Disability as a social construct**

According to the social model of disability model, disability is not a personal problem or a medical condition but a social construct that is created by barriers in society. It views disability as a product of human definitions and interactions. According to Bolt (2005), it is the society that disables people. Barriers in the society can be physical such as inaccessible buildings or attitudinal, such as negative stereotypes or discrimination and the ultimate lack of assistive devices. From this perspective, disability is thus an interaction between features of a person's body and features of the society in which they live in, (WHO 2017). In order to address this, the Social Disability Model emphasizes the need for structural changes to ensure that people with disabilities have equal access and opportunity. Based on this view, society needs to change to accommodate the diverse needs and abilities of people with disabilities. It is therefore important to understand the social context in which children with motor disabilities interact as this will provide a holistic understanding of the challenges and opportunities for inclusion and help advocate for social change to promote inclusion and accessibility by promoting the transformation of societal attitudes, policies and practices and creation of enabling environments.

2.1.3 Assistive technology inaccessibility as a participation barrier

The Social Model of Disability also presents the lack of assistive technology as a major factor that inhibits the full participation of children with disabilities. Aragon (2013), supports the same idea as he indicates that limited access to aiding devices can be a greater barrier to participation for those with disabilities. It limits their independence and their chances to navigate public spheres. In the case of children with motor disabilities, limited access to mobility aids such as wheelchairs, scooters, walkers may limit their chances to move around and perform different daily tasks. It can also impact on their ability to perform self-care activities such as bathing, cooking among others. Lack of access to assistive technology can also contribute to social exclusion, limiting the participation of CWMD's in social and community programs. Educational and employment opportunities can also be greatly affected due to lack of assistive technology. Hence, it is crucial to promote access to assistive technology for children with motor disabilities to enhance their participation in various life activities.

2.1.4 Strategies to enhance the inclusion of PWD's in everyday activities.

- **Promoting self-determination**

The social disability model presents that people with disabilities should be able to make their own choices about their own lives based on their preferences, values and goals. According to Shakespeare (2010), this is crucial in improving the self-esteem of people with disabilities and building a sense of collective identity. It advocates for the removal of barriers that prevent people with disabilities from making their own choices and decisions. On this note, children with disabilities should be allowed a chance select and use assistive devices that meets their specific

needs. This will empower them to achieve their goals and access information, resources and services that are relevant to their needs. This is crucial in promoting their independence.

- **Fostering Inclusion**

According to the disability model, disabled people are experts in their own experiences and should be involved in decision-making process that affect them. This highlights the need to enable children with motor disabilities to participate in public spheres and key decision-making processes. In light of this, assistive technology allows children with motor disabilities to exercise their rights and responsibilities as citizens. Assistive technology helps these children overcome environmental barriers and perform tasks they would otherwise have difficulty doing. It also allows them to participate fully and equally in all aspects of life such as education, health and social relationships. It also emphasizes the importance of community participation and collaboration which can be key in ensuring that children with disabilities have access to the resources and support they need to access to use assistive technology.

According to the People with Disabilities Australia (2023), the Social Model of Disability has now become the internationally recognized way to view and address disability. The Social Disability Model was thus adopted for the study as it clearly outlines the challenges faced by children with motor disabilities inhibiting them to participate in everyday activities and further suggests ways these can be corrected.

2.2 Conceptual framework

The conceptual framework of the study is Social Inclusion. According to Koller, Pouesard & Rummens (2018), social inclusion is a process by which individuals and groups acquire the resources they need to participate fully in society and live with dignity, despite their physical

status, economic or social backgrounds. The key role for social inclusion is to ensure that all people including those with disabilities benefit from available social protection schemes available to enhance their well-being and participation in public spheres. It entails ensuring availability of assistive technology and accommodating infrastructure to enhance the physical capacities of those with disabilities. According to UNICEF (2016), social inclusion is a process of ensuring that all children, regardless of their ability, have an equal opportunity to participate in society, develop to their full potential and enjoy a decent quality of life. This is a key component of child rights, and assistive technology is crucial in promoting social inclusion for children. It is important to consider the specific needs of children when working towards social inclusion. According to Williams (2019), social inclusion is a state in which all individuals including those with disabilities are fully accepted and supported in the community. Thus, it is important to transform communities' retrogressive and discriminatory practices that promote stigmatization of children with disabilities so that they are accepted and included. According to Kaseke (2019), social inclusion is a process through which people are able to participate fully in the community but can be a challenge to people with disabilities as they may face environmental and attitudinal barriers. Hence, assistive technology is key in promoting independence, supporting communication and facilitating social interactions.

From these definitions several components of social inclusion can be deduced: every individual should be provided with adequate resources to participate and engage in public activities; there is need to provide assistive technology to children with disabilities; specific needs of children with disabilities should be considered to achieve social inclusion and there is need to promote social change to deal away with stigma and discrimination towards children with disabilities.

Generally, inclusion entails ensuring that all individuals have equal access to opportunities and resources. This is critical in creating empowerment and promoting independence and well-being among children with motor disabilities.

2.2.1 Evolution of Assistive Technology to children with disabilities

In past years, children with disabilities faced a lot of discrimination and seclusion from mainstream activities due to physical and social limitations. To address these problems Assistive technology was introduced in a bid to engage these children with disabilities in public spheres. According to Heumann (2011), in the 1970's and 1980's the idea of mainstreaming and integrating children with disabilities became popular and this led to more children having access to assistive technology. The provision of assistive technology to children with disabilities has evolved over time and this was necessitated by supporting legislation, research, innovation and advocacy. In 2006 The United Nation convention on the Rights of People with Disabilities was adopted by the UN General Assembly as the first human rights treaty to focus specifically on the rights of persons with disabilities. It states that persons with disabilities have the right to access AT and requires states to take measures to ensure its availability and accessibility. It has been ratified by about 18 countries so far. A number of countries have developed national policies and programs that are based on the principles of the CRPD. The World Health Organization and United Nations Children's Fund (2022), present that AT is a basic human right and that the governments have an obligation to ensure that children with disabilities have access to the technology they need.

In line with this, Zimbabwe developed the National Disability Policy which includes a focus on the needs of children with disabilities. These policies recognize that assistive technology is a tool for social inclusion and empowerment. According to Halpin (2023), the use of assistive technology led to improved outcomes for children with disabilities. While doing so, it is also critical to

considered the child's specific needs so that assistive technology is tailored to their needs. However, barriers to access AT still exist and these range from financial, social and technological challenges which include lack of awareness, minimum availability, limited availability and affordability among others.

2.2.2 Categorization of children with motor disabilities and respective assistive technology needs

Motor disability involves he partial or complete impairment of a bodily function. It typically affects one or more limbs, leading to potential symptoms such as muscle weakness, poor stamina, lack of muscle control or complete loss of motor function. There are four main types of motor disabilities explored in this study which are cerebral palsy, spina bifida, muscular dystrophy and spinal cord injury.

2.2.2.1 Cerebral palsy

It is a group of non-progressive motor disorders caused by damage to the developing brain, usually before birth. According to Owen (2005), cerebral palsy is a disorder of movement and posture due to a disorder of the developing fetal or infant brain. It affects muscle control, coordination and voluntary movement and can manifest in stiff muscles coupled with poor balance and coordination. For meaningful participation of these children, mobility aids such as wheelchairs and walkers, communication aids like speech-generating devices or specialized software are required. The study considered children with unilateral cerebral palsy a condition where only one side of the body is affected.

2.2.2.2 Spina Bifida

It is a neural tube defect that occurs during early pregnancy when the spine and spinal cord do not form properly. According to Oakes (2014), spina bifida is a failure of the neural tube to close normally during embryonic development, resulting in an incomplete spinal cord and cerebrospinal fluid filled sacs, typically on the lower back. It can result in varying degrees of paralysis, muscle weakness and mobility impairments affecting the lower limbs. The type of assistive technology required to enable the inclusion and participation of these children include orthotic devices like braces and splints to support lower limb function, wheelchairs or mobility scooters for children with more severe mobility impairments

2.2.2.3 Dysmelia

It is a disorder that affects the development of the limbs. It can cause the limbs to be under-developed, missing or malformed in some way. According to Campbell-Orr (2017), Dysmelia is a congenital condition that causes an individual to have one or more limbs that are missing, malformed or extra. For example, one may have a limb that is shorter than the other, a limb that is bent or twisted or a limb that is missing altogether. People with dysmelia may experience a range of symptoms including pain, difficulty walking and problems with self-care and daily activities. The type of assistive technology required include prosthetics, crutches, surgical footwear and other walking aids.

2.2.2.4 Accident-induced motor disability

It is a disability that is results from an injury sustained in an accident. According to Shumway (2004) accident-induced motor disability is functional loss of movement or sensation that results from damage to the central or peripheral nervous system due to an accident. Causes may include car accidents, slip and fall accidents among others. Accident-induced motor disabilities can affect

any part of the body ranging from legs, hands, brain, spinal cord and other parts of the nervous system and these all can significantly affect one's mobility. The type of assistive technology required will be specific to one's condition and needs and may vary across wheelchairs, walkers, crutches, splints and braces to mention a few.

2.3 Challenges faced by caregivers of children with disabilities in securing assistive technology

2.3.1 Financial Challenges

This section explores the financial barriers hindering access to assistive technology (AT) for people with disabilities, with a specific focus on rural communities in Zimbabwe. The high global burden of unmet needs for AT is well documented (World Health Organization [WHO] & Global Cooperation on Assistive Technology, 2020). Studies estimate that over one billion people globally experience some form of disability, yet only 10% have access to the AT they require (WHO & Global Cooperation on Assistive Technology, 2020).

Limited funding for AT programs and services is a significant contributor to this global disparity (WHO & Global Cooperation on Assistive Technology, 2020). The high cost of AT itself is a major barrier, often exceeding the coverage provided by insurance or social safety nets (UNESCO, 2019). Even developed nations like Canada grapple with underfunded and fragmented AT systems (World Health Organization Global Cooperation on Assistive Technology, 2018).

The economic situation in low-and middle-income countries (LMICs) presents a particularly challenging landscape. McPherson & Clark's (2017) review highlights the high cost of AT in LMICs, forcing families to choose between basic necessities and assistive devices for their

disabled children. This underscores the urgent need for affordable and accessible AT solutions in these regions.

Matter et al. (2017) pinpoint the financial constraints faced by many African countries in Southern Africa. Weak healthcare systems, low per capita income, and widespread poverty all contribute to the limited availability and affordability of AT (Matter et al., 2017). Their findings, echoed by Matter & Eide (2018), emphasize the need for increased funding, improved training, and a rights-based approach to AT access in Sub-Saharan Africa.

In Zimbabwe, the national picture is concerning. A 2019 report by the Department of Social Development estimates that a staggering 90% of people with disabilities lack access to essential AT (Department of Social Development, Republic of South Africa, 2019). Smythe et al. (2022) attribute this limited access to Zimbabwe's weak economy and lack of resources, resulting in insufficient investment in AT infrastructure and specialist personnel. Furthermore, the absence of comprehensive private insurance coverage creates another hurdle for acquiring necessary AT.

This study aims to delve deeper into the specific financial challenges faced by rural communities in Zimbabwe. It will explore the unique constraints experienced by caregivers in these areas, many of whom are peasant farmers with limited financial resources. By focusing on this specific population, the study can provide targeted insights to inform interventions aimed at improving AT access in rural Zimbabwe.

2.3.2 Social Challenges

In addition to the financial and policy challenges, caregivers of children with disabilities also face social challenges when trying to access assistive technology in Zimbabwe. These include stigma and discrimination, as well as a lack of understanding and acceptance of assistive technology by family members and the community. Studies by WHO (2011), show that caregivers around the world face stigma and discrimination when seeking help for children which can make it difficult to access the resources they need. Studies by Johnson (2021), present the various ways in which stigma can prevent caregivers from accessing the resources and support they need for their children with disabilities. They present that stigma influences negative attitudes towards the use of AT resulting in most of those with disabilities unwilling to use it. These negative attitudes also instill feelings of guilt and shame among caregivers which make them reluctant to seek out help for their children with disabilities. Hence, addressing stigma and building a more inclusive society is essential in improving the lives of children with disabilities. According to the International Disability Alliance 2024 report on the state of assistive technology in low and middle income countries outline that caregivers often experience social isolation due to labelling by the community members and those with disabilities are often excluded from public areas such as religious spaces such as is the case in countries like Rwanda and Sudan. The study suggests that, the needs of caregivers are often overlooked and there is need for more support for this population by providing them with resources to help them manage the complex needs of their children and fostering positive attitudes among community members so as to eliminate stigma and discrimination of any sort.

Studies by Babik & Gardner (2021) reflect that the social environment in which people with disabilities live and the attitudes of society towards them remain key barriers to their participation

in mainstream society. They indicate that negative attitudes towards disability disempower individuals with disabilities to engage in mainstream activities and this often leads to their social exclusion and isolation while on the contrary positive attitudes help foster social inclusion. Hence, it is crucial to ensure the general public are educated on the importance of positive attitudes towards those people with disabilities.

Another social challenge in accessing assistive technology is a lack of training and education for both people with disabilities and their families. People with disabilities may not be aware of what assistive technology is available to them, and they may not know how to use it effectively. Similarly, family members and caregivers may not understand how assistive technology can help their loved ones, and may be resistant to using it. According to Tomczyk (2024), low education levels among caregivers and children with disabilities are often due to inadequate educational structures and this resultantly hinder them from accessing the necessary skills to understand and access information related to assistive technology. In order to address this challenge, it is important to provide training and education about assistive technology to people with disabilities and their families to empower them to advocate for the needs of their children.

Several scholars have written about the importance of training and education in improving access to assistive technology. For example, Nierling (2020) argue that training and education are critical for promoting the adoption and effective use of assistive technology. They highlight the importance of tailoring training to the specific needs of people with disabilities, and ensuring that it is accessible and culturally relevant. Similarly, Grunwald (2019) argue that training and education can help to reduce stigma and discrimination against people with disabilities and increase their participation in public spheres. similarly argues that training is essential for creating a supportive environment for people with disabilities. According to the International Disability

Alliance (2024), negative and attitudinal barriers still exist in countries like Bangladesh, Kenya, Pakistan, Peru, Rwanda, Sudan and Uganda. These pose as barriers to accessing AT. The present study will also include issues of community conscientization which are crucial in reducing societal negative attitudes of stigma and discrimination towards children with motor disabilities which promote exclusion.

2.3.3 Technological Challenges

According to the World Health Organization (2011) technological factors greatly impact the distribution of assistive technology around the world. These include lack of technical expertise and training which can make it difficult to repair and maintain assistive technology. There is need for affordable, appropriate and sustainable assistive technology solutions. In the same study, statistical evidence shows that of the 15% world' population with some type of disability, only 10 % have access to assistive technology they need. According to Mclachlan and Scherer (2018), lack of data on the needs, availability and affordability of assistive technology also perpetuates the lack of accessibility to assistive technology around the world. This hinders the development of evidence-based policies and programs to improve access for the people who need them.

A study by Borg, Linstrom and Larsson (2011) reviews valuable insights into the specific challenges faced people in low- and middle-income African countries in accessing assistive technology. According to their study these include lack of trained personnel to provide and maintain assistive devices, lack of human resources and training for the provision of assistive technology. This results in shortage of qualified personnel such as technicians, therapists and educators who can assess, prescribe, fit and train and follow up users of assistive devices and lack of innovation and adaptation of assistive technology to the local context. Hence, the impact of

technological factors is greater in low-and middle-income countries inasmuch as accessing assistive technology is concerned.

Matter, Harniss, Oderud, Borg & Eide (2016), examine the availability and accessibility of assistive technology in a number of Sub-Saharan African countries. It highlights the need to understand the unique context of Sub-Saharan Africa and the need for culturally appropriate assistive technology solutions to curb societal and cultural hindrances. Studies by Tomczyk (2024) on the issue of socio-technical issues affecting accessibility of AT reflect that another technical challenge is the way in which digital platforms and websites are deigned which does not allow for people with disabilities to access information on how they can access assistive technology making it difficult for them to access suitable devices to aid them in performing several tasks.

Additionally, people with disabilities may face challenges in accessing assistive technology due to a lack of accessible transportation and communication. This is true in the context of Zimbabwe where the accessibility of assistive technology is influenced by lack of infrastructure and resources to support the development and distribution of assistive technology. Studies by Ndhlovu & Mudzingwa (2022), on difficulties encountered by PWD's in accessing AT present that the poor state of roads, electricity and communication networks in rural areas makes it difficult to for people with disabilities to access public institutions and also these assistive devices in Zimbabwe. Townsend (2013), also reinforces the same idea citing that lack of trained personnel and the high cost of AT are key barriers in accessing assistive technology in developing countries. There is therefore need for technological advancement in the country and around the world and also the need to engage local communities and caregivers in the design and development of assistive technology solutions so that it meets the needs and preferences of caregivers in Zimbabwe.

There is however, need to explore on the current state of the provision of the assistive technology by the government and partnering organizations including considering the country's ability to manufacture and sources for relevant devices which is not explained by these aforementioned studies.

2.4 Limitations encountered by children with disabilities

2.4.1 Social Exclusion and limited Participation

Children with motor disabilities face social exclusion and limited opportunities to engage in programs due to several barriers and stigmas associated with their conditions. Social barriers in communities and around the world may hinder the participation of children with motor disabilities in participating in mainstream and public spheres. According to a report by WHO and World Bank of 2020, around 15% of the world's population lives with some form of disability and children with disabilities are more likely to experience exclusion from education and other social activities. Examples of these social activities that may promote the development and empowerment of children with motor disabilities include community service projects, peer mentoring programs and arts clubs among others. According to Wehman (2013), participation in these activities would benefit the children's well-being and development. Studies by Vuong & Palmer (2024), highlight that attitudes of parents and children as well as the attitude of others in the community can impact the level of participation. They present that people with disabilities are often segregated from society due to negative attitudes held by the general population thereby impacting their opportunities for their inclusion in mainstream activities. These studies call for the need for more research on how to remove barriers and promote participation of children with motor disabilities in public activities as shall be presented by this current study.

Factors such as limited support services and societal attitudes contribute to the exclusion of children with disabilities in Sub-Saharan Africa. Mumba and Wegner (2011) conducted a study whose findings reveal that children with disabilities in Africa are often excluded from community participation due to a lack of support and understanding from their families and communities. This exclusion has negative impacts on the health, education and socialization of these children. They argue that policies and practices must be changed to improve the inclusion of children with disabilities. This includes improving access to assistive technology, providing education and support to families and communities and advocating for the tights of children with disabilities.

In Zimbabwe, a study by the Zimbabwe Parents of the Handicapped Children Association of 2010 found that children with motor disabilities face significant challenges in accessing education, healthcare and other support services. Studies by Taruvinga (2019), reveal that children with disabilities especially in rural districts of Zimbabwe face a number of challenges that limit their participation. These include long-distances to school, lack of public transport and lack of accessible buildings. These challenges limit their chances to exposure thereby limiting their chances to participation. This study was silent on the exclusion of children with motor disabilities in physical activities and extra-curricular activities and this will be addressed in this study.

2.4.2 Limited access to educational opportunities

Globally, children with disabilities are less likely to attend school, complete primary education and achieve minimum learning outcomes compared to their peers without disabilities. A study by UNESCO (2018) reviews that the global literacy rate for adults with disabilities is as low as 3 % and 1 % for women with disabilities. It also estimates that 33% of out-of-school children have disabilities. According to the World Health Organization, an estimated 93 million children world-wide have moderate or severe disabilities and many of them lack access to education. There is

however, need for inclusive education as spelt out by the United Nations Convention on the Rights of Persons with Disabilities which champions the need for signatory countries to develop inclusive education systems.

A study conducted in Sub-Saharan Africa by the African Child Policy Forum in 2014 revealed that children with disabilities are often excluded from education. This region also faces challenges in providing inclusive education for children with disabilities due to an abundance of factors among which are poverty, resource constraints and poor technological advancement. According to a UNESCO report of 2015, only 1 in 10 children with disabilities in Sub-Saharan Africa attends school, compared to 9 out of 10 children without disabilities. This limited access to education is exacerbated by prevailing discrimination and stigma against children with disabilities in Sub-Saharan Africa. A report by the World Bank in 2017 found out that primary school completion rates are 10 percentage lower for girls with disabilities than for girls without disabilities and 13 points lower for boys with disabilities than for boys without disabilities.

In Zimbabwe, children with motor disabilities often face barriers in accessing educational opportunities. They are among the most marginalized groups of children. According to UNICEF (2006), around 52% of the children with disabilities in Zimbabwe have no access to education and those who attend school often face discrimination and lack of support. A review of a survey conducted by the Ministry of Primary and Secondary Education in Zimbabwe in 2013, only 1.9 % of children with disabilities were enrolled in mainstream schools. Limited availability of special needs education facilities and trained teachers contributes to the low enrollment rate of children with disabilities in Zimbabwe. Research conducted by the Disability Rights Unit of Zimbabwe estimates that only 34% of children with disabilities in Zimbabwe have access to education.

2.5 Strategies implemented to enhance the inclusion of children with motor disabilities in accessing assistive technology

2.5.1 International collaborations

To promote the inclusion of children with motor disabilities in the provision of assistive technology, collaborations among countries and organizations have been made. These have been crucial in fostering innovation, creating responsible and guiding international frameworks and contributing towards the needed funds. Initiatives like the Global Cooperation on Assistive Technology (GATE) help facilitate thee collaborations. According to Vineda (2019), GATE provides a forum to for countries to share their experiences and best practices in promoting access to assistive technology, it provides technical assistance and capacity building to countries that are developing their AT policies and programs. Convention such as the United Convention of the Rights of Persons with Disabilities (CRPD) which emphasizes inclusive education and right to assistive technology have been formed to foster these collaborations. It requires signatory countries to ensure people with disabilities have access to AT. According to Chakraborty (2020), developed countries have made great progress in meeting these demands while the limitation resources in developing countries have derailed progress. However, the current study will also highlight on the various efforts by developing countries through the crafting of policies and programs to promote inclusion of children with motor disabilities and provision of assistive technology which was not addressed in past studies.

2.5.2 Advocacy and awareness campaigns

Global organizations have been instrumental in advocating and raising awareness on the rights of children with motor disabilities to have access to assistive technology. A study by the Disability Evidence Portal (2022), has presented that there is need to educate PWD's and their families about

various types of assistive technologies available and they offer to CWD's. The study also presents that most rehabilitation programs in low-and-middle-income countries lack rigorous training which is a major contributing factor to the gap in the provision of assistive technology. This study however, does not mention the issue of resource constraints and limited trained personnel to champion these trainings and the need to provide ongoing support to service users which shall be explored in this study.

Several scholars have written on the need to advocate for the rights of people with disabilities which are clearly spelt out by several international, regional and local conventions, laws and policies which are crucial in removing barriers to access and improving their general quality of life. According to WHO (2016), the access to assistive technology for persons with disabilities is a human right just as access to medical or other health services and education. The United Nations Convention on the Rights of Persons with Disabilities outlines the same idea and indicates that people with disabilities should have all their rights respected including that of having adequate access to assistive technology. It is upon this background that efforts should be made to conscientize PWD's of their rights to AT and link them to appropriate service providers.

According to WHO (2020), expansion and strengthening of assistive technology services in primary, secondary and tertiary healthcare levels has been proven key to achieve universal inclusion and this can be achieved by providing trained workforce and accessible services as was the case in the Eastern Mediterranean Region. Coordinated efforts, reliable funding and proper management have been cited to be major factors necessitating the success of this program. However, the global unmet need for mobility assistive technology still remains high. Of the 80 million people who need a wheelchair 5 to 53 percent have access to one based on the country they live, (WHO, 2022). Thus, gaps still remain in addressing motor disabilities through assistive

technology due to the developmental capacities of countries, with the developing countries facing greater marginalization.

2.5.3 Integrating assistive technology into universal health system

Providing assistive technology at primary, secondary and tertiary health levels has been crucial in enhancing the provision of assistive technology. A study by WHO (2023), indicate that assistive technology has recently becoming an important pillar of health products, it is the fourth pillar among other pillars; medicines, vaccines, medical devices and diagnostics. As recommended by the World Health Alliance (WHA), World Health Organization (WHO) and Global Cooperation on Assistive Technology GATE (2021), there should be trained workforce to ensure the client if provided with need-based interventions and offer ongoing support and there should also be accessible devices to prescribe to people with disabilities to enable them to participate fully in public spheres. Countries like Australia have been successful in integrating assistive technology in their universal health systems. This entails recognizing the need for AT and a commitment to make it available, there needs to be a process for assessing people's needs for assistive technology, there needs to be a system for providing and maintaining AT including training caregiver and users and there need to ongoing evaluation and research to ensure that the system is meeting the needs of people with disabilities. A report by the Australian Government Department of Health presented that the assistive technology program was highly effective and provided a good return on investment. Studies by Anhorn, Eyre & Griffith (2021), present that there is need for coordinated approach, evidence-based approach, user-centered design, workforce capacity and adequate funding in order to successfully integrate assistive technology into universal health systems. However, several challenges of integration still exist and these include cost, limited availability of AT and lack of awareness about the need for AT. The research on integration of AT

into health systems in Zimbabwe is under researched but similar challenges of resources and poor health infrastructure may limit integration of AT into universal health systems.

2.6 Chapter Summary

This chapter reviewed literature related to the study. It looked at the theoretical framework, conceptual framework and evolution of assistive technology, categorization of children with motor disabilities, challenges encountered by caregivers of children with motor disabilities in accessing assistive technology, limitations encountered by children with motor disabilities due to the inaccessibility of these assistive technology. The next chapter presents the research methodology that was adopted for the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the research methods employed in this study. It details the steps taken to investigate the inclusion of children with motor disabilities in accessing assistive technology (AT). The chapter covers the following methodological aspects: research approach, research design, target population, sampling procedures, data collection methods and instruments, data analysis, and ethical considerations.

3.1 Research Methodology

Research methodologies can be categorized into three main types: qualitative, quantitative and mixed methods. According to Creswell (2015), research methodology is a systematic approach for conducting research that is predicated on one's worldview and research questions. The research processes encompass the development of a study design, the selection of data collection techniques

and the application of data analysis methods. The research methodology employed in this research is the qualitative research methodology to address the research objectives. The title of the study, 'The inclusion of children with motor disabilities in the provision of assistive technology,' requires a thorough examination of diverse perspectives and experiences of several caregivers and children with motor disabilities regarding accessing assistive technology and the hurdles encountered. The complex and subjective nature of these people's experiences makes qualitative research methodology an appropriate one as it employs research methods which enables the researcher to gather individual participant's unique views utilizing interviews and focus group discussions. The qualitative research methodology allows gathering of diverse responses and experiences from participants which enables the researcher to identify barriers encountered by caregivers in accessing assistive technology, how these barriers are inhibiting the engagement of children with motor impairments in everyday activities and to draw from these responses strategies that can be implemented to enhance the inclusion of children with motor disabilities in the provision of assistive technology. According to Yin (2018), qualitative research gathers from multiples sources of data. In line with this view, data for the study was collected from key informant interviews with Key Informants from the Department of Social Development, semi structured interviews and focus group discussions with children with motor disabilities who had no speech difficulties and with the respective caregivers of these children. This was done in the five villages of Seke Rural District, Ward 1 which were multiple sources of data. Qualitative research allows for exploration of topics and issues in depth and also enables the researcher to explore additional insights since the research instruments are based on open-ended questions, (Stake, 2016). That is why I adopted the use of key informant interviews, semi structured interviews and focus group interviews in this study. It was for these reasons that the qualitative approach was preferred for this research.

3.2 Research design

According to McCombes (2023), a research design can be viewed as an overarching strategy for unearthing useful answers to problems. The research design implemented for this study was the multiple case study design. It involves studying multiple cases rather than just one and gathering different experiences and perspectives of key participants, making it the ideal design which best meets the research objectives. The researcher implemented key steps required in this research design. Initially, the researcher outlined and defined the research question to be addressed, selected five villages within Seke Rural District Ward 1 were 10 multiple cases were drawn for the purpose of the study, collected data on barriers encountered by caregivers in accessing assistive technology, how these hinder the participation of children with motor disabilities in everyday activities and identified strategies from the suggestions by participants to enhance the inclusion of such children in the provision of assistive technology and then presented the findings. The multiple case study design provided different perspectives on the issue of inclusion of children with motor disabilities in the provision of assistive technology under study. Similarities and differences were drawn between cases and this enriched the study and informed key recommendations to address the problem of limited access to assistive devices by children with motor disabilities. Yin (2018), reinforces the same idea and presents that the multiple case study design allows the researcher to compare data within different cases. As a result, more credible data was gathered by the researcher. However, the multiple case study design has limitations. According to Gustafsson (2017), multiple case studies can be more time-consuming and expensive to conduct, they can be complex and challenging as it can be difficult to compare and synthesize the findings from different cases. This was addressed by utilizing thematic analysis procedure to interpret the data and the lengthy nature of the design enabled the researcher to get a greater insight of the phenomenon under research.

3.3 Target Population

Miller (2013) defines population as the universe of individuals, objects, or events from which the sample is drawn. It is the theoretically specified aggregation of elements under study to which the research findings are generalized. The population of the study comprised of 5 villages of Seke Rural District, Ward 1, 20 caregivers and 15 children with motor disabilities residing in these villages. The five selected villages had at least one child with motor disability who was exposed to some sort of disadvantage in terms of accessing assistive technology, the people therein also had little understanding of assistive technology. At least 20 caregivers, 15 children with motor disabilities were targeted to allow for unique views and perspectives from diverse cases, to ensure different genders, different age groups and people with different forms of employment are incorporated.

3.4 Location of the study

Seke Rural District is located in Mashonaland East Province of Zimbabwe and is 41 km from Harare, the capital city of Zimbabwe. It is a peri-urban area next to the dormitory town of Chitungwiza. It is characterized by rapid population growth and limited economic activities leading to widespread poverty and inadequate access to social services. Studies by Mukwedeya & Mudhara 2023 presents that there is poverty and severe food insecurity characterizing most rural households in Seke Rural District Ward 1. The villages selected for the study were referenced by the local Department of Social Development to be having a high number of cases of children with motor disabilities. Negative attitudes and discriminatory behaviors towards children with disabilities still persist in these villages and there is limited knowledge among its people on available social protection programs encompassing those providing assistive technology for

children with disabilities. Informed by these observations, the researcher found this area to be the most suitable location.

3.5 Sample and Sampling Procedures

A sample is a representative group drawn from the larger population, used for research purposes. In this study, 5 villages were selected, 10 caregivers and 10 children with motor disabilities were purposively selected for the study. Purposive sampling is non-probability sampling that is used in qualitative research, (Campbell 2020). Initially, the researcher defined the criteria for selecting the participants, to purposefully select individuals for study who can provide valuable insights into the investigation related to the research objectives. The researcher referred from the Social Development Office case contact record book through the permission of the District Social Development Officer eligible participants and made follow ups to invite them to participate in the study. According to Kelly (2010), purposive sampling is used to select respondents that are most likely to yield appropriate and useful information. Based on this, the 5 villages were selected because they accommodate a high number of children with mobility impairments, the 10 caregivers were selected because they look after children with motor disabilities and experienced to their needs and the 10 children with motor disabilities were selected because they had a condition required for the study and their perspectives would be crucial.

3.5 Data Collection Methods and Instruments

The methods of data collection which were utilized in the study were the semi structured interviews, focus group interviews and key informant interviews.

3.5.1 Semi-structured interviews

In this study, semi structured interviews were held with 10 caregivers of children with motor disabilities. These were crucial and the most appropriate for the study as they allow for a deeper understanding of the challenges faced by caregivers in accessing assistive technology and how this affects the participation of children with motor disabilities in everyday activities. The interviews were carried out face to face and in each caregiver's respective home and they each lasted for at least 30 minutes. The nature of the semi-structured interviews allowed for the establishment of rapport between the interviewer and the participant and they were less intimidating and thus produced honest and in-depth responses. According to Seale (2016), semi-structured interviews allow the researcher to probe deeper into the subject matter, they provide flexibility, allowing the researcher to adapt the interview to the individual participant. The researcher had the ability to explore unanticipated issues as they rose. She also employed skilled listening skills which helped create a comfortable and trusting environment for the participants. According to DeJonckheere & Vaughn (2019), semi-structured interviews provide non-verbal cues such as body language and facial expressions which can provide valuable insights to the researcher into the thoughts and feelings of the participant. However, semi-structured interviews also have limitations. According to Fraser & Killen (2005), lack of standardization may lead participants to focus on irrelevant topics, can be difficult to manage if the interviewer is highly emotional and can be time-consuming. To address this, the researcher asked the participants questions which continually redirected them to focus on issues related to the research problem. She applied the principle of controlled emotional involvement and remained calm and empathetic while maintaining professionalism.

3.5.2 Focus group Discussions

Focus group discussions were held with 10 children with motor disabilities, 2 children from each village, some with their caregivers to assist the researcher especially those children with speech difficulties. These focus group discussions were the most appropriate for the study as they allow for the exploration of multiple perspectives on a topic and helped uncover commonalities and differences among participants which is key for the topic under study and important to discover viable solutions that can be utilized to address the challenge of limited access to assistive technology. The focus group discussions were conducted at a central community center and each session would last for about 1 hour and 20 minutes and three sessions were done. During the interviews Shona was used. The researcher managed to experience the advantages of focus group interviews as alluded by Guest (2017), which include the ability to gather a large amount of information in a short time, the opportunity to explore diverse perspectives and heightening the potential for increased insight through group interaction. It facilitated the researcher's comprehension of specific problems from the viewpoint of the research participants. Thus, the researcher successfully obtained first-hand information on the research topic. However, focus group interviews also have limitations. According to Ananian (2024), groups can be influenced by social desirability bias and group dynamics and can lead to unproductive discussion if not properly moderated.

3.5.3 Key informant interviews

Key informant interviews are a type of qualitative research method in which these researcher people who are viewed as knowledgeable about a particular topic. These were key for unearthing data on the topic of the study as they involved inquiring from key informants, social development officers who regularly attend to such issues of assistive technology among different caregivers and

children with motor disabilities. The key informant interviews were held with 6 key stakeholders at the Department of Social Development at Seke district offices, they were carried out in one of the offices, English and Shona languages were used and each interview lasted for about 30 minutes. These interviews were quite effective as they helped gather data from individuals who have particular knowledge and expertise on the research topic. The researcher managed to get interesting responses for the research questions gathered from the key informants, reasons why most caregivers find it difficult to apply for assistive technology, how this has affected the children with motor disabilities and solutions that need to be implemented to address these challenges. According to Patton (2015), the goal of these interviews is to gain a deeper understanding of a topic from the perspectives of experts which can be used to inform research or decision making. This was quite evident as the researcher managed to gain meaningful insights on the current issues and trends on the provision of assistive technology to children with motor disabilities in Seke rural district. However, key informant interviews are also characterized with some limitations and these include the potential for bias, difficulty in establishing rapport with key officials if they are unfamiliar to the research process and difficulty in obtaining a representative sample. The researcher mad sure to avoid biased responses by asking questions in a neutral manner, made sure to explain the purpose of the research and how their input will be used so as to establish a good relationship with the key informants and consulted a number of key informants to ensure the results were not influenced by a single informant.

3.6 Data Analysis

The data analysis procedure that was adopted for this study was the thematic analysis by Braun and Clarke (2013). Thematic analysis is the most typical example of data analysis in qualitative research. According to Braun and Clarke (2006), thematic analysis is a method of identifying,

analyzing and reporting patterns within qualitative data characterized by 6 key steps. These steps were implemented by the researcher as follows;

i) Familiarizing with the data.

This involved re-reading the transcripts on which responses from interviews and focus group discussions were noted and also converting verbal responses into written documentation. She read through the various responses cited on barriers to acceding assistive technology, how this limits participation of children with motor disabilities and recommendations cited to address this problem. This was done to ensure that the researcher was well familiar with the data and had understood it.

ii) Generating initial codes

The researcher generated initial codes and assigned them to the data based on the main ideas emerging from the response sheets. She used simpler phrases for identified key challenges, barriers and strategies bringing related responses under respective codes. On this step, the researcher ensured that all the participants were coded, for example, C1 for Caregiver 1, CWMD 1 for Child with motor disability 1 and KI 1 for Key Informant 1.

iii) Generating themes

This involved combining the codes into themes based on the connections and relationships they shared. This would produce a broad theme that encompasses related responses. On the first objective, challenges were grouped into 5 broad themes, limited awareness, limited resources, limited technology, social challenges and societal barriers and limited understanding of the application process. On the second objective, limitations faced by children with motor

disabilities were also grouped under 5 broad themes and the strategies under 5 broad themes and related responses were respectively fed into these.

iv) Reviewing themes

This involved ensuring that the assigned themes accurately represented the codes and data fed into them. The researcher would return to the data set and compare it against the assigned themes.

v) Defining themes

The researcher made use of clear, short, specific and descriptive language to name themes.

vi) Creating the Report

The final step entailed reporting the findings. The researcher explained each theme managing to address every research objective and gave general comments based on the gathered data. The researcher produced the final report of the data and checked for coherence and non-repetition within and across themes.

3.6.1 Summarizing the data

The researcher summarized the study's results connecting them to the theoretical framework and research objectives.

3.7 Ethical Considerations

Ethics are the standards and principles that guide research to ensure that the participants in the research are treated with respect, dignity and fairness, (Waggle 2020). To make this study ethical, the researcher abided with all the ethical consideration while collecting data and these included;

permission to conduct the study, voluntary informed consent, privacy and confidentiality as well as the avoidance of harm to research participants.

3.7.1 Permission to conduct the study

The researcher received clearance from Bindura University of Science Education and was granted permission to carry out the research by the Department of Social Development, Seke. Permission from the Ministry of Public Service Labour and Social Welfare was also sought and she also notified the local and relevant authorities in the district including the District Administrator about the aims of the study. (See appendix for permission to conduct the study from MoPSLW).

3.7.2 Voluntary Informed Consent

Informed consent is an important principle in research. According to Schinka (2020), informed consent is a process whereby participants are provided with information about the research in order to make an informed decision about whether or not to participate. The researcher notified the chosen individuals about the study, the nature, purpose, benefits and risks of the study to the participants, who the researcher was and also on procedures of participation, and confidentiality of findings from the research. Participants were then asked to voluntarily choose to participate in the study. Regarding the minor participants, consent was sought from the older caregivers. Even after they were engaged, the participants retained the right to withdraw from the study at any point if they felt their privacy or confidentiality was being infringed upon. Informed consent ensured informed cooperation and freedom of the participants.

3.7.3 Privacy and Confidentiality

According to Kang (2023), confidentiality is the practice of not revealing the identities of research participants, or the data that is collected about them, to any third party. In this study, participants

were assured that all information provided by them will be held in strict confidence and will not be reviewed in any record or report and that there would be no link between the data and the participants. This made the participant free to participate in the study.

3.7.4 Avoidance of harm

According to Buchanan & Warwick (2021), harm refers to any foreseeable negative consequences that may be experienced by participants as a result of their participation in research. The researcher should therefore minimize and potential harm, both physical and psychological, that may result from their research. To avoid causing harm to the participants, the researcher adhered to the ethical principles outlined above and interviews and focus group discussions were carried out in safe spaces.

3.8 Chapter Summary

This chapter outlined the qualitative research methodology employed in this study. It detailed the research approach (qualitative), research design (multiple case study), target population, sample and sampling procedures, data collection methods and instruments, data analysis procedures and ethical considerations. The subsequent chapter will shift focus to presenting, discussing and interpreting the research findings derived from the implemented method.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.0 Introduction

In the current chapter, the researcher displays, analyses and discusses the research findings on the inclusion of children with motor disabilities in the provision of assistive technology in Seke Rural District Ward 1. Interviews and focus group discussions with key informants, children with motor disabilities and caregivers of these children were used to collect data. The collected data was summarized and explored in thematic groups. The study explored the following research questions;

- Which challenges are faced by caregivers of children with motor disabilities in Seke Rural District Ward 1 in accessing assistive technology?
- How are these challenges affecting children with motor disabilities in their everyday living?
- What can be recommended to enhance the inclusion of children with motor disabilities residing in Seke Rural District Ward 1 in the provision of assistive technology?

4.1 Biographical profile of participants

This section provides an overview of the research participants' biographical information, presented in a table format. This profile is crucial as it helps to contextualize the research findings and understand the participants' backgrounds. Note: The symbol 'n' will be used to represent the total number of participants throughout this section. Table 4.1.1 presents Total Response rate

4.1.1 Table: Total Response Rate

Respondent	Intended	Actual
Key Informant Interviews	6	6
Focus Group Discussions	10	10
Semi-structured Interviews	10	10

n=26

The table presents that there were 26 respondents in total, 6 who participated as key informant interviewees, 10 in focus group discussions and 10 in semi-structured interviews, giving a hundred percent response rate.

4.1.2 Table: Biographical details of key informants

Identity	Sex	Experience	Position
Key informant 1	M	10 Years	District Social Development Officer
Key informant 2	M	3 Years	Case Management Officer
Key informant 3	F	12 Years	Social Development Officer
Key informant 4	F	8 Years	Social Development Accounting Assistant
Key informant 5	F	3 Years	Social Development Officer

n=6

Of the key informant, 2 were males and 3 were females. All key informants are important stakeholders in the Department of Social Development with experience ranging from 3 years to 12 years making their insights crucial in this study.

4.1.3 Table: Biographical details of caregivers of children with motor disabilities

Identity	Sex	Age	Livelihood means	Child's disability
Caregiver 1	Female	35	Peasant farmer	Cerebral palsy
Caregiver 2	Female	32	Vendor	Spina bifida
Caregiver 3	Female	39	Peasant farmer	Cerebral palsy
Caregiver 4	Female	34	Peasant farmer	Dysmelia
Caregiver 5	Male	36	Peasant farmer	Twisted wrist
Caregiver 6	Female	29	Peasant farmer	Amputated Arm
Caregiver 7	Female	35	Vendor	Spinal cord injury
Caregiver 8	Male	38	Builder	Amputated leg
Caregiver 9	Female	40	Peasant farmer	Cerebral palsy
Caregiver 10	Female	65	Peasant farmer	Limb-length discrepancy

n=10

Of the caregivers of children with motor disabilities, 2 were males and 8 were females. They are all rural residents of different villages in Seke Ward 1, with most of them being peasant farmers, vendors and builders. They take care of children with different forms of motor disabilities ranging from cerebral palsy, dysmelia, spina bifida and other accident induced mobility impairments highlighted above making their perspectives crucial in this research.

4.1.3 Table: Biographical details of children with motor disabilities (CWMD'S)

Identity	Sex	Age	Child's disability
CWMD 1	Female	8	Cerebral palsy
CWMD 2	Female	5	Spina bifida

CWMD 3	Female	9	Cerebral palsy
CWMD 4	Female	8	Dysmelia
CWMD 5	Male	9	Twisted wrist
CWMD 6	Female	12	Amputated Arm
CWMD 7	Female	10	Spinal cord injury
CWMD 8	Male	6	Amputated leg
CWMD 9	Female	8	Cerebral palsy
CWMD 10	Female	9	Limb-length discrepancy

n=10

Of the children with motor disabilities, 8 were females and 2 were males, their ages ranged from 5 to 12 years. They all have different forms of motor disabilities such as cerebral palsy, spina bifida, dysmelia and other accident-induced mobility impairments which makes their experiences and insights important for this study.

4.2 Barriers encountered by caregivers in Seke Rural district, Ward 1, in accessing assistive technology for children with motor disabilities.

4.2.1 Lack of knowledge by caregivers on available assistive technology

A significant portion of the study participants reported to a lack of sufficient knowledge regarding the variety of assistive technologies available for children with motor impairments and the processes for obtaining them. Regarding this issue, **Caregiver 1** had this to say;

I do not know what assistive technology is available for my child. In such a rural community as ours there is no much information about this topic and we rarely get the chances to be educated by responsible service providers. I just feel helpless as I cannot do anything to help my son with cerebral palsy get the support he needs.

On the same note, **Caregiver 2** voiced;

I am not able to read or write very well, so I do not know how to find information about assistive technology or read any that is available so that greatly limits me on familiarizing with available aids that can be useful to my child with spina bifida.

The same sentiments were echoed by **Caregiver 3**;

We are not well-educated about the proper referral ways we should follow in-order to understand the medical needs and devices needed for children with cerebral palsy for their well-being. We need to be educated on available organizations and government departments offering such services.

Key Informant 1 expressed;

During my working period I discovered that many parents and caregivers of children with motor impairments are unable to secure the devices that their children need because they may not be aware of government and other non-profit programs that could help since they are less-educated about this. Hence, the child stays for quite a long time without getting any help to support their needs.

On the issue of limited awareness by the caregivers, **Key Informant 2** had this to say;

Limited resources on the part of the Department of Social Development makes it difficult to provide adequate coaching and guidance to parents and caregivers of children with motor disabilities so that they are equipped with knowledge and skills to navigate the system and find the right devices for their children.

From the responses of the participants, it can be noted that limited knowledge by caregivers on available assistive devices for children with motor disabilities and how these can be accessed is a major challenge affecting the efficient provision of assistive technology to children with motor disabilities and their inclusion in public sectors. The problem of limited knowledge among caregivers has also been noted by other scholars. Senjam, Manna, Kishore and Kumar (2023) note that limited understanding and insight of disability support systems is a significant barrier for parents of children with motor and with improved awareness, education, training and access to appropriate services, they may be able to promote their children's independence and quality of life through assistive devices. Thus, it can be noted that conscientizing the caregivers is crucial in-order to ensure that the needs and rights of children with motor disabilities are met. To reinforce the same idea, Nierling (2020) cites that there is need for increased education and training for caregiver to ensure that they have they are equipped to help their children access and use Assistive Technology. Hence, it I imperative that parents and caregivers are made aware of the ways available to access assistive technology and how these can be efficiently used by children with mobility impairments. According to the Social Disability Model, ignorance among Caregivers is a barrier that limits the inclusion of children with motor disabilities in public spheres. Hence, to promote inclusivity of children with motor disabilities this barrier should be removed through education and training.

4.2.2 Difficulty meeting and understanding the demands of the application process

A number of the participants highlighted that they are having difficulties in meeting the requirements for the application process which is cumbersome and quite demanding.

Regarding this, **Caregiver 4** uttered;

I face transport challenges to secure several forms required by Social Development officers since I have to get these in different places. I do not have a reliable source of income and bus fare is quite difficult to save.

In light of the above idea, **Caregiver 9** stated;

Quite a lot of documents are required for application and gathering these is a challenge. I was asked to bring quotations for the assistive device for my child from at least 3 different service providers, medical reports and proof of disability. I faced difficulties looking for services providers as I am not well familiar with the city.

Caregiver 6 also raised the same issues, she had this to say;

The requirements are quite a lot and we lack time and energy to research and find the right assistive technology for the child as we have to manage other family members and household responsibilities as well.

Key informants from the Social Development Offices also expressed the same ideas, **Key Informant 3** expressed that;

Most of the clients in need of assistive technology take long in securing the required documents as they have difficulty navigating the medical system and understanding the prerequisites for service

providers for assistive technology which have to be registered on PRAZ (Procurement Regulatory Authority of Zimbabwe) and with valid operating silence.

Caregiver 7 said the following;

We do not have hospitals nearby and we have to travel for long distances to get medical reports for our children and this is very tiresome with an 8-year-old child on your back since they will be having no wheelchair.

It is apparent from the above responses by caregivers and key informants that difficulty in meeting the demands of the application process is a major challenge limiting the equal access to assistive resources for children with motor impairments that is being faced by most caregivers. As a result, caregivers take long to get assisted due to factors such as transport challenges, limited knowledge on available service providers and the time-consuming nature of the process. Moosa-Tayob & Risenga (2022), argue that caregivers have an impact in the lives of children with motor disabilities, providing physical, emotional and social support which is essential in promoting the child's well-being and helping them reach their full potential. Hence, the need to ensure caregivers are provided with sufficient knowledge and support to access assistive technology for their children. In a study by Tangcharoenathiem & Viriyathorn (2018), rural caregivers face significant challenges in accessing assistive devices for their children with motor disabilities the common one being the long and complex application process which is difficult for them to successfully navigate. This is true considering the fact that most rural caregivers lack the necessary resources and knowledge to navigate this process. Pasara (2022) reinforces the same idea as he indicates that the red tape involved in obtaining assistive aids for persons with impairments can be a frustrating and lengthy process which results in caregivers taking long to be assisted. Therefore, inclusion of children with motor disabilities in public activities becomes difficult due to the presence of

physical and environmental barriers. From the Social Disability Model point of view, difficulties caregivers face in the application process are an example of structural obstacles that can hinder children with motor impairments from fully engaging in community activities. Hence, there is need to remove these barriers through awareness and support so that caregivers are well-equipped to access assistive technology for their children.

4.2.3 Limited access to resources

From the above responses, it is clear that the unavailability of resources is hampering the efficient provision of assistive technology to children with motor disabilities and affecting their involvement and contribution in public activities. In reaction to this **Caregiver 5** had this to say;

There are limited public services at our disposal, having only one social welfare office in the district that is quite distant from our places of residence makes it difficult for us as caregivers of children with motor impairments to obtain assistive technology and information attached to it.

Key Informant 8 *had this to say*

There are limited budgets and resources available to purchase Assistive Technology timeously resulting in those children with special needs taking long to get the assistance they need.

Caregiver 1 also expressed concern on the same issue**;**

Assistance by the Social Welfare really takes long to come by. It has been five months now since I applied for a reclining wheelchair for my son with cerebral palsy and we have not yet been assisted with it.

Caregiver 9 *expressed frustration about the shortage of resources saying;*

I have challenges walking to Dema hospital which is 12 km from where I stay so that I can have my child have physical exercises by the physiotherapist since it is the only one which offers free physiotherapy to vulnerable children with motor disabilities.

It emerged from the above study and responses by participants that limitation in resources is a major constraint in accessing assistive technology for children with motor disabilities. Geographic limitations hinder caregivers' access to health services and other public benefits, children with motor disabilities miss the opportunity to enroll in education and some the chance to play and interact with their peers. This problem has also been cited by existing literature. Caregivers in rural areas of Zimbabwe generally lack the necessary information and resources to access assistive technology mainly due to the remoteness of these areas, (Lyons 2022). This is true considering factors such as long distances from service providers, poor network and financial hardships characterizing most of these rural households. Mangundu & Roets (2020), reinforce the same idea as they cite that many rural communities in Zimbabwe lack basic infrastructure and access to healthcare services which would make it difficult for caregivers to navigate the application process for assistive technology. Hence, it is important to address these challenges so as to improve the accessibility of assistive aids. According to the studies by World Health Organization on the World Report on Disability (2011), financial constraints often limit the availability and accessibility of assistive technology particularly low-income countries. Addressing these barriers require collaborative efforts, evidence-based approaches and prioritization of funding and coordination among several stakeholders. According to UNICEF (2019), the cost of Assistive Technology can be prohibitive for many families particularly in low resource settings. This limits the availability and accessibility of A.T hindering the full contribution and development of children with motor dimpairments. The high costs associated with these devices coupled with inadequate funding and

availability make it challenging for caregivers to obtain the necessary support for their children, (UNICEF, 2019). This, coupled with the already existing problem of limited resources makes the whole process of accessing assistive technology more difficult. As presented by the Social Disability Model, it is not the individual's impairment that is the source of the problem, but rather lack of resources and support available to them. Hence, there is need to ensure that caregivers are provided with enough resources to apply and access assistive technology for children with motor disabilities.

4.2.4 Social challenges and societal attitudes

The majority of the participants indicated that social challenges and societal attitudes have been major challenges hindering the access to assistive devices by caregivers for children with mobility disabilities. In light of this, **Caregiver 2** stated;

I want the best for my child but I am afraid to openly seek out for the necessary help since a lot of people in our village associate disability with misfortune and due to fear of being judged I keep my child indoors.

Caregiver 4 *also expressed concern over the same issue;*

As caregiver of a child with dysmelia I feel excluded from the society that I live. Nobody shares useful information on ongoing programs that may be assisting vulnerable people with help in accessing assistive technology, I rarely get information on how I can access assistive technology for my child.

Caregiver 9 *mentioned the following;*

I have delayed in seeking medical assistance for my child as I had been trying the religious route since I always had the belief that some of these disabilities are spiritual and therefore require spiritual intervention.

Caregiver 6 *showed concern on the treatment she got from neighbors;*

I have never received any form of social support from my community members and neither of them seemed interested in accommodating or even attending to my child as he is with disability. It emotionally drains me and sometimes I just give up asking around on where I can get assistance.

From the above responses it is evident that social challenges and societal attitudes are major barriers to accessing assistive technology for young people with motor impairments. These include problems of stigma and discrimination, limited knowledge and information. Several scholars have written to support this idea. According to Ndhlovu (2022), social barriers such as lack of understanding or stigma from family, friends and community members are common barriers to using assistive devices. This is true and has made the accessibility and use of assistive tools among children with mobility impairments in rural areas less popular. Soltani, Takian, & Kamali (2017), argue that culture and religious beliefs can be significant barriers to accessing assistive technology. This is true as most religious and cultural beliefs equate disability to be a sign of witchcraft and at times misfortune hence less attention if given to consult on existing assistive technology than that which is given when seeking for religious interventions. From the study, it was also noted that social exclusion is also another factor hindering caregiver from accessing the rightful information on how to apply and access assistive technology. Whittaker & Wood (2022) supports the same idea as he cites that social exclusion can limit caregivers from accessing assistive technology and alternatively if young persons with motor impairments do not have access to assistive technology they may be further excluded from their communities. Hence, this vicious cycle of exclusion that

must be broken in order to enhance access to assistive equipment. According to the Social Disability Model social challenges and societal attitudes are attitudinal barriers in society that prevent children with motor disabilities from accessing assistive technology and actively participating in public activities. Hence, there is need to breakdown these barriers through education and support to ensure children with motor disabilities get the assistance they need to access assistive technology and participate meaningfully in society.

4.2.5 limited technology

The participants indicated that limited technology is a significant challenge being faced by caregivers in accessing assistive technology and limiting the success of service providers in delivering services. In line with this view **Child with Motor Disability 10** had this to say;

We do not have a cellphone at home and each time we need to check on the progress of the applications we made at Social Welfare pertaining the surgical footwear for my left leg we have to travel for quite a long distance and three months have lapsed now without having received the assistive device.

*On the same note **Caregiver 5** said;*

I have less knowledge about the internet and this makes it hard for me to look up for different service providers available offering splints or casts which are needed for my child's twisted wrist. This makes the whole process expensive and time consuming as I have to move from place to place making consultations.

***Key Informant** 3 conveyed the same concern at the social development offices;*

As an office we lack a comprehensive database to track individuals with disabilities and their specific needs. This results in a time-consuming process of referring to paper records and because of great work load we have to wait for clients to reapply for services when there is need for renewal.

Key Informant 5 commented on the same issue regarding how this affects their interaction with caregivers;

Limited access to cellular networks and cell phones as well as poor network connectivity in villages around Seke rural district pose significant challenges to mobilize people for awareness campaigns to educate them on available assistive technology and how to access it. Hence, ignorance still abounds among most caregivers.

Key Informant 4 *uttered the following regarding the state of technology at their office;*

The current process for applying for assistive technology at the office does not include any digital options, rather we rely on a manual process of gathering the pre-requisite paper work and submitting them for approval to the responsible offices. This makes the whole process cumbersome, bureaucratic and time-consuming.

From the above responses it can be noted that limited or poor technology is a major hurdle to accessing assistive technology for children with motor disabilities as well as timeously delivering it on the part of service providers. This was identified as a key challenge by a number of participants who cited difficulties such as lack of mobile phone, poor network, limited knowledge about the internet among other reasons. Several researchers have written to support the same ideas. According to Grunwald (2019), limited access to ICT tools in low-income countries greatly impact the accessibility and proper use of aiding devices by young persons with disabilities. Without

access to mobile phones and internet caregivers will not be exposed to available Assistive technology and will not be aware of how to access it. The case of limited technology also affects government offices and as indicated above this affects the pace at which services are delivered, manual labor derails the whole process. In line with this view, Karki, Rushton & Bhattarai (2023), indicates that limited infrastructure and technology in government offices are major factors inhibiting efficient service delivery for assistive devices in third world countries. According to the Social Disability Model, lack of technology can be seen as an environmental barrier that prevent children with disabilities from accessing Assistive technology and achieving full inclusion in society. In order to address these challenges, it is important to expand the supply and accessibility of assistive technology as well as to improve the infrastructure and resources available to support its use.

4.3 How the barriers encountered are affecting the participation of children with motor disabilities in everyday activities.

A number of the participants highlighted that they are having difficulties in participating in various activities by their fellow peers due to limited access to assistive technology which is crucial for helping them navigate public spaces. For those children who could not communicate and respond to the questions, their caregivers highlighted the areas in which they are excluded.

4.3.1 Restricted ability to participate in physical play

The findings revealed that barriers to accessing assistive technology encountered by caregivers greatly limit the chances of children with motor disabilities to participate in games and various

play activities by their fellow peers without similar disabilities. In light of this **Caregiver 1** also conveyed the following challenge;

My child has never had a chance to play and interact with his peers since I have not been able to get him assistive devices specific to children with cerebral palsy such as positioning aids or walking aids as I am not familiar to these types of aids.

On the same note, **Child with Motor Disability 10** also revealed they are experiencing limitation in extra-curricular activities and highlighted the following;

I feel excluded in sporting activities played by my peers. Nobody wants to be with me during such activities at school because of my condition which makes me perform tasks at a slower pace since I have no assistive device.

The situation can also lead to feelings of sadness, isolation and negative self-perception among children with motor impairments as indicated below by **Child with Motor Disability 8**;

I really feel sad when I can no longer play soccer with my friends as I used to do before my leg was amputated. I wish to engage in such games if there are any which are specific to people with the condition I have.

From the above responses it can be noted that the unavailability of assistive technology to children with motor disabilities hinders them from engaging in physical play and related activities. They are excluded from general play, sporting activities and as a result feel isolated. Existing research has also reinforced these ideas. According to Botelho (2021), in the absence of assistive technology, children with motor disabilities may find it challenging to participate in games by their peers which can lead to social isolation, feelings of sadness and frustration and a sense of exclusion from childhood experiences. Hence, maximum efforts should be put to ensure availability of

respective assistive devices to children with motor disabilities to enhance their participation in physical activities and games. Limited access to assistive technology greatly hinders children with motor disabilities from peer to peer interactions which are often fostered during play and this can affect their social development skills. In support of this idea, WHO (2017), cites that assistive technology has the potential to empower children with motor disabilities and enable them to participate in play and learning to better develop their skills and independence. According to the Social Disability Model availability of assistive technology can impact a person's participation in society and in children with motor disabilities these may lead to exclusion from play and games. There is therefore need to address these barriers and created inclusive environments to ensure participation of all children in physical play despite their physical conditions.

4.3.2 limited access to educational opportunities

The study indicated that barriers encountered in trying to access assistive technology for children with motor disabilities greatly limits them from participating in educational activities. Several responses by different participants indicated this to be true. A contribution by ***Key Informant 5*** indicated on a related challenge, he had this to say;

During some home visits we made while conducting household vulnerability assessments we discovered fully grown-up children with disabilities of school-going age at home and discussions with their caregivers would prove that they are keeping them indoors to avoid judgements by community members.

On the same issue***, Child with Motor Disability*** **8** mentioned the following;

I should have been in Grade Three by now but I last attended school when I was in Grade One because we have not been able to get the best assistive device to aid for my amputated leg, I have not been able to attend school.

Caregiver 5 also expressed concern on the same issue;

As a father, I experience firsthand how lack of assistive technology limits my child's educational opportunities. It is difficult to watch my child struggle to keep up with their classmates because of his twisted and swollen wrist for which we have not yet found a suitable assistive device.

It is evident from the above responses that limited access to assistive technology limits the chances of children with motor disabilities to participate in educational activities. Factors such as limited mobility makes it difficult for them to attend school and to perform to the best of their abilities. Several scholars have written to support this idea. According to UNICEF (2019), children with motor disabilities face additional challenges in participating in education, such as physical access to school, lack of accessible learning materials and qualified teachers trained to teach them. Provision of specific assistive technology tailored to the needs of each particular child is therefore necessary to enhance their inclusion in education. Hayes & Bulat (2017), reinforces the same idea as he cites that children with disabilities in Sub-Saharan Africa are less likely to go to school than their peers without disabilities. Those who attend to school face physical barriers and attitudinal barriers at school which are difficult for them to overcome. According to the Disability Social Model children with motor disabilities need to be provided with assistive technology as this helps them overcome environmental barriers and perform tasks that would otherwise have been difficult doing. Hence, provision of assistive equipment is necessary to ensure children with motor disabilities are not limited by environmental barriers in pursuing their education.

4.3.3 Limited participation in child leadership programs

From the several responses given by participants, the participation of children with motor disabilities in child-led programs is very limited due to limited access to assistive technology. In line with this, **Key Informant 2** voiced that;

During my three years in this office, I have noticed that there has been very little involvement of children with motor disabilities in the Child-led Protection Committees of those schools from Seke Rural District Ward 1.

A comment by a ***child with motor disability 4*** also supports this view;

I have not been able to attend and compete in leadership positions for child-led programs and committees due to mobility challenges I face in trying to access the respective venues for such programs.

On the same issue, ***child with motor disability 10*** expressed mobility factors as inhibiting factors to their participation;

Assuming a leadership role in child-led child protection committees requires greater commitment in identifying, reporting and making follow-up visits on ongoing cases from various households with your allocated ward. Not having a wheelchair is a significant obstacle for me, which hinders me from accepting such positions.

As indicated by the above responses, limited access to assistive technology by children with motor disabilities inhibit them from taking part in child-led programs and assuming related leadership roles. Inability to access some of these venues and the demand of the leadership to move from one area to the other at limits the participation of children with motor disabilities in such positions.

According to Eide, Ofstad, Stylen, Hansen & Hiseth (2022), limited access to assistive technology has been cited as a barrier to participation in school, community and youth related programs which can ultimately affect their educational and employment outcomes. This limited participation in such programs limits their chances of assuming leadership positions. In line with this, the Social Disability Model emphasizes the importance of community participation and collaboration which can be key in ensuring that children with motor disabilities have access to the resources and support they need to access and use assistive technology.

4.3.4 Minimal participation in social activities

It was noted from the study that limited access to assistive devices by children with motor disabilities hinders them from participating in social activities in their local communities.

A response by ***Caregiver 3*** highlighted on this issue;

Due to lack of mobility aids, my son with cerebral palsy cannot move from one place to the other and this makes it difficult for him to interact and socialize with other children of his age.

An observation by a ***Key Informant 4*** further clarified on this idea;

During the several community building and empowerment programs we have carried out in partnership with other non-governmental organizations in Seke Rural District Ward 1, we hardly notice any children with motor disabilities coming through to take part.

Child with motor disability 10 *also had this to say;*

My peers do not want to walk with me when going either to school or church because I am slow due to my left which is a bit shorter than the right one, I have not received the surgical footwear I applied for at the Department of Social Welfare. This makes me feel unwelcomed and isolated.

From the study, it emerged that children with motor disabilities face difficulties in participating in social activities. This is usually a result of unfair treatment and harmful stereotypes towards children with motor disabilities that they are hardly involved in community programs. This is supported by Finnvold (2021), who presents that children with physical disabilities are often excluded from social activities because of a lack of assistive devices and appropriate support systems. To enhance their participation, there is need to enhance the involvement of children with motor disabilities in the provision of assistive technology. According to UNICEF (2018), several recommendations have been forwarded which include creating inclusive environment and making physical pace accessible for all children, providing appropriate assistive technology and other supports to enable children with motor disabilities to participate fully and educating staff and caregivers on how to support children with disabilities. In all these interventions, the choices of children with motor disabilities should be considered and their views upheld as spelt out by the Social Model of Disability.

4.3.5 Reduced ability to perform self-care activities

Findings from the study indicate that children with mobility impairments struggle with performing everyday self-care activities. Responses from participants indicate that these children face difficulties in self-care activities such as eating, dressing or using the bathroom.

Caregiver 7 had the following to say;

With limited access to assistive technology, my child can not be independently mobile. I have to assist her in moving from one place to another and even accompanying her to the bathroom each time she needs to.

Similar sentiments were also echoed by ***Caregiver 2;***

As a parent with other responsibilities to take care of, it becomes strenuous for me to constantly attend to the basic needs of bathing and dressing my child with motor disability as they cannot perform such tasks on their own. If I could find the rightful materials to equip my child such skills it would be relieving.

In line with these ideas, ***Child with motor disability 8*** presented the following;

I wish to own a wheel chair to help me move around and be able to support myself in accessing basic materials I need for my self-care so that I can relieve my mother of the pressure and at the same move towards independence.

From the above responses it is noted that children with motor disabilities face difficulties in performing self-care activities. These examples include personal hygiene, dressing and feeding and are caused by factors such as the child's level of physical ability, the availability of assistive technology and the level of support and training the child gets from caregivers. According to Dardzinska-Glebocka & Zdrodowska (2021), children with motor disabilities experience significant barriers to participating in activities of daily functioning and general self-maintenance. This needs to be addressed through provision of assistive technology. This is supported by a study by Agree (2013), which highlights that the potential benefits of using assistive technology include increased independence, improved self-esteem and increased participation. According to the Social Disability Model, the provision of assistive technology will be crucial to remove the physical obstacles that prevents the involvement of children with motor disabilities in performing self-care activities.

4.4 Strategies to enhance the inclusion of children with motor disabilities in Seke Rural District, Ward 1 in the provision of assistive technology.

The final purpose of the research was to identify approaches that can be taken to enhance the inclusion of children with motor disabilities in Seke Rural District Ward 1 in the provision of assistive technology. The following objectives were forwarded;

4.4.1 Need to raise awareness among caregivers on available assistive technology and how to access it

In light of the challenges of limited knowledge among caregivers on available specialized devices for children with motor disabilities, there is need for social development officers and other partnering service providers to train and equip them with related information. Quite a number of caregivers indicated that they are not aware of the specific assistive technology suitable for their children and how to access it.

In line with this, ***Caregiver 4*** had this to say;

My child stays indoors and cannot go out to play and interact with other children of her age as she does not have a wheelchair to help her with movement from place to place. I don't know where exactly I can seek assistance.

The same concern was raised by ***Caregiver 5;***

My son has had a swollen and twisted wrist for quite some time and its inhibiting him from performing usual tasks especially school work. I would really need to know if anything can be done to assist my son.

Caregiver 1 expressed related concerns*;*

I have always been embarrassed to stand out and openly seek for services to assist my son who is with cerebral palsy and because of this ignorance I am not sure how I can start to seek for such assistive technology than can be of help to him.

From the above responses, it can be noted that equipping caregivers with information on available assistive technology and how to access them is crucial. The training should cover topics such as an overview of the available assistive technology, how to assess the needs of their children, how to apply and obtain the needed assistive technology. According to Sulaiman (2022), raising awareness among caregivers can encourage them to obtain information and make informed decisions about assistive technology required for children with motor disabilities to access basic services. In line with this, the social development officers, advocacy groups and partnering NGO's should carry out awareness campaigns and establish a network of service providers from which caregivers need to make consultations and acquire quotations to make the application process easier. A report by UNICEF (2020) of a situation analysis in South Africa reinforces the idea that it is critical that caregivers and families have access to information, knowledge and skills on the availability of assistive technology and ways to access it. Thus, it is imperative to ensure caregivers of children with motor disabilities are conscientized on available assistive technology that can address the unmet needs of their children. According to the Social Disability Model ignorance by caregivers on existing assistive technology is a barrier that limits children with motor disabilities from accessing assistive technology which disables them to participate in everyday activities. Hence, to promote their maximum participation there is need to raise awareness on available assistive technology and how it can be accessed to ensure their inclusion.

4.4.2 Provision of ongoing support

There is need to ascertain the availability of ongoing support to caregiver and children with motor disabilities to ensure they are able to access and use assistive technology effectively. Responses from participants indicated challenges in accessing timeous and continuous support in the need of renewing services. ***Caregiver 8*** had the following to saying line with this;

We really need to have more follow-up meetings with the team that provided us with the assistive technology for our children. These regular meetings will help us monitor progress and will equip us with knowledge on how we can better support them.

Caregiver 10 also uttered the same sentiments*;*

My grandson has outgrown his special shoes, they are starting to cause him pain and they need to be replaced. We have applied at Social Development Offices and about three weeks have passed now and we have not received the services.

Caregiver 8 *had the following to say in light of this issue;*

We got my son a walker through some donors but after a few weeks we started experiencing problems with it, it keeps getting stuck and this frustrates him. We have no idea how we can get in touch with the donors who provided this to us so we know how we can fix this.

From the responses given by participants, ongoing support by different service providers involved in the selection and provision of assistive technology to children with motor disabilities is important. This will help ensure the child's compatibility with the assistive technology is monitored, equip caregivers with skills to take care of them and if there is need of renewal, it will be carried swiftly. Several literatures have supported the need for provision of ongoing support to

caregivers and children with motor disabilities. A study by UNICEF (2020) reveals that it is not enough to provide rehabilitation or assistive technology services but to ensure long-term change in the lives of children with disabilities. To ensure this, there is need for support by professionals who help monitor their adaptability to assistive technology thereby promoting their inclusion in education, health and other social services among others. According to Muthwasa (2021), there is need for broader, long-term strategies that promote the inclusion of children with motor disabilities and their families in society. In line with this, caregivers should be able to navigate complex systems to secure the needed services and support for their children. Thus, it can be appreciated that these past studies align well with the findings gathered from the study. However, there is need to cascade these solutions to rural districts of Zimbabwe such as Seke Rural District Ward1where such efforts are still minimum.

4.4.3 Education on referral pathways

It emerged from the study that distance factors and limited technology pose as major barriers to seeking services needed for children with motor disabilities. Educating people on locally available services within villages, wards and districts could thus be helpful. Several responses by participants appraise this idea.

In support of this idea, ***Caregiver 9*** uttered the following;

I am not aware of the locally available centres where I can consult on information about assistive technology for my child with cerebral palsy. The Social Development Office is about twenty kilometers from where I stay and walking there on foot with a child on my back is really a difficult task.

Caregiver 4 had similar views which she shared as follows;

I do not know where to go for help when my child is having issues with their assistive technology. I think it is necessary for us to be educated on where we should go and report or provide us with a hotline to call and communicate our challenges.

Caregiver 5 uttered related ideas;

There should be mobile services dispatched to check and monitor on how the children will be copying with the assigned assistive technology and if we as the caregivers will be doing the right thing in terms of providing proper care for them.

As brought to light by the above responses, there is need to educate caregivers on locally available referral pathways to which they can be locally assisted with the rightful services they needed for the well-being of their children with motor disabilities. Examples of such referral pathways can be focal persons within respective villages and wards such as Community Child Care Workers whose role is to report these cases to Social Development offices so that the needs of these children are met. According to Roelen $ Edstrom (2012), it is the role of Community Child Care Workers (CCW's) in rural communities of Zimbabwe to help families with children with motor disabilities to access Social Development services. This can help address the challenges of transportation costs and network challenges faced by caregivers in trying to access these services. Hence, it is crucial caregivers are educated on the work of Community Child Care Worker's withing their villages so they know where to report their cases.

4.4.4 Community Conscientization

Responses by several participants from the study highlighted that there is need for community conscientization in order to promote positive attitudes towards children with mobility impairments and the use of assistive technology. Need to foster cultural sensitivity

In line with this, ***Key Informant 2*** asserted that;

We encountered several cases of children with motor disabilities during the recently held Disability-Expo who have not been exposed to assistive technology due to reasons that their caregivers faced discrimination from community members which inhibited them to seek for these services.

In support of the idea of conscientizing communities, ***Caregiver 3*** had this to say;

I believe it is essential to teach rural communities about the benefits of assistive technology so that they understand that it is not something to be ashamed of and people using them should be equally treated with dignity.

On the same note, ***Caregiver 1*** *had the following to say;*

Only a few people are friendly towards children with motor disabilities in our community and I think it is necessary to organize awareness campaigns that inform communities on the need to show positive attitudes towards them and including them in community programs.

To make certain that children with motor disabilities are included in the provision of assistive technology and in community programs there is need for community conscientization to foster positive attitudes towards such people. A study by Lawson, Cruz & Knollman (2017) emphasizes on the same note, they present that community-based education programs on attitudes towards

people with disabilities have a positive impact on the way these children are treated and included in community programs. The Social Disability Model supports the idea of conscientization as a way to remove negative attitudes towards children with motor disabilities which are barriers towards accessing assistive technology and participating in everyday activities. Thus, conscientizing communities is important as it will promote positive health-seeking behaviors among caregivers of children with motor disabilities.

4.4.5 Adoption of a Collaborative Approach

As indicated by the study, several key stakeholders are key in the selection and provision of the rightful assistive technology to children with motor disabilities based on their needs. Service providers, caregivers, advocacy groups and children with mobility impairments all work together to develop and adopt solutions tailored to the particular needs of children with motor disabilities.

To support this idea, ***Caregiver 10*** said the following;

I think it is necessary for service providers to take a collaborative approach when it comes to providing assistive technology for children with motor disabilities and this means engaging families, community members and organizations and other service providers to ensure these children are getting the support they need.

In line with this view, ***Caregiver 7*** highlighted the following;

As caregivers we need a comprehensive response from service providers to help us meet the needs of our children with motor disabilities. The knowledge and support from medical practitioners, social development officers and non-governmental organizations will broaden our knowledge and skills on how to best attend to the needs of our children.

Caregiver 6 highlighted on the importance of a multi-disciplinary approach;

I have encountered quite a number of challenges until I got the rightful assistive technology for my child. In all this, I realized that there is need to consult quite a number of services from that of medical practitioners, counselors, social workers as well as donors in order to meet the needs of children with motor disabilities as well as those of caregivers.

From the above responses, it can be appreciated that adopting a collaborative approach is crucial in ensuring the inclusion of children with motor disabilities in the provision of assistive technology and ensuring their general well-being. Styczen, Helseth, Groven, Hauge & Dahl-Michelsen (2024), also supports the same idea as she cites that there is need for interprofessional collaboration to ensure successful treatment of children with motor disabilities. Different professionals will attend to the child's needs at different levels of intervention. The social disability model presents that in all these steps, children with motor disabilities should be allowed self-determination and allowed a chance to select and use assistive technology that meets their needs.

4.5 Chapter Summary

This chapter presented, interpreted and discussed the factors affecting the inclusion of children with motor disabilities in the provision of assistive technology. The factors which emerged in the study are limited knowledge among caregivers, difficulty meeting the demands of the application process, limited access to resources, social challenges and societal attitudes and limited technology. The next chapter is the summary, conclusions and recommendations of the study on the challenges of including children with motor disabilities in the provision of assistive technology.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The preceding chapter outlined, analyzed and interpreted the various factors that impact the provision of assistive technology for children with motor disabilities. The current chapter provides a comprehensive summary, draws conclusions and offers recommendations based on the findings of the research.

5.1 Summary

This research investigated the integration of children with motor impairments into assistive technology services within Seke Rural District Ward 1, Zimbabwe. The study's goal was to identify obstacles faced by caregivers of these children in obtaining assistive technology and how these can be addressed to enhance their everyday participation. It aimed to achieve the following goals;

- To identify barriers encountered by caregivers of children with motor disabilities living in Seke Rural District Ward 1 in accessing assistive technology.
- To assess how these barriers are affecting the participation of children with motor disabilities in everyday activities.
- To identify strategies to enhance the inclusion of Children with motor disabilities in Seke Rural Ward in the provision of Assistive Technology.

Chapter 1introduced the research inquiry and provided an overview of its contextual framework. It comprehensively traced the study's historical context, clearly defining the research problem, purpose and objectives. It formulated specific research questions, identified underlying

assumptions and highlighted the significance and scope of the investigation, including its delimitations and limitations. The key terms were defined and the structure and organization of the entire study were outlined.

A comprehensive review of literature pertinent to the research was undertaken in Chapter 2. The conceptual framework of the study was Social Inclusion and the Social Disability Model provided the theoretical underpinning of the research. Other topics were also discussed in the same chapter, categories of children with motor disabilities and their specific assistive aids they need. Chapter 3 provided a detailed explanation and justification for the qualitative research methods used in the study. The population of the study comprised of 5 village of Seke Rural District Ward 1, 20 caregiver and 15 children with motor disabilities. A purposive ample of 5 villages, 10 caregivers and 7 children with motor disabilities was selected for the study. The study employed a multifaceted data collection approach, comprising semi-structured interviews, focus group discussions and key informant interviews. Thematic analysis was used to examine the data. Chapter 4 presented a comprehensive examination of factors influencing the inclusion of children with motor disabilities in assistive technology provision. The subsequent section will provide a summary of the study's findings.

5.2 Key findings summary

This section presents the main findings on the barriers that inhibit the inclusion of children with motor disabilities in the provision of assistive technology, how they affect the participation of these children in everyday activities and strategies to enhance their inclusion.

5.2.1 Barriers encountered by caregivers of children with motor disabilities living in Seke Rural District Ward 1 in accessing assistive technology

- **Lack of knowledge by caregivers on available assistive technology**

Caregivers from all the five villages indicated to have limited knowledge on available assistive technology for their children with motor disabilities. Factors such as limited education on the phenomenon and low literacy levels among caregivers also inhibit the accessibility of assistive technology by caregivers.

- **Difficulty meeting and understanding the demands of the application process**

The majority of caregivers indicated that they encounter difficulties navigating the application process, citing challenges with transportation, accessing service providers, enduring the lengthy process which result in delayed assistance.

- **Limited access to resources**

Most caregivers indicated that restricted availability of essential services which include medical facilities and social development offices which are few and distant from where they reside along with financial constraints greatly limit the chances of getting assisted timeously.

- **Social challenges and societal attitudes**

Stigma and discrimination, cultural and religious beliefs were presented as major elements hindering caregivers from consulting and accessing assistive technology for their children with motor disabilities.

- **Limited technology**

Participants indicated that technological challenges greatly limit their chances of accessing information related to assistive technology. Poor network in the rural areas, constrained online connectivity limited and not having mobile phones are examples of factors highlighted as key factors.

5.2.2 How these barriers are affecting the participation of children with motor disabilities in everyday activities

- **Restricted ability to participate in physical play**

The study indicated that unavailability of suitable assistive devices restrict children with motor impairments from engaging in physical play. This often leads to feelings of sadness and isolates children with disabilities from their peers without similar disabilities.

- **Limited access to educational opportunities**

The research findings indicated that mobility challenges, inhibiting physical environments, limited tailored learning materials and the general lack of qualified teachers coupled with the limited access to assistive technology limits educational opportunities for children with motor disabilities.

- **Limited participation in child-leadership programs**

The study gathered that these child-leadership programs are often demanding and require greater commitment on the part of the selected leaders. Due to mobility challenges, children with motor disabilities find themselves less involved.

- **Minimal participation in social activities**

The research outcomes pointed out that there still exist discriminatory tendencies and attitudes in rural communities which limit the engagement of children with motor disabilities in social activities.

- **Reduced ability to perform self-care activities**

The study results indicated that the absence of rightful supportive devices for young individuals with mobility impairments greatly compromises their independence in performing self-care activities.

5.2.3 Strategies to enhance the inclusion of Children with motor disabilities in Seke Rural Ward in the provision of Assistive Technology.

- **Need to raise awareness among caregivers on how to access assistive technology**

The study gathered that ignorance still persists among caregivers and the responsible personnel such as Social Development Officers and other partnering service providers should play an active role in educating caregivers on available assistive technology and how to access it.

- **Provision of ongoing support**

The findings present the need for continuous support to ensure timeous access and effective use of assistive technology.

- **Education on referral pathways**

Research findings showed that it is important to educate caregivers on locally available service providers within their respective villages, wards and districts so they can get immediate help.

- **Community Conscientization**

This was deemed necessary as it helps promote the development of positive attitudes among community members towards young people with physical limitations and the utilization of assistive tools.

- **Adoption of a collaborative approach**

The study established that it is crucial to engage several key stakeholders in the selection and provision of rightful assistive technology tailored to the client's needs.

5.3 Conclusions

Informed by the research outcomes, the research yielded the following conclusions;
The integration of children with mobility challenges in assistive technology provision remains significantly minimal in Seke Rural District Ward 1, hindering their full participation and engagement in daily activities. This is attributed to a combination of factors as presented by the study including, Caregiver knowledge gaps regarding available assistive technologies, complexity of the application process, limited resources and funding, social and societal barriers including stigma and negative attitudes and insufficient technology and infrastructure. These obstacles severely restrict access to assistive technology, exacerbating the marginalization of children with motor disabilities and limiting their engagement in physical play, access to education and learning opportunities, involvement in child-leadership programs, social interaction and community

engagement and ability to perform self-care and daily living tasks. To address these challenges, the study recommends a collaborative approach among government entities, non-governmental organizations (NGO's) and local communities to develop and implement inclusive policies and programs, enhance awareness and education on assistive technology and disability inclusion and promote social inclusion and community engagement for children with motor disabilities

By adopting a comprehensive and collaborative strategy, it is possible to enhance the provision of assistive technology and encourage the involvement and engagement of children with mobility challenges in Seke Rural District Ward 1, ultimately improving their overall well-being and quality of life.

5.4 Recommendations

Informed by the study's findings and conclusions, this section presents aa series of recommendations aimed at facilitating improved integration of children with motor impairments into assistive technology programs within in Seke Rural District, Ward 1.

5.4.1 To the government

- **Need to develop and invest in enabling environments**

To aid the efforts of assistive technology, the existence of enabling environments is very crucial and the two are complementary to each other. They can be physical, social and policy environment which support the integration of children with motor impairments in the provision of assistive aids. There should be accessible buildings in public spaces such as markets, markets, schools and

clinics, public transport should also be disability and assistive technology friendly, policies should be crafted and amended to include those with disabilities.

- **Increasing the technological capabilities of Social Development Offices**

There is need to consider implementing a digital platform for applications of assistive technology and to come up with a database to track individuals with disabilities and their specific needs to ensure timely and efficient service provision. This could be an online portal where applicants can submit all the necessary information and documents digitally and receive updates on the status of their application via email. This would streamline the application process, reduce paper work and make it easier for applicants to follow up on the status of their application. In line with this, there should be technological improvements among rural caregivers so they can access these services. It would also be beneficial to provide a resource guide for applicants that outlines all the steps in the application process so that they can fully meet its demands.

- **Decentralization of services**

There is need for decentralization of services such as healthcare facilities, social development offices as well as services providers of assistive technology. This will be of great benefit as it will make these services more accessible to the rural populace making it easier for those with disabilities to access them, it will minimize transportation costs and will help save time and energy.

- **Need for government to partner with non-governmental organizations**

The government should partner with non-governmental organizations (NGOs) for increased success in the delivery of assistive technology solutions for children with mobility difficulties. This is crucial to ensure financial assistance is given to government departments which often suffer

resource constraints. NGOs will also help in playing key roles of providing specialized services such as providing information and advocacy to people, that the government may not be able to provide. This will be crucial in enhancing the accessibility of services related to assistive technology for children with motor disabilities by caregivers.

5.4.2 To Civil Society Organizations and Non-governmental Organizations

- **Need to conscientize communities**

There is need for non-governmental organizations to aid governments efforts in educating rural communities on disability issues, promoting public understanding of the rights of persons with disabilities including those of accessing assistive technology. This will be crucial in eliminating elements of stigma and discrimination among community members and foster the incorporation and contribution of children with motor disabilities in community activities.

- **Need to advocate for policy change and adjustment**

This is crucial to ensure equal access to assistive technology by those children from rural communities and other marginalized areas and this promote social inclusion in different areas such as education, healthcare, employment and other public sectors.

5.4.3 To the Community

- **Implementation of disability- inclusive programs**

There should be implementation of programs that encourage and support the participation of children with motor disabilities in community activities and public sectors. Examples may include

special education classes, sports and recreation programs that allow involvement of children with motor impairments.

- **Creation of community-based rehabilitation facilities**

This involves the establishment of community-based rehabilitation centers and programs that can offer free or affordable physical, speech and occupational therapy, social support, counselling and psychotherapy crucial in enhancing the well-being of children with motor disabilities.

5.5 Implications for Action

5.5.1 Implications for policy and practice

The study on the inclusion of children with motor disabilities in assistive technology provision can greatly influence existing policies and potentially lead to the development of new policies to address the challenges not currently addressed by the present ones. The study can raise awareness on the several barriers encountered by caregivers in accessing assistive technology for children with motor disabilities in rural areas of Zimbabwe, it will help discover the various areas in which children with motor disabilities are limited to participate in and will influence several innovative strategies to address these gaps and problems through social inclusion. Policy makers will identify gaps in current policies and take appropriate steps to address them. The Disabled Persons Act of 1992 which promotes the rights of individuals with disabilities to affordable and accessible assistive devices should be implemented to revise the prices of assistive devices are often not accessible and affordable. The Disability Policy of 2021 which aims to improve the lives of PWD's by promoting equality, inclusion and participation should have clear implementation strategies to address this. The study will influence development of programs to raise awareness on assistive technology and related issues. Hence, this study will impact greatly on policy and practice.

5.5.2 implications for social work practice

According to the International Federation of Social Work (2014), social work is a practice-based profession and an academic discipline that promotes social change and development, social cohesion and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. This study on the provision of assistive technology to children with mobility impairments greatly impacts social work practice. The guiding ethics, values and principles of this profession are central to this study, they will aid in championing justice for children with motor disabilities, identifying challenges they face in accessing assistive technology, activities they are excluded from participating in and advocating for strategies to help address these challenges. Social workers will be crucial in the development of comprehensive policies and strategies to enhance accessibility of assistive devices, advocate for more funding, support and resources to access the high-priced devices, they will also work collaboratively with other professionals to ensure children with motor disabilities have the help they need. Several social work methods such as casework, group work, community work, administration and research will all be critical to this study as they will help identify limitations faced by young people with mobility impairments, advocate for their rights, provide psycho-social support to these children and their caregivers, source for funding and advocate for policy change. Hence, this study has major implications for social work practice.

5.5.3 Implications for Future study

The suggestions for future study were made by the researcher based on the observations on issues which the current study did not address.

i) Study Focus

The current study focused on the inclusion of children with motor disabilities assistive technology provision in Seke Rural District Ward 1. However, future studies can extend focus to analyze the effectiveness of existing policies, programs and strategies to ensuring that children with mobility impairments have access to suitable assistive technology and the element of social inclusion is exercised in every aspect of their lives. More so, exploring how the concept of providing assistive technology can be integrated into existing healthcare systems could be helpful in limiting several hurdles encountered in trying to source for service providers across the country.

ii) Methodological issues

Future studies can consider adopting a mixed methodology which combines quantitative and qualitative approaches in research design. This would enable measuring of data and provide statistics which are crucial in understanding the extent of harm imposed by present problems and will influence the adoption of critical strategies to address them. This would also be critical in providing objective information about the impact of policies and programs implemented to address the research issue thereby highlighting areas in need of change and amendment.

iii) Findings

Results for this study were mainly detailed descriptions. Future studies could include both detailed descriptions and statistical data showing among other things the percentage of children with disabilities, average cost of assistive devices and number of persons with disabilities who report to ether have received assistive technology on time or who were not satisfied with the service delivery process. This will broaden one's understanding of the phenomenon under study.

5.6 Chapter Summary

Following a comprehensive discussion of the research topic, this chapter concludes with a series of recommendations informed by the study's findings. These recommendations encompass potential policy implications, applications within the field of social work practice, and the identification of key areas for further research endeavors.

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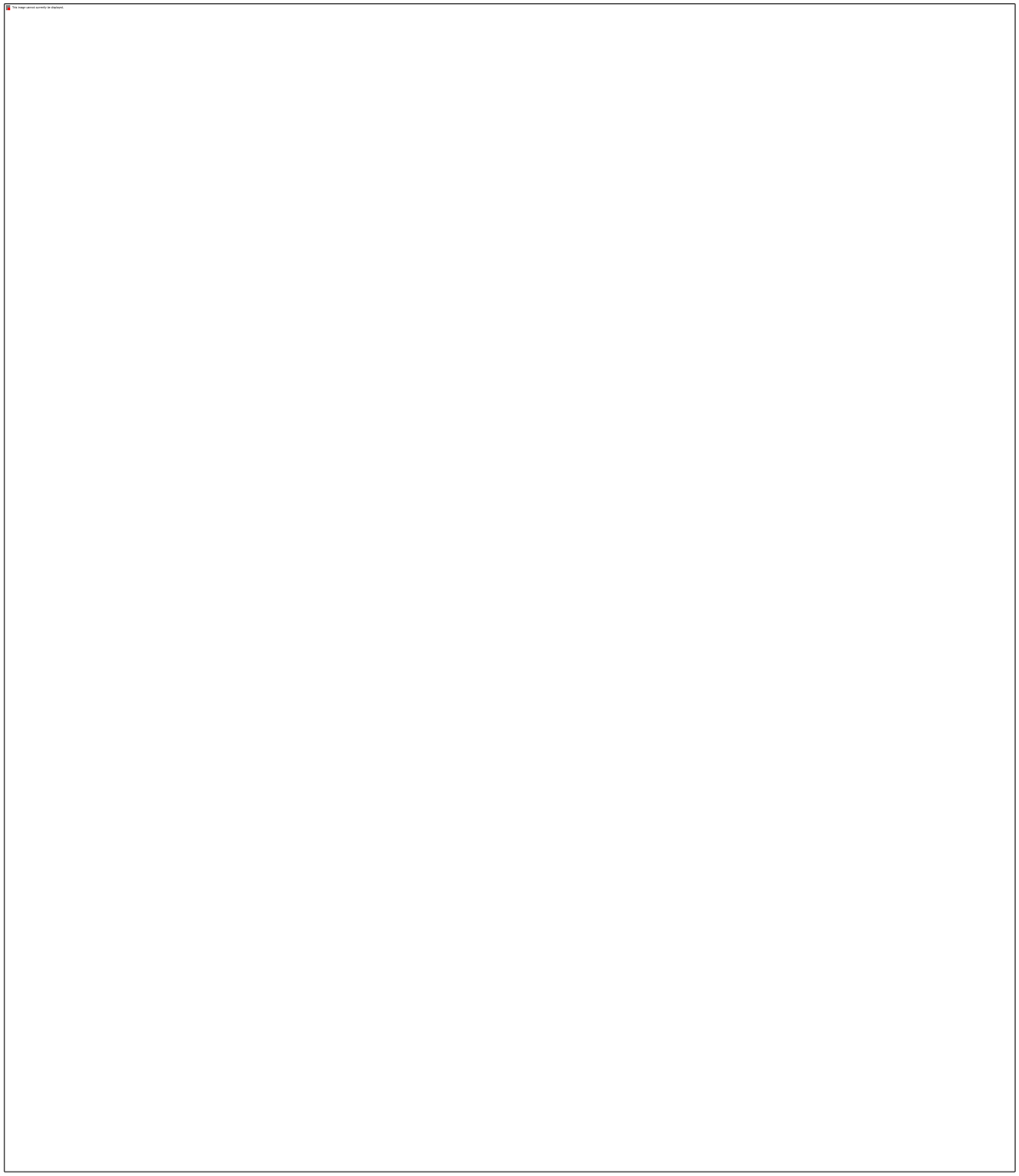
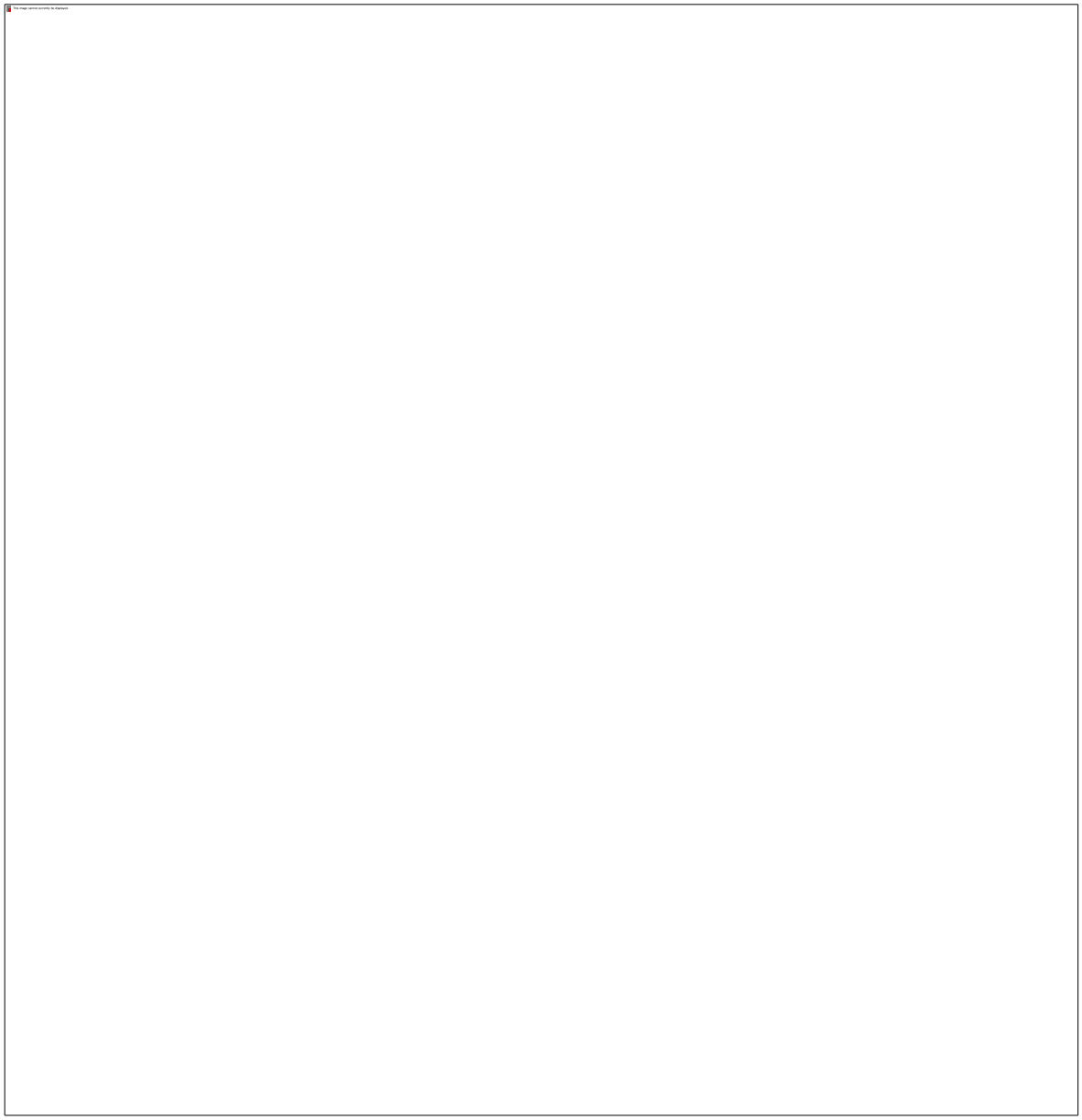
APPENDICES

APPENDIX 1: REQUEST TO CONDUCT RESEARCH



APPENDIX 2: PERMISSION TO CONDUCT RESEARCH



APPENDIX 3: SEMI-STRUCTURED INTERVIEW GUIDE FOR CAREGIVERS OF CHILDREN WITH MOTOR DISABILITIES.

1. Do you feel your child is being offered the same opportunities as others of their age?
2. Are you aware of the available Assistive Technology available for children with motor disabilities?
3. What types of Assistive Technology does your child need?
4. What efforts have you taken towards accessing these services?
5. Which major setbacks have you encountered in the process?
6. Which measures do you suggest be put in place to enhance the accessibility of Assistive Technology?

APPENDIX 4: FOCUS GROUP DISCUSSION GUIDE FOR CHILDREN WITH MOTOR DISABILITIES

1. Do you feel you are being treated the same with other children of your age?
2. What Assistive Technology do you need that you currently do not have?
3. Which limitations have you encountered due to the lack of Assistive Technology?
4. How far have the people in your community accommodated you in community programs?
5. Which activities would you like to participate in, that your peers without visible disabilities are able to participate in?
6. What do you suggest should be done to enhance your participation in everyday life activities?

APPENDIX 5: KEY INFORMANT INTERVIEW GUIDE

1. Do you have any cases of children with motor disabilities in your district?

2. What are the current barriers to the provision of assistive technology for children with motor disabilities?

3. How can we make the provision of assistive technology more accessible and inclusive?

4. What are the specific needs of children with motor disabilities when it comes to assistive technology?

5. What are the most effective strategies for ensuring that children with motor disabilities have access to assistive technology?

6. What are the challenges reported to be faced by parents and caregivers of children with motor disabilities when it comes to accessing assistive

APPENDIX 6: INTERVIEW CONSENT FORM

My name is Tania Chipo. I am a fourth-year student at Bindura University of Science education studying towards a bachelor's degree in Social Work. To fulfil the requirements of the degree, the student is to carry out a research project to which I am inviting you to participate in. The title of my research project is, 'The inclusion of children with motor disabilities in the provision of assistive technology. A case of Seke Rural, Ward 1. The purpose of this study is to establish challenges being faced in accessing assistive technology for children with motor disabilities, how this is affecting them in participating in everyday activities and to come up with strategies to enhance their inclusion in the provision of assistive technology. Your participation in this study and in this interview will be confidential and only used for the for the purposes of the research. Your participation is voluntary and subject to no remuneration. You can decide to withdraw from the interview at any moment. Your cooperation and participation will be greatly appreciated.

If you are willing to participate in the study, fill your details in the spaces below.

Participant signature …….…….

Signature of researcher…….

Date…….…….

APPENDIX 7: PLAGIARISM REPORT