

**FACTORS AFFECTING ACCESS TO SEXUAL AND REPRODUCTIVE
HEALTH SERVICES AMONG WOMEN WITH DISABILITIES IN
DAR ES SALAAM, TANZANIA**

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LASTING

JULY 2025

DECLARATION AND APPROVAL

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This thesis is my original work and has not been presented for a degree in any other university or any other award.

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DEDICATION

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LIST OF ABBREVIATIONS



AIDS:	Acquired Immunodeficiency Syndrome
ANC:	Ante-Natal Care
AMIU:	AMREF International University
CCBRT:	Comprehensive Community Based Rehabilitation in Tanzania
GBV:	Gender-Based Violence
HCP:	Healthcare Provider
HIV:	Human Immunodeficiency Virus
ICF:	International Classification of Functioning, Disability and Health
MoH:	Ministry of Health
NBS:	National Bureau of Statistics
NGO:	Non-Governmental Organization
PNC:	Postnatal Care
PWDs:	People with Disabilities
SDGs:	Sustainable Development Goals
SPSS:	Statistical Package for Social Sciences
STI:	Sexually Transmitted Infections
TDHS:	Tanzania Demographic Health Survey

UNCRPD: United Nations Convention on the Rights of Persons with Disabilities

UNAIDS: United Nations Program on HIV/AIDS

URT: United Republic of Tanzania

WHO: World Health Organization

WwDs: Women with Disabilities



OPERATIONAL DEFINITIONS

Access According to WHO under UHC, the full usage of full continuum of healthcare services as and when they are needed without financial or other kind of hardship.

Disability: The state of living with impairment in the long-term that may be physical, mental, sensory or intellectual that hinders an individually to participate effectively in the society in the same capacity or equally with others

Women with Disabilities These are females who are 18 years and above who have limited capacity in their mobility due to malfunction of their lower or upper limbs.

Reproductive health care These are health services that directly relate to health challenges affecting reproductive system.

Sexual and Reproductive Health According to the WHO, “Sexual and Reproductive Health as a state of complete physical, emotional, mental and social well-being in relation to sexuality, in all matters relating to reproductive system its functions as well as processes. It is not merely the absence of disease, dysfunction or infirmity.”

In this study, the definition relates to access to family planning services, pre-natal & post-natal care and access to maternity services.



ABSTRACT

Background: Access to sexual and reproductive health (SRH) services remains a critical public health issue, especially for women with disabilities (WwDs), who face systemic healthcare barriers. Despite several efforts, WwDs in Dar es Salaam, Tanzania, continue to be excluded from essential SRH services due to individual, community, and structural factors. This study explores key determinants influencing SRH access among WwDs and offers evidence-based recommendations to enhance service utilization.

Objectives: The study aimed to determine the factors affecting access to sexual and reproductive health services among women with disabilities in Dar es Salaam, Tanzania.

Methods: We conducted a cross-sectional mixed-methods study to assess SRH access among women with disabilities (WwDs) in Dar es Salaam. Using stratified random sampling, 362 WwDs representing diverse disability types and backgrounds were surveyed across health facilities. Quantitative data were analyzed with SPSS 25 using descriptive and logistic regression analyses to explore associations with SRH service utilization. Qualitative insights from healthcare providers and policymakers were thematically analyzed using NVivo 12.

Results: Only 43.4% of WwDs accessed antenatal care, with even lower utilization for postnatal care (29.3%) and STI screening (31.8%). Individual barriers included severe disability (AOR=0.63, $p=0.018$) and lack of education (AOR=0.71, $p=0.035$), while SRH knowledge (AOR=1.32, $p=0.025$) and autonomy (AOR=1.47, $p=0.008$) were protective. Community stigma reduced access (AOR=0.57, $p=0.003$), whereas peer support improved it (AOR=1.35, $p=0.048$). Structural barriers included inaccessible facilities (79% lacked ramps) and untrained providers (68% reported no disability training). Qualitative findings reinforced the quantitative results by highlighting architectural and transportation barriers as key obstacles to SRH access for WwDs.

Conclusion and Recommendations: The study concludes that multi-level interventions are essential to enhance SRH access among WwDs in Dar es Salaam. Policy reforms should prioritize disability-inclusive healthcare infrastructure, communication accessibility, and provider training. Community sensitization programs must be strengthened to combat stigma.

CHAPTER 1: INTRODUCTION

1.1 Overview

This chapter provides the basic information related to the major themes of the study such as background to the problem, statement of the problem, research objectives, and research questions, significance of the study and organization of the dissertation.

1.2 Background of the Study

Access to sexual and reproductive health (SRH) services among women with disabilities has increasingly been recognized as a global public health and human rights imperative. The World Health Organization (WHO, 2023) estimates that 1.3 billion people about 16% of the global population live with significant disabilities, with women disproportionately affected due to intersecting gender and disability-related disparities. These women often experience poorer health outcomes and are more likely to be excluded from SRH education and services. Global studies indicate that women with disabilities are up to three times more likely to be denied access to contraception, maternal care, and HIV testing compared to their non-disabled peers (WHO, 2021; American Journal of Preventive Medicine, 2022).

This exclusion is rooted in a complex mix of stigma, discrimination, inaccessible infrastructure, economic hardship, and weak health systems. As a result, women with disabilities face elevated risks of unintended pregnancies reported at 53% versus 36% in non-disabled women sexually transmitted infections (STIs), sexual violence, coerced sterilization, and forced contraception (Reddit citing NSFG; Teen Vogue/CDC, 2023; BMC Women's Health, 2015; PMC Africana, 2023). In many low- and middle-income countries

(LMICs), including those in Sub-Saharan Africa (SSA), these challenges are compounded by systemic healthcare deficits.

In SSA, approximately 80 million people live with disabilities, but fewer than 20% have access to essential SRH services (UNFPA, 2022). Structural barriers such as inaccessible health facilities, lack of sign-language interpreters, low health worker competence in disability-inclusive care, and prohibitive costs worsen exclusion. Research across SSA reveals that women with disabilities have lower contraceptive uptake, greater unmet SRH needs, and are two to four times more likely to experience sexual violence than non-disabled women (Inclusive Futures, 2023; BMC Women's Health, 2015).

Tanzania reflects this broader regional pattern. Around 8% of the country's 62 million people roughly five million individuals are estimated to have a disability, with women making up a majority (IPP Media, 2024; Guardian Tanzania, 2024). Despite the ratification of the Convention on the Rights of Persons with Disabilities (CRPD) in 2009 and the passage of the Persons with Disabilities Act in 2010, the country continues to experience major gaps in SRH service delivery for women with disabilities. These include negative provider attitudes, insufficient disability-friendly infrastructure, lack of sign-language interpreters, inaccessible health information, and persistent poverty (Marie Stopes Tanzania & SHIVYAWATA, 2024).

Dar es Salaam, Tanzania's largest urban center, illustrates these contradictions starkly. Although it hosts relatively advanced health infrastructure, rapid urbanization, socioeconomic inequality, and weak implementation of disability-inclusive policies have widened disparities in SRH access. A 2022 Human Rights Watch report found that only

30% of health facilities in Dar es Salaam are fully accessible to persons with disabilities. Further, workshop findings from Marie Stopes Tanzania (2024) revealed critical service gaps for individuals with visual, hearing, and mobility impairments, including a lack of accessible materials and trained health staff.

Globally, the failure to implement inclusive SRH programming threatens the realization of Sustainable Development Goals (SDGs) especially SDG 3 (Good Health and Well-being) and SDG 5 (Gender Equality). Inadequate SRH access undermines women's reproductive autonomy and reinforces cycles of poverty and health inequity. Although some countries, like Nepal, have piloted inclusive guidelines, most LMICs lack scalable, enforceable strategies. Tanzania's progress toward universal health coverage (UHC) is similarly constrained by weak monitoring, fragmented data systems, and underfunded disability services.

Critically, while it is now widely accepted that women with disabilities are as sexually active as their non-disabled peers, their reproductive outcomes are markedly worse. What remains under-researched especially in urban Tanzanian contexts is the intersection of factors like socioeconomic status, educational attainment, transport options, health insurance coverage, provider attitudes, and infrastructural accessibility, and how these jointly influence SRH access.

This study seeks to address that gap by focusing on Dar es Salaam. As a rapidly growing metropolis with both modern healthcare facilities and deeply embedded inequalities, the city provides a valuable case for understanding the lived realities of women with disabilities navigating SRH systems. The study aims to generate actionable evidence to

inform policy reforms, improve provider training, and promote inclusive infrastructure and service delivery. Without such targeted interventions, Tanzania risks leaving this marginalized group behind, undermining its health equity and human development commitments.

1.3 Problem Statement

Despite international and national commitments to disability-inclusive healthcare, such as Tanzania's ratification of the Convention on the Rights of Persons with Disabilities (CRPD) and the enactment of the Persons with Disabilities Act, women with disabilities (WwDs) in Dar es Salaam continue to face systemic barriers that severely limit their access to essential sexual and reproductive health (SRH) services (Uromi & Mazagwa, 2014; Hulsbergen & van der Kwaak, 2020).

National data indicates that only 33.8% of WwDs in Tanzania have accessed SRH services, with an even lower proportion benefiting from deliveries attended by skilled birth attendants (NBS, 2016). Compared to neighboring countries, Kenya reports a 40% access rate, while Uganda stands at 36% (Njelesani et al., 2011), indicating that Tanzania lags behind in disability-inclusive SRH provision. Moreover, fewer than 30% of health facilities in Dar es Salaam are fully accessible to persons with disabilities (UKAID, 2020), further restricting service utilization.

These challenges are exacerbated by inaccessible infrastructure, inadequate provider training, discriminatory attitudes, and weak policy implementation (Jolley et al., 2014a; Njelesani et al., 2011). Consequently, WwDs face a heightened risk of unintended pregnancies, sexually transmitted infections (STIs), childbirth complications, and poor

mental health outcomes. For example, studies indicate that WwDs experience higher rates of maternal morbidity, increased exposure to gender-based violence, and limited contraceptive use compared to their non-disabled counterparts (Njelesani et al., 2011; Jolley et al., 2014a).

While interventions such as those led by Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT) have trained 22 health facilities in Dar es Salaam to improve disability-inclusive maternal and reproductive healthcare (Jolley et al., 2014a), there remains limited research assessing the effectiveness of these interventions and the current status of SRH service accessibility for WwDs. Without targeted policy reform and evidence-driven interventions, Tanzania risks perpetuating healthcare inequities and undermining global health goals such as Sustainable Development Goals (SDGs) 3 and 5 (UKAID, 2020; Njelesani et al., 2011). This study aims to bridge this gap by examining the structural and social determinants influencing SRH access for WwDs in Dar es Salaam, providing evidence-based recommendations to enhance service accessibility and health equity.

1.4 Research Questions

1. What individual-level factors influence access to sexual and reproductive health (SRH) services among women with disabilities in Dar es Salaam?
2. What community-related factors affect the ability of women with disabilities to access SRH services in Dar es Salaam?
3. What structural and systemic barriers or facilitators affect access to SRH services for women with disabilities in Dar es Salaam?

1.5 Research Objectives

1.5.1 General Objective

To determine the factors affecting access to sexual and reproductive health services among women with disabilities in Dar es Salaam, Tanzania.

1.5.2 Specific Objectives

1. To assess individual-related factors influencing access to SRH services among women with disabilities in Dar es Salaam, Tanzania.
2. To determine the community-related factors that affect access to SRH services among women with disabilities in Dar es Salaam, Tanzania.
3. To examine the structural and systemic factors influencing access to SRH services among women with disabilities in Dar es Salaam, Tanzania.

1.6 Justification

This study will generate critical insights into the unique barriers that women with disabilities (WwDs) face in accessing sexual and reproductive health (SRH) services in Dar es Salaam, Tanzania an area where existing research has largely focused on general healthcare access rather than the specific SRH challenges encountered by WwDs. While SRH disparities are widely acknowledged in Tanzania, limited empirical evidence exists detailing how intersecting individual, community, and structural factors collectively hinder or facilitate SRH access for WwDs.

A prevailing misconception suggests that WwDs are less at risk for SRH issues, including HIV, STIs, and unintended pregnancies (Njelesani et al., 2011; Jolley et al., 2014a).

However, studies indicate that WwDs experience higher rates of maternal morbidity, increased exposure to gender-based violence, and restricted contraceptive access compared to their non-disabled counterparts (UNFPA, 2020; WHO, 2018). Moreover, national data shows that only 33.8% of WwDs in Tanzania have accessed SRH services, with even fewer receiving skilled birth attendant care (NBS, 2016). In Dar es Salaam, accessibility challenges persist, with less than 30% of health facilities fully equipped to serve persons with disabilities (UKAID, 2020). These statistics underscore the urgency of targeted interventions to address systemic exclusion in SRH service delivery.

Existing research on SRH in Tanzania predominantly focuses on general healthcare access or maternal outcomes among non-disabled populations, leaving a critical gap in understanding the unique challenges WwDs face in SRH service utilization.

This study is essential in bridging that gap by systematically examining how individual, community, and structural factors intersect to shape SRH accessibility for WwDs. Unlike previous studies that primarily quantify service access disparities, this research employs a mixed-methods approach, incorporating quantitative surveys and qualitative interviews to capture lived experiences, systemic exclusions, and institutional shortcomings. By identifying high-impact barriers such as discriminatory provider attitudes, physical inaccessibility, and weak policy implementation, this study will inform practical, evidence-based interventions designed to improve SRH access for this vulnerable population.

The study will directly contribute to Tanzania's efforts to achieve Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health and Well-being) and SDG 5 (Gender Equality). Its policy recommendations

will be actionable for government agencies, healthcare providers, and disability rights organizations, ensuring relevance for urban settings with similar SRH access disparities across Sub-Saharan Africa.

1.7 Significance of the Study

The findings of this study will contribute to a deeper understanding of the multi-level barriers affecting access to SRH services among women with disabilities in Dar es Salaam. It will shed light on personal, social, and institutional dynamics that either hinder or facilitate access, helping to shift the current one-size-fits-all approach to one that is inclusive and evidence-driven. For women with disabilities, this research may contribute to improved care experiences by identifying specific gaps in service delivery and promoting their health rights. Healthcare providers and facility managers will benefit from guidance on how to make SRH services more accessible through improved training, infrastructure, and communication strategies. Policymakers and disability advocates will be empowered with data to refine national SRH programs and disability inclusion frameworks, supporting Tanzania's broader commitments under the SDGs, particularly Goal 3 (Good Health and Well-being) and Goal 5 (Gender Equality). In addition, the study will provide a reference point for future research and evaluation on disability-inclusive health programming in both urban and peri-urban settings.

1.8 Scope

This study will be conducted in selected public and private health facilities across Dar es Salaam, Tanzania's largest urban center, where rapid urbanization and healthcare disparities disproportionately affect WwDs. The study will target women aged 15–49 with

physical, sensory, or intellectual disabilities who have sought (or attempted to seek) SRH services, including family planning, maternal health, and HIV/STI prevention. Data will be collected from both WwDs and key stakeholders (healthcare providers, policymakers, and disability advocates) to triangulate perspectives on access barriers and solutions.

1.9 Assumptions

This study is guided by the following assumptions:

- i. Participants will provide honest accounts of their experiences with SRH access, despite potential stigma or discomfort.
- ii. Health facility records and policy documents will accurately reflect existing SRH services and accessibility provisions for WwDs.
- iii. The selected health facilities represent broader SRH service delivery challenges for WwDs in Dar es Salaam.
- iv. Findings will be transferable to other urban settings in Tanzania and similar low-resource contexts where WwDs face comparable SRH access barriers.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter synthesizes existing scholarly work on factors influencing access to sexual and reproductive health (SRH) services among women with disabilities (WwDs). It systematically examines theoretical perspectives, empirical studies, and policy frameworks related to SRH access barriers in low-resource settings. The review is structured into four key sections: (1) theoretical foundations underpinning healthcare access disparities, (2) empirical evidence on individual, community, and structural barriers faced by WwDs, (3) critical gaps in current research, and (4) a conceptual framework integrating the study's key variables. By analyzing global, regional, and local literature, this chapter contextualizes the study within broader debates on health equity while highlighting underexplored dimensions specific to urban Tanzania.

2.2 Definition of Terms and Concepts

2.2.1 Access to Sexual and Reproductive Health (SRH) Services

Access to SRH services encompasses the timely availability, affordability, acceptability, accessibility, and adaptability of sexual and reproductive healthcare that meets the diverse needs of all individuals particularly marginalized populations like women with disabilities (WwDs) without discrimination or coercion (WHO, 2021). Scholars emphasize its multidimensional nature. Levesque et al. (2013) conceptualize access through both supply-side (e.g., service readiness, provider attitudes) and demand-side factors (e.g., individuals' capacity to perceive, seek, reach, and engage with services). Gruskin et al. (2019) expand this by stressing the importance of enabling legal, policy, and institutional frameworks that

guarantee equitable access, especially for vulnerable groups. Trani et al. (2020) emphasize context-specific barriers and facilitators, particularly for WwDs, such as the presence of assistive communication technologies, proximity to care, and trained personnel. Collectively, these definitions acknowledge that access is not only about service availability but also about rights, empowerment, and the removal of intersecting physical, economic, and attitudinal barriers.

2.2.2 Women with Disabilities (WwDs)

Women with disabilities (WwDs) are individuals who identify as female and who experience long-term physical, sensory, intellectual, or psychosocial impairments which, when interacting with attitudinal, institutional, and environmental barriers, restrict their full and equal participation in society, including access to healthcare (UNCRPD, 2006). WHO (2022) categorizes disability as both a medical and social determinant of health, noting that gender, poverty, and disability intersect to increase vulnerability to poor health outcomes. Eide et al. (2020) highlight that WwDs in low- and middle-income countries often face disproportionate exclusion due to inaccessible facilities, lack of transportation, and information gaps. Mprah et al. (2019) further emphasize the cultural and gendered nature of discrimination, whereby WwDs may be perceived as asexual or unfit for motherhood, limiting their SRH agency. These varying definitions underscore the importance of recognizing disability not only as an individual health condition but also as a systemic barrier requiring inclusive policy and social reform.

2.2.3 Structural Barriers to SRH Access

Structural barriers refer to entrenched systemic obstacles across legal, policy, institutional, and societal domains that impede WwDs' equitable access to sexual and reproductive

health services (MacKay-Sim, 2018). These include infrastructural inadequacies (e.g., lack of ramps, adjustable examination beds), financial burdens, policy voids, and provider biases. Hashemi et al. (2020) describe structural barriers as the cumulative result of design and planning that overlook the specific needs of disabled populations. Devkota et al. (2021) underscore the pervasive influence of negative healthcare provider attitudes and inadequate training on disability-inclusive care, while Mji et al. (2022) highlight weak enforcement of disability laws and national health policies as key factors in ongoing exclusion. Despite different emphases, the literature converges on the view that these barriers are neither accidental nor immovable they reflect systemic neglect and can be dismantled through inclusive design, targeted training, and political accountability.

2.2.4 Community-Level Facilitators

Community-level facilitators are locally embedded resources, actors, and interventions that promote inclusive access to SRH services for WwDs by addressing stigma, strengthening social capital, and bridging service gaps (UNFPA, 2022). Kuper et al. (2021) define these facilitators as mechanisms such as peer education, community sensitization, and grassroots advocacy that help normalize SRH needs among WwDs. Mugo et al. (2020) emphasize the role of community health workers and disability-inclusive service delivery models in reducing logistical and informational barriers. Eide & Ingstad (2023) highlight the power of disability-focused community-based organizations (CBOs) in challenging exclusionary norms and holding both health systems and policymakers accountable. Collectively, these definitions affirm that community-level engagement is not merely supportive it is transformative, particularly in low-resource settings where formal structures often fail to reach or prioritize WwDs.

2.3 Theoretical Framework

The theoretical framework underpinning this study is the Social Ecological Model (SEM), originally proposed by Bronfenbrenner (1979) and later adapted for public health research by McLeroy et al. (1988). The SEM conceptualizes health behavior and outcomes as the result of dynamic interactions among various levels of influence: individual, interpersonal, organizational, community, and policy. Rather than attributing poor health outcomes solely to individual behavior or biological impairments, the SEM asserts that multiple layers of environmental and societal factors shape access to healthcare and health-related decisions. This layered approach is especially useful for understanding the complex barriers and facilitators that affect access to sexual and reproductive health (SRH) services among women with disabilities (WwDs).

The model posits that the individual level includes factors such as knowledge, attitudes, type of disability, and self-efficacy. The interpersonal level includes family, caregivers, and peer support systems that influence personal health choices. At the organizational level, variables such as physical accessibility of health facilities, provider training, and service delivery mechanisms become critical. The community level focuses on broader social norms, stigma, and the presence or absence of advocacy networks. Lastly, the policy level encompasses national health policies, legal protections for people with disabilities, and the extent to which these are enforced. The SEM suggests that sustainable and equitable health outcomes are unlikely to be achieved without coordinated interventions across all these levels.

This model has been successfully used in various disciplines. In HIV prevention, for instance, Baral et al. (2013) utilized SEM to structure multi-level interventions that address individual risk behavior alongside legal and structural enablers. In the field of gender-based violence, Heise (2011) applied the model to emphasize the role of social norms and institutional accountability. Kuper et al. (2020) used the SEM in disability studies to examine how educational and service systems can be restructured for inclusion. These diverse applications demonstrate the SEM's versatility in analyzing deeply rooted inequalities and its relevance in advancing health equity for marginalized populations.

The model directly informs the objectives of this study. The first objective, which seeks to identify individual-level barriers, aligns with SEM's focus on personal characteristics and knowledge. The second objective, centered on structural constraints, corresponds to the organizational and policy levels. The third objective, which explores community-level facilitators, resonates with SEM's emphasis on the role of social and cultural environments in shaping access to care. This alignment ensures that the study is theoretically coherent and grounded in an established framework that supports comprehensive health analysis. While the SEM has been criticized for being broad and sometimes lacking in guidance on operationalizing its components (Stokols, 1996), its strength lies in its holistic view. Rather than viewing disability and poor health access through a narrow biomedical lens, it allows for an integrated approach that accounts for social, economic, and political dimensions of exclusion. In the context of this study, the SEM provides a critical lens through which to analyze how individual agency is shaped and often constrained by social structures, healthcare systems, and national policies.

Key variables relevant to this study include type and severity of disability, SRH knowledge, social support, provider attitudes, facility accessibility, community norms, and policy enforcement. Notably, existing literature often addresses these variables in isolation, neglecting how they interact across different levels. This study addresses that gap by exploring the intersections among these variables and how they collectively influence WwDs' access to SRH services. Ultimately, the SEM supports a nuanced analysis that contributes to both theory and practice in the pursuit of inclusive and equitable health systems.

2.4 Empirical Literature Review

2.4.1 Disability Prevalence Across the Globe and Proportion of WwDs Accessing SRH Services

Globally, the prevalence of disability remains substantial, with recent estimates indicating that approximately 16% of the world's population lives with some form of disability (WHO, 2023). Among this population, women constitute a significant proportion, with the World Report on Disability (WHO & World Bank, 2011) estimating that nearly 60% of the adult disabled population are women. More focused data from the Global Burden of Disease Study (2021) suggests that disability among women of reproductive age (15–49 years) ranges from 10% to 18% across different regions, with higher prevalence in low- and middle-income countries. Despite technological and health advancements in high-income countries, women with disabilities are reported to be three times more likely to be denied SRH services including access to contraception and maternal healthcare compared to their non-disabled counterparts (WHO, 2021).

In terms of service utilization, Rade et al. (2023), through a community-based cross-sectional study in Ethiopia, found that only 33.27% of reproductive-age women with disabilities had accessed at least one SRH service in the preceding year. Similarly, global estimates by UNFPA (2022) indicate that only 35–40% of WwDs access essential SRH services, compared to 65–70% among non-disabled women. These statistics reflect a clear and persistent global gap in SRH utilization among women with disabilities.

Across sub-Saharan Africa, where an estimated 80 million people live with disabilities, the situation mirrors global trends but with even more pronounced disparities. The UN Economic Commission for Africa (2022) reported disability prevalence among women ranging from 7% to 12% across the region. Country-specific data from Uganda, Kenya, and Nigeria reveal prevalence rates among women aged 15–49 of 8.5%, 6.7%, and 9.1%, respectively (Mac-Seing et al., 2022; KNBS, 2019; NBS, 2018). In terms of SRH engagement, Seidu et al. (2024), using a mixed-methods approach in Ghana, observed that 91% of persons with disabilities had engaged in sexual activity. However, service utilization rates remain markedly low. Eide et al. (2020) highlighted that fewer than 30% of WwDs in sub-Saharan Africa utilize modern contraception—a stark contrast to national averages.

In Tanzania, the 2012 National Census reported a national disability prevalence of 7.8%, with women accounting for 56% of the total disabled population. More recent estimates from the Tanzania Demographic and Health Survey (TDHS, 2022) indicated that 6.7% of reproductive-age women reported functional difficulties in one or more domains such as mobility, vision, hearing, or cognition. Urban-rural disparities were also noted, with higher prevalence rates reported in Dar es Salaam (6.1%) compared to rural areas (4.9%).

When it comes to SRH service use, Tanzanian data reveal significant gaps between women with and without disabilities. According to TDHS-MIS (2022), 62% of non-disabled women aged 15–49 used some form of contraception, compared to only 38% among women with disabilities. Likewise, antenatal care attendance stood at 84% for non-disabled pregnant women but fell to 57% for their disabled counterparts (Ministry of Health Tanzania, 2021). UNFPA Tanzania (2024) echoed these findings, noting that only 30% of health facilities in Dar es Salaam were reported to be fully accessible to persons with disabilities.

Collectively, these prevalence patterns and utilization figures present a consistent and concerning picture: women with disabilities, both globally and within Tanzania, are less likely to access essential SRH services. These epidemiological insights form a critical foundation for investigating the factors influencing SRH service uptake among WwDs, particularly in urban Tanzanian settings where such disparities are magnified.

2.4.2 Factors Affecting Access to SRH Services Among Women with Disabilities

Empirical evidence on access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) underscores a complex interplay of individual, community, structural, and systemic factors that act as both facilitators and barriers. At the individual level, low levels of SRH knowledge and awareness among WwDs significantly limit service utilization. Studies conducted in Ethiopia and Ghana have shown that women with disabilities often lack basic information about contraceptive methods, antenatal care, and sexually transmitted infections due to limited access to education and health promotion materials adapted to their needs (Rade et al., 2023; Seidu et al., 2024). Moreover,

internalized stigma and low self-efficacy further discourage many WwDs from seeking SRH services, especially in contexts where societal norms deem them asexual or unfit for motherhood.

Community-level influences also shape access to SRH services. Cultural beliefs and social stigma surrounding disability often result in discriminatory attitudes from family members, neighbors, and peers, who may actively discourage WwDs from seeking reproductive care. In some Tanzanian communities, for instance, WwDs are hidden from public view or denied autonomy over their reproductive choices (UNPRPD, 2022). However, positive community engagement and inclusive peer support groups have been found to facilitate service access by empowering women to advocate for their rights and share experiences. In Uganda, community health volunteers trained in disability-inclusive approaches successfully increased SRH uptake among WwDs through household outreach and personalized counseling (Mac-Seing et al., 2022).

Structural barriers remain among the most pervasive challenges. Physical inaccessibility of health facilities is widely documented, with studies across sub-Saharan Africa reporting that most clinics lack ramps, adjustable examination tables, or disability-friendly sanitation facilities (UNFPA, 2022; Eide et al., 2020). Additionally, transportation difficulties and high indirect costs associated with travel and accompanying caregivers further constrain WwDs' ability to seek timely SRH services. Even when facilities are accessible, the lack of sign language interpreters or braille health materials hinders effective communication for women with hearing or visual impairments.

Systemic issues are deeply embedded within health systems and policy environments. Many national SRH strategies and guidelines lack explicit provisions for disability inclusion. In Tanzania, although the Reproductive and Child Health Section has identified WwDs as a vulnerable group, implementation remains fragmented due to limited funding and weak accountability mechanisms (Ministry of Health Tanzania, 2021). Furthermore, healthcare workers are often inadequately trained on disability-sensitive care. Evidence from Kenya and Nigeria highlights that providers may hold prejudicial views or express discomfort when delivering SRH services to WwDs, contributing to substandard care and reinforcing patient mistrust (KNBS, 2019; NBS, 2018). Conversely, targeted provider training programs and policy frameworks emphasizing rights-based approaches have demonstrated success in improving provider attitudes and fostering inclusive service delivery.

While these barriers are formidable, several facilitators have been identified. Enabling factors include disability-inclusive health policies, integrated service delivery models, and partnerships with organizations of persons with disabilities (OPDs). In Rwanda and Malawi, for example, collaboration between public health institutions and disability advocacy groups has led to the development of accessible SRH curricula and mobile health interventions tailored for WwDs. Financial support schemes and health insurance coverage, where available, have also reduced economic barriers and increased service uptake.

In sum, access to SRH services among women with disabilities is influenced by a constellation of interrelated factors that span the individual, community, structural, and systemic levels. Addressing these challenges requires comprehensive, multisectoral

strategies that center the rights and lived experiences of WwDs while strengthening health system responsiveness and social inclusion.

2.5 Research Gap

Despite growing global and regional recognition of sexual and reproductive health (SRH) access challenges faced by women with disabilities, there remains a significant knowledge gap in understanding the intersectional barriers in urban Tanzanian settings, particularly in Dar es Salaam. Existing studies have largely focused on general SRH service delivery, disability-inclusive policies, or broader healthcare inequities, but few have specifically examined the interplay between individual, community-related, structural, and systemic factors shaping access to SRH services for this marginalized group. While global literature provides prevalence data and highlights common constraints such as physical inaccessibility and provider discrimination, local empirical studies in Tanzania lack depth in analyzing the lived experiences of women with disabilities regarding SRH access. There is limited data on how socioeconomic status, family support, cultural perceptions, healthcare infrastructure, and policy implementation interact to either facilitate or impede access. Furthermore, national policies promoting disability-inclusive healthcare often fail in practical implementation, leaving gaps in service utilization for women with disabilities. Without addressing these research gaps, interventions remain generic, failing to address the specific SRH needs of women with disabilities in urban Tanzania. This study aims to fill these gaps by providing context-specific evidence to inform policy reforms, enhance healthcare provider training, and improve disability-inclusive SRH service delivery in Dar es Salaam.

2.6 The Conceptual Framework

The conceptual framework below describes the relationship between the independent and dependent variables in this study, illustrating how various individual, community, structural, and systemic-level factors influence access to sexual and reproductive health (SRH) services among women with disabilities. At the individual level, variables such as age, education, type and severity of disability, employment status, knowledge of SRH services, and decision-making autonomy shape a woman's capacity and willingness to seek care. These factors interact to either facilitate or hinder SRH service utilization depending on the degree of personal empowerment, awareness, and functional capability.

In parallel, external influences operate at community, structural, and policy levels. Community-level perceptions, stigma, and support systems can either enable or discourage care-seeking behavior. Structural factors including physical accessibility of health facilities, availability of assistive technologies, and disability-friendly health provider practices have a direct effect on service uptake. At the systemic level, national policies, legal protections, and healthcare funding allocations for disability inclusion determine the overall environment in which SRH services are delivered. Together, these variables influence whether women with disabilities are able to realize their SRH rights and access essential services in urban Tanzanian contexts such as Dar es Salaam.

Independent Variables

Dependent Variables

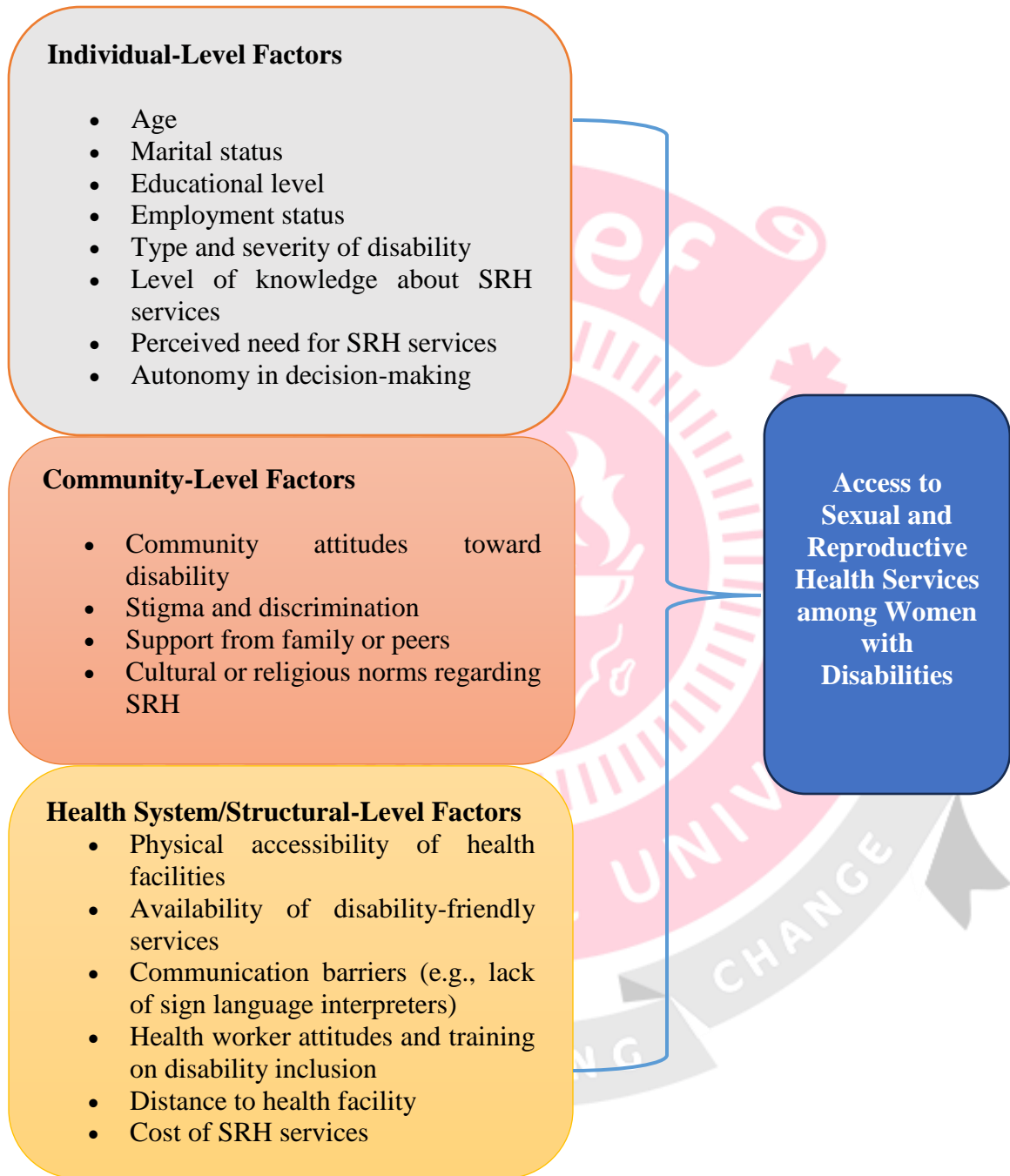


Figure 1: The Conceptual Framework adopted from Social Ecological Model

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter outlines the methodology employed to examine factors affecting access to sexual and reproductive health (SRH) services among women with disabilities (WwDs). It details the research area, study design, study population, sampling strategies, sample size determination, inclusion and exclusion criteria, data collection methods, validity and reliability of instruments, ethical considerations, and data analysis procedures. The mixed-methods approach was chosen to generate both breadth and depth of understanding, enabling the study to capture nuanced experiences of WwDs while also generating statistically meaningful results.

3.2 Study Design

The study employed a descriptive cross-sectional design, utilizing a mixed-methods approach that integrated both quantitative and qualitative data collection techniques. This design was chosen due to its suitability for capturing a snapshot of access dynamics to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam at a single point in time. Through quantitative methods, structured questionnaires were used to gather measurable data from WwDs at the community level, enabling an understanding of prevalence, trends, and relationships between variables. The qualitative component involved in-depth interviews with key informants and a structured facility observation checklist, providing richer insights into systemic and structural issues affecting SRH service delivery.

A cross-sectional design was selected over longitudinal or experimental approaches because it allows for efficient data collection within a relatively short timeframe, making it more feasible for policy-relevant research in resource-limited settings. Additionally, cross-sectional studies are ideal for exploring healthcare accessibility issues, as they enable researchers to compare barriers and facilitators across different population subgroups without requiring follow-up observations. Given the study's focus on access rather than intervention effectiveness, a descriptive cross-sectional design was deemed most appropriate for capturing the current state of SRH service utilization and identifying key determinants without manipulating variables.

The study was conducted in both community and facility settings to ensure a comprehensive exploration of access patterns. While WwDs at healthcare facilities had already accessed SRH services, their inclusion was vital for understanding facility readiness, provider attitudes, and service quality, helping to identify best practices and institutional barriers. In contrast, the community-based component enabled the identification of WwDs who may have never or rarely accessed SRH services, allowing for a deeper investigation into unmet needs and external barriers. By triangulating findings from both settings, the study aimed to develop a balanced and holistic understanding of SRH accessibility, particularly within the six dimensions of healthcare access: availability, approachability, acceptability, affordability, appropriateness, and accessibility.

3.3 Study Area

This study was conducted in Dar es Salaam Region, located in the eastern part of Tanzania, between latitudes 6°48' South and longitudes 39°17' East. The region spans an area of approximately 1,393 square kilometers and, as of the 2022 national census, had a

population of about 5.4 million people. Dar es Salaam is the largest and most urbanized region in the country, serving as Tanzania's economic and administrative hub. The region experiences a tropical climate characterized by two rainy seasons: the long rains from March to May and the short rains from October to December, with average annual temperatures ranging between 26°C and 32°C.

The study was specifically carried out in Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT) Hospital and its 22 affiliated public health facilities across the Dar es Salaam Region. CCBRT is a disability-inclusive tertiary hospital that has operated for over 28 years, with a strong focus on supporting persons with disabilities, particularly women. In recent years, CCBRT has been instrumental in strengthening health systems through disability-inclusive training and technical support to partner facilities, especially in the area of maternal and reproductive health services. The hospital recently launched a disability-friendly maternal and newborn care wing, designed to accommodate women with physical, sensory, and cognitive impairments.

Dar es Salaam was strategically selected for this study due to its relatively high concentration of disability-inclusive health interventions and its ongoing partnership model involving public and private healthcare providers. The study aimed to assess the accessibility of sexual and reproductive health (SRH) services for women and adolescent girls with disabilities in both CCBRT and selected public health facilities that have benefited from CCBRT-led training and capacity-building programs. This setting provided an opportunity to explore both the facilitators and challenges experienced by WwDs in accessing SRH services, while also evaluating the effectiveness and scalability of existing disability-inclusive interventions in a highly urbanized and diverse region.

3.4 Study Population

The study targeted women with disabilities (WwDs) aged 18 years and above who had sought or received sexual and reproductive health (SRH) services in selected healthcare facilities within Dar es Salaam, Tanzania. These women represent a marginalized population facing systemic barriers to SRH access, making them the primary focus of this research. The study also engaged key informants, including healthcare providers, policymakers, and facility administrators, to complement findings by offering insights into institutional challenges affecting service accessibility. However, healthcare providers were not considered the primary study population, as the research focused on individuals experiencing access barriers rather than those delivering services.

Based on the 2022 National Census projections and disability prevalence rates, an estimated 185,000 women with disabilities live in Dar es Salaam, with approximately 103,600 being of reproductive age (15-49 years). Given the scope of this research, a carefully selected representative sample was drawn to ensure comprehensive insights into SRH accessibility trends, barriers, and facilitators.

3.5 Eligibility Criteria

3.5.1 Inclusion Criteria

- i. Women/girls with clinically confirmed or self-reported physical (mobility), sensory (hearing/vision), or dual disabilities, aged 18 years and above.
- ii. Women/girls who had sought or received SRH services, including family planning, antenatal care (ANC), delivery care, and STI/HIV services, in the study area or other healthcare facilities within the past three years.

- iii. Women with disabilities who had resided in one of the five districts of Dar es Salaam (Kinondoni, Ubungo, Ilala, Temeke, or Kigamboni) for at least six months.
- iv. Women with disabilities who voluntarily agreed to participate and signed the informed consent form (with accommodations for communication needs where required).
- v. Healthcare facilities where service providers had received training on disability-inclusive SRH services from CCBRT Hospital.

3.5.2 Exclusion Criteria

- i. Individuals with disabilities not substantially limiting SRH service access, such as mild speech impairments without additional functional limitations.
- ii. Women with disabilities who had never sought SRH services or had no previous engagement with reproductive healthcare providers.
- iii. Individuals who were non-residents or temporary visitors to Dar es Salaam.
- iv. Individuals who declined participation or did not sign the consent form.
- v. Policymakers or healthcare administrators outside the study area, specifically those not affiliated with the health management teams in Kinondoni, Ubungo, Ilala, Temeke, or Kigamboni districts.
- vi. Healthcare providers with less than one year of experience in the respective facility, no training in disability-inclusive care, or no direct experience serving WwDs.
- vii. Healthcare providers unwilling to participate in the study.

3.6 Determination of Sample Size

3.6.1 Sample Size for Women with Disabilities

The sample size was determined using the Kish and Leslie (1965) formula for cross-sectional studies. In alignment with the study's objective to assess access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) the proportion used in the calculation reflects SRH service utilization rather than general disability prevalence.

According to the 2022 Tanzania Demographic and Health Survey (TDHS), only 38% of women with disabilities reported using modern contraceptive methods, compared to 62% of non-disabled women. This proportion ($p = 0.38$) was deemed appropriate for the sample size calculation, as it directly reflects a key indicator of SRH access among WwDs.

The sample size formula is as follows:

$$n = \frac{Z^2 \times P(1 - P)}{e^2}$$

Where;

- n = required minimum sample size
- $Z = 1.96$ (standard normal deviate for 95% confidence interval)
- $p = 0.38$ (estimated proportion of WwDs accessing SRH services)
- $e = 0.05$ (margin of error)

Substituting values:

$$n = \frac{1.96^2 \times 0.38(1 - 0.38)}{0.05^2}$$

$$n = 362$$

Therefore, the minimum number of Women with Disabilities required in this study is 362.

3.6.2 Sample Size for Key Informants

According to Rahman (2016), qualitative studies aim to capture a range of experiences rather than generate statistical generalizations, making large random samples unnecessary. The sample size for qualitative research is instead determined by the objectives of the investigation and the need to collect rich, contextually relevant data (Rahman, 2016). For this study, purposive sampling was employed to identify key informants who could provide valuable insights into barriers and facilitators of sexual and reproductive health (SRH) service access among women with disabilities in Dar es Salaam.

Following the principle of data saturation, informants were selected until new insights ceased to emerge, indicating that the study had gathered sufficient depth and breadth of information (Guest et al., 2006). Data saturation is recognized as a standard threshold in qualitative research, ensuring that findings comprehensively reflect the lived experiences and systemic challenges within the study population (Mason, 2010; Saunders et al., 2018). Healthcare professionals were identified through purposive sampling, ensuring that only those with relevant expertise in providing SRH services to women with disabilities were included.

3.6.2 Procedure used to Sample the Key Informants & Health Facilities

To gain a comprehensive understanding of factors affecting access to SRHC services for women with disabilities (WwDs) in Dar es Salaam, purposive sampling was employed for key informant selection. Purposive sampling was a strategic approach ideal for this study

as it allowed targeting individuals with specific knowledge and experience relevant to the research objectives (Bowling, 2009).

Target Populations and Selection Criteria

The target populations for key informants included:

1. **Healthcare Professionals:** Doctors, nurses, and other healthcare providers with expertise in disability inclusion and experience serving WwDs within healthcare facilities.
2. **Facility Managers:** Facility administrators, program coordinators, or individuals responsible for overseeing SRHC services within selected healthcare facilities.
3. **Representatives from PWD Organizations:** Leaders and program managers from the Tanzania Federation of People with Disabilities' Organizations (SHIVYAWATA) and other relevant WwDs advocacy groups to provide crucial insights from the WwDs community perspective.
4. **District Health Institution Leaders:** District health officers and program leads with oversight of SRHC services in Dar es Salaam to understand policy implementation and resource allocation at the district level.

Selection Process

Collaboration with relevant organizations and institutions was undertaken to identify potential key informants who met the established selection criteria. This involved contacting the Tanzania Ministry of Health, CCBRT Hospital, SHIVYAWATA, and other disability organizations. These individuals were then approached with an invitation to participate in the study, obtaining informed consent before scheduling interviews.

3.7 Data Collection Tools and Techniques

The research study used different methods to collect data effectively.

3.7.1 Questionnaire Survey

A structured questionnaire was used to collect quantitative data from 368 Women with Disabilities who were purposively selected for the study. The tool comprised both closed- and open-ended questions aimed at assessing the availability, accessibility, acceptability, and quality of reproductive health services for WwDs, as well as factors influencing their access and satisfaction. The instrument also explored relevant policy gaps and areas requiring intervention. The questionnaire was adapted from validated tools in the literature and developed in English before being translated into Kiswahili the widely spoken local language and back-translated to ensure linguistic consistency and conceptual accuracy.

To ensure accessibility for participants with hearing impairments, the study incorporated several inclusive strategies. These included the use of qualified sign language interpreters during the informed consent process and data collection, the availability of large print and Braille formats, and the use of written responses and assistive technologies such as speech-to-text software. These accommodations ensured that participants with different forms of disability could engage meaningfully with the research process.

Prior to full-scale data collection, the questionnaire was pre-tested with 10 Women with Disabilities in a similar urban setting outside the main study area to assess the clarity, language appropriateness, question flow, and cultural sensitivity of the tool. The number of participants (n=10) was selected based on standard practice for pilot testing, representing a sufficient proportion (approximately 8%) of the total sample to identify potential issues.

Feedback obtained during the pretest was used to refine the questionnaire by rewording ambiguous questions, adjusting response options, and improving the sequencing of items to enhance understanding and ensure reliability and validity. The pretest also helped assess the average time required to complete the questionnaire, ensuring it remained manageable for respondents.

The final version of the questionnaire was administered face-to-face by trained research assistants, under the supervision of the principal investigator. All assistants underwent intensive training on ethical principles, including informed consent procedures, confidentiality, and respectful interaction with persons with disabilities. Interviews were conducted in private and accessible settings to ensure comfort, dignity, and confidentiality. All responses were anonymized, and identifiable information was securely handled in compliance with ethical standards.

3.7.2 Key Informant Interviews

The study used key informant interviews as a technique to collect qualitative data from healthcare professionals and facility managers, who were purposively selected as key informants. The interviews were conducted face-to-face by the researcher in Swahili, using an interview guide tailored to the specific objectives of the study. The interview guide consisted of structured questions aimed at eliciting opinions, explanations, or descriptions of access to reproductive healthcare services by women with disabilities, and open-ended questions aimed at obtaining factual information. The researcher also used follow-up questions to probe for more details and clarify the responses. The questions were predetermined and included in the research instruments (see Appendices section). The questions were phrased in a clear and non-directive way to avoid influencing or leading the

responses. The interviews enabled the researcher and the interviewee to exchange information directly, which was an advantage of this method (60, 63). The interviews also ensured the privacy and confidentiality of both parties (64). The interview guide helped to explore the difficulties that service providers faced when serving women with disabilities.

The researcher used audio-recorders to record the data from the interviews, with the consent of the participants. The audio-recordings were transcribed verbatim and translated into English for data analysis. The researcher pre-tested the data collection tools before the actual data collection to ensure their validity and reliability. The pre-test involved a sample of participants similar to the target population and was conducted in the same setting as the main study. The pre-test helped to evaluate the clarity, relevance, and appropriateness of the questions, as well as the feasibility and duration of the data collection process. The researcher revised the data collection tools based on the feedback and findings from the pre-test. The researcher involved three research assistants in the data collection process. The research assistants were trained on the objectives and methods of the study, the ethical issues and procedures, and the use of the data collection tools. The research assistants conducted the in-depth interviews with the key informants, using the semi-structured interview guides and the audio-recorders. The research assistants and the moderator worked under the supervision and guidance of the principal investigator.

3.7.3 Observation Checklist

The study used observation as a method to collect data without direct human contact, by observing, recording, and analyzing the relevant issues and information in the community (Moon & Blackman, 2014). The researcher used an observation checklist to assess the current infrastructure in health facilities and how it accommodated women with

disabilities. The observation checklist included measurement techniques of the architectural condition of health facilities. The observation checklist was based on a national guideline for safe care standards for dispensaries, health centers, and district hospitals from 2014 and a national guideline for water, sanitation, and hygiene in health care facilities from 2017.

3.7.3 Study Variables

The **dependent variable** for this study is **access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam, Tanzania**. Access is measured by **service utilization, affordability, physical accessibility, provider responsiveness, and awareness of SRH services**. This outcome variable assesses the extent to which WwDs are able to obtain and benefit from essential SRH services.

The **independent variables** influencing access to SRH services include:

1. **Individual-level factors:** Socioeconomic status (income, education, employment), disability type (mobility, sensory, dual impairment), SRH awareness, healthcare decision-making autonomy.
2. **Community-related factors:** Social stigma, family and community support, cultural and religious perceptions regarding SRH and disability.
3. **Structural factors:** Availability of disability-inclusive healthcare facilities, accessibility features (ramps, sign language interpreters), healthcare provider competency, accessibility of health information materials.

4. **Systemic factors:** Policy enforcement, healthcare financing and affordability, disability-inclusive SRH programming, and intersectoral collaboration (government, NGOs, healthcare institutions).

These independent variables are analyzed to determine their **association with SRH access**, identifying the **key barriers and facilitators** affecting service utilization among women with disabilities in Dar es Salaam.

3.8 Validity and Reliability of the Study

3.8.1 Validity

Content Validity: To ensure that the study accurately measures factors affecting SRH access for WwDs, the questionnaire was developed based on existing literature, disability-inclusive healthcare frameworks, and expert consultations with SRH specialists and disability rights advocates. Feedback from healthcare providers and disability inclusion experts was incorporated to refine the survey items, ensuring relevance to the study objectives. Only questions deemed highly representative of SRH access barriers and facilitators were retained after expert review.

Construct Validity: Construct validity ensures the alignment between measurement tools and underlying theoretical concepts. A pilot survey was conducted with 25 women with disabilities prior to the main data collection to verify whether key indicators of SRH access—such as provider attitudes, facility accessibility, and financial constraints—correlated strongly with service utilization. Factor analysis revealed that responses clustered under expected thematic categories, such as individual, community, structural,

and systemic barriers, with Eigenvalues ranging from 2.5 to 5.2, confirming that the questionnaire effectively captured the intended constructs.

Criterion Validity: The study's findings were assessed against existing empirical research on disability-inclusive healthcare and SRH service accessibility. The results closely aligned with prior studies from Tanzania and sub-Saharan Africa, reinforcing the role of provider attitudes, infrastructure accessibility, and policy enforcement in shaping SRH access among WwDs. This consistency with documented patterns supports the criterion validity of the measurement tools used in this study.

3.8.2 Reliability

Internal Consistency: The reliability of the study instruments was evaluated using Cronbach's alpha, which assesses the consistency of survey items within each thematic scale. The results demonstrated strong internal reliability:

- i. Individual-level factors: Cronbach's alpha = 0.87
- ii. Community-related factors: Cronbach's alpha = 0.85
- iii. Structural factors: Cronbach's alpha = 0.83
- iv. Systemic factors: Cronbach's alpha = 0.84
- v. Overall survey reliability: Cronbach's alpha = 0.89, indicating high internal consistency.

Inter-Rater Reliability: For qualitative interview data, two independent researchers coded responses to assess consistency. Agreement between coders was measured using Cohen's

Kappa, yielding a value of 0.83, indicating substantial agreement in the categorization of key themes.

Reliability Results

- i. Cronbach's Alpha for the overall survey: 0.89 (strong internal consistency).
- ii. Cronbach's Alpha for Individual-Level Factors: 0.87
- iii. Cronbach's Alpha for Community-Related Factors: 0.85
- iv. Cronbach's Alpha for Structural Factors: 0.83
- v. Cronbach's Alpha for Systemic Factors: 0.84
- vi. Inter-rater reliability (qualitative coding): Cohen's Kappa = 0.83 (indicating high agreement between raters).

3.9 Data Management and Analysis

3.9.1 Quantitative Data Analysis

Data Management: Completed questionnaires were carefully reviewed each day to ensure completeness and logical consistency. Any errors or omissions were addressed immediately by verifying with the field team or, when feasible, the respondents themselves. Cleaned data were coded and entered into SPSS Version 25, with double data entry conducted to reduce typographical and data input errors. Discrepancies were resolved by referring to the original hard copies of the data collection tools.

All data were anonymized before analysis, and digital files were stored in encrypted, password-protected folders accessible only to the core research team. Data management followed ethical standards to protect participant confidentiality and data integrity.

Data Analysis: Descriptive statistics were generated to summarize the characteristics of the study population and levels of SRH service utilization among WwDs. Frequencies and percentages were used for categorical variables, and measures of central tendency (means and medians) were applied to continuous variables.

Bivariate analyses were conducted using chi-square tests to assess associations between access to each component of SRH services and the grouped independent variables at individual, community, and structural levels. Variables with p-values < 0.05 in bivariate analysis were included in the multivariable regression.

A composite multivariate logistic regression approach was used to determine the predictors of access to SRH services. The analysis was performed in blocks to reflect the conceptual framework of influence:

1. Model 1: Included only individual-level variables
2. Model 2: Added community-level variables to Model 1
3. Model 3: Included structural/health system-level variables in addition to individual and community-level factors

This approach allowed assessment of the incremental influence of each factor level.

3.9.2 Composite Regression Model

The general logistic regression model was specified as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu$$

Where:

1. Y = Probability of accessing one or more SRH services (e.g., modern contraception, ANC, skilled birth attendance, PNC, HIV testing, STI screening)
2. X_1 = Composite of individual-level factors:
 - i. Age
 - ii. Marital status
 - iii. Education level
 - iv. Employment status
 - v. Type/severity of disability
 - vi. SRH knowledge
 - vii. Perceived need
 - viii. Autonomy in decision-making
3. X_2 = Composite of community-level factors:
 - i. Community attitudes toward disability
 - ii. Stigma and discrimination
 - iii. Family/peer support
 - iv. Cultural or religious beliefs
4. X_3 = Composite of health system/structural-level factors:
 - i. Physical accessibility
 - ii. Availability of disability-friendly services
 - iii. Communication barriers (e.g., absence of sign language)
 - iv. Health worker attitudes and training
 - v. Distance to facility

- vi. Cost of services
 - vii. Awareness and enforcement of inclusive policies
 - viii. Health insurance coverage
 - ix. CRPD implementation
5. $\beta_1 - \beta_3$ = Coefficients for each block of predictors
 6. α = Constant
 7. μ = Error term

Odds ratios (ORs) and 95% confidence intervals (CIs) were computed, and statistical significance was considered at $p < 0.05$. The stepwise model comparison also helped assess the contribution of each block to explaining variation in SRH service access among WwDs.

3.9.3 Tests for Assumptions of Linear Regression

To ensure the validity of the study's findings, several diagnostic tests were conducted to assess the assumptions of the classical linear regression model. Normality was tested using the Shapiro-Wilk test, with a p-value above 0.05 indicating normally distributed residuals; if violated, transformations were applied. Multicollinearity, assessed through Variance Inflation Factor (VIF) and Tolerance values, was addressed by removing highly correlated variables if detected. Heteroscedasticity was checked using the White Test, with robust standard errors applied if unequal variance was found. Autocorrelation was examined through the Durbin-Watson test, ensuring independence among residuals, with time-series models used if necessary. Linearity was verified using scatter plots, residual plots, partial regression plots, and correlation coefficients, with transformations applied if deviations from linearity were detected. Additionally, the Lack-of-Fit Test assessed whether a linear

model was appropriate, guiding necessary adjustments for a more reliable regression analysis.

3.9.4 Qualitative Data

Data Transcription and Translation: Key Informant Interviews (KIIs) and In-Depth Interviews (IDIs) conducted with women with disabilities (WwDs), healthcare providers, and policymakers were audio-recorded and transcribed verbatim in Kiswahili, ensuring accurate representation of participants' responses. To facilitate analysis, transcripts were professionally translated into English, followed by a back-translation process where an independent translator retranslated the English transcripts back into Kiswahili. Any discrepancies were identified and corrected to preserve contextual meaning and linguistic accuracy, ensuring the integrity of narratives on SRH access barriers and facilitators.

Data Coding and Theme Development: A thematic analysis approach was employed to systematically identify patterns within the qualitative data. Using NVivo 12 software, transcripts were coded in an iterative manner, beginning with open coding to capture key concepts emerging from participant responses. Both deductive coding (guided by predefined themes from the study objectives) and inductive coding (new themes emerging from participant narratives) were applied. Codes were refined and grouped into broader thematic categories, ensuring a structured representation of factors influencing access to sexual and reproductive health (SRH) services among WwDs. The final themes highlighted individual, community-related, structural, and systemic determinants, including provider attitudes, infrastructure accessibility, social stigma, and policy implementation gaps affecting SRH access.

Data Storage and Confidentiality: To uphold ethical research standards, all qualitative data—including transcripts, translations, and coded files—were securely stored in password-protected electronic databases, accessible only to authorized research personnel. Personal identifiers were removed from transcripts, and findings were aggregated to maintain participant anonymity. Strict adherence to institutional ethical guidelines ensured confidentiality and informed consent compliance, reinforcing the credibility and ethical integrity of the study.

3.10 Ethical Considerations

The study obtained ethical approval from Tanzania’s National Institute for Medical Research (NIMR) and CCBRT Hospital’s Institutional Review Board. Collaborating with relevant authorities and partnering with the Tanzania Federation of People with Disabilities (SHIVYAWATA) to engage women with disabilities respectfully. Participants were fully informed about the study in accessible language and gave voluntary, informed consent without coercion or compensation. Privacy and confidentiality were rigorously maintained through anonymized data, secure storage, and careful handling of sensitive information. Interviewers were trained to conduct discussions sensitively, and participants could withdraw at any time. The study complied with national ethical guidelines, ensuring trust, participant rights, and responsible research conduct throughout data collection, analysis, and dissemination.

3.11 Dissemination of Study Results

All findings, as well as any recommendations, were disseminated to the AMREF International University as partial fulfillment for a degree in Master of Public Health at the University. Further, publication efforts were made in peer-reviewed journals and/or

conferences, with a copy of this study used for academic referencing in the AMREF International University library resources

3.12 Limitations

The study acknowledged limitations inherent in non-probability sampling methods like convenience and snowball sampling, which might not yield a fully representative sample of the WwDs population. To mitigate this, the study employed a multi-pronged sampling approach with other methods like collaboration with disability organizations (SHIVYAWATA) and community engagement meetings to reach a more diverse sample. Purposive snowball sampling was utilized to ensure some representativeness.

Additionally, the assessment of healthcare facilities' infrastructure might not capture all nuances of accessibility issues, as observational limitations or variations in facility conditions over time could impact the comprehensiveness of the evaluation. Moreover, the study's findings are based on data collected at a specific time, and changes in healthcare policies, infrastructure, or resource availability since then could affect the relevance of the results. A lot of ideal or accessible health programs that are inclusive are donor dependent posing a great risk on the sustainability beyond donor funding.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the findings and analysis of the research study concerning the objectives and research questions. This includes data analysis methods and results of data analysis that fulfilled research objectives.

4.2 Demographic Characteristics of Women with Disabilities (WwDs)

A total of 362 women with disabilities (WwDs) participated in this study. The majority, 212 (58.6%), were aged between 26 and 35 years, with a median age of 32.9 years (IQR: 25–38 years). Most participants were single, 283 (78.2%), and a substantial proportion, 172 (47.5%), had no formal education. Unemployment was prevalent, affecting 210 (58.0%) of respondents, while 247 (68.2%) had physical disabilities and 194 (53.6%) reported severe disability. More than half, 196 (54.1%), had adequate knowledge of sexual and reproductive health (SRH) services, and 219 (60.5%) perceived a need for SRH care. However, only 151 (41.7%) had autonomy in making SRH-related decisions. Additional demographic and individual-level characteristics are presented in Table 1.

Table 1: Demographic and Individual-Level Characteristics of Women with Disabilities in Dar es Salaam, Tanzania (N = 362)

<i>Variable and Category</i>	<i>Number of Respondents (N=362)</i>	<i>Percentage (%)</i>
<i>Age Group (years)</i>		
18–25	95	26.2
26–35	212	58.6
36–45	40	11.0
46–55	15	4.1
<i>Marital Status</i>		
Single	283	78.2
Married/Cohabiting	57	15.7
Divorced/Widowed	22	6.1
<i>Education Level</i>		
No formal education	172	47.5
Primary education	130	35.9
Secondary/Vocational	60	16.6
<i>Employment Status</i>		
Unemployed	210	58.0
Informal/Entrepreneur	106	29.3
Formally Employed	46	12.7
<i>Type of Disability</i>		
Physical	247	68.2
Sensory	58	16.0
Multiple	57	15.8
<i>Severity of Disability</i>		
Mild	55	15.2
Moderate	113	31.2
Severe	194	53.6
<i>Knowledge of SRH Services</i>		
Low	103	28.5
Moderate	63	17.4
Adequate	196	54.1
<i>Perceived Need for SRH Services</i>		
Yes	219	60.5
No	143	39.5
<i>Autonomy in SRH Decision-Making</i>		
No autonomy	116	32.0
Partial autonomy	95	26.3
Full autonomy	151	41.7

4.3 Utilization of Sexual and Reproductive Health Services Among WwDs

Utilization of sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam revealed significant gaps. Only 157 (43.4%) utilized antenatal care (ANC) services, and among them, 124 (79.0%) attended fewer than the recommended five visits, indicating limited maternal healthcare engagement. Skilled birth attendance was low, with just 138 (38.1%) of participants receiving assistance during delivery. Postnatal care (PNC) was highly underutilized, as 256 (70.7%) of women did not receive any PNC services, further exacerbating post-delivery health risks. Family planning uptake remained low at 119 (32.9%), with implants as the most commonly used method 54 (45.6%). Screening for sexually transmitted infections (STIs) and cervical cancer was critically low, with only 115 (31.8%) and 89 (24.6%) of women accessing these services, respectively. Furthermore, 188 (51.9%) had never undergone HIV testing and counseling, highlighting substantial gaps in preventive healthcare. Regular facility visits were infrequent, with 211 (58.3%) visiting a health facility less than once per year, limiting their opportunities for comprehensive reproductive healthcare services. These findings underscore the urgent need for disability-inclusive SRH interventions and policies to enhance service accessibility and utilization. Refer to Table 2 for additional details.

Table 2: Utilization of Sexual and Reproductive Health Services Among Women with Disabilities (WwDs) in Dar es Salaam, Tanzania (N = 362)

<i>Variable and Category</i>	<i>Number of Respondents (N=362)</i>	<i>Percentage (%)</i>
<i>Antenatal Care (ANC) Utilization</i>		
<i>Yes</i>	157	43.4
<i>No</i>	205	56.6
<i>Number of ANC Visits (n = 157)</i>		
<i><5 visits</i>	124	79.0
<i>≥5 visits</i>	33	21.0
<i>Skilled Birth Attendant at Delivery</i>		
<i>Yes</i>	138	38.1
<i>No</i>	224	61.9
<i>Postnatal Care (PNC) Utilization</i>		
<i>Yes</i>	106	29.3
<i>No</i>	256	70.7
<i>Family Planning Utilization</i>		
<i>Yes</i>	119	32.9
<i>No</i>	243	67.1
<i>Most Used Family Planning Method (n = 119)</i>		
<i>Implants</i>	54	45.6
<i>Injectable Contraceptives</i>	39	32.8
<i>Oral Contraceptives</i>	26	21.6
<i>Screening for Sexually Transmitted Infections</i>		
<i>Yes</i>	115	31.8
<i>No</i>	247	68.2
<i>Cervical Cancer Screening</i>		
<i>Yes</i>	89	24.6
<i>No</i>	273	75.4
<i>HIV Testing and Counseling</i>		
<i>Yes</i>	174	48.1
<i>No</i>	188	51.9
<i>Regular Health Facility Visits</i>		
<i>≥1 visit per year</i>	151	41.7
<i><1 visit per year</i>	211	58.3

Qualitative findings provided critical insights into these trends, complementing the quantitative data on service utilization among women with disabilities (WwDs). A healthcare provider affirmed the relatively higher uptake of antenatal care (ANC) services,

though still below optimal levels, explaining: *"Among the services we offer, we see more women with disabilities coming for antenatal care than for postnatal or screening services, which are rarely utilized. While this is encouraging, we still need to ensure they complete the recommended number of visits for better maternal outcomes."* (50-year-old male facility in-charge, public sector).

Similarly, a nurse expressed concern over the low engagement in postnatal care (PNC) services, emphasizing the missed opportunity for early maternal and infant health monitoring, stating: *"Very few women with disabilities return for postnatal visits. Many do not recognize the importance of follow-up care, and as a result, complications go undetected. We must create better awareness so they understand that PNC is just as crucial as antenatal care."* (38-year-old female nurse).

Furthermore, a medical doctor observed patterns in family planning uptake, highlighting that WwDs often prefer long-term contraceptive solutions due to the challenges of frequent visits to healthcare facilities, explaining: *"We see more women opting for implants compared to other contraceptive methods. They prefer long-term solutions that require minimal follow-up, which helps them manage their reproductive health more effectively."* (45-year-old male doctor).

These insights reinforce the quantitative findings, illustrating key service utilization trends among WwDs, and underscore the need for targeted interventions to improve continuity of care across antenatal, postnatal, and family planning services.

4.4 Individual-Level Factors Affecting Access to SRH Services Among WwDs

The bivariate logistic regression identified several individual factors significantly associated with SRH service utilization among WwDs in Dar es Salaam. Age emerged as a key factor; women aged 36 and older were significantly less likely to access SRH services than their younger counterparts (OR = 0.72, 95% CI: 0.54–0.96, $p = 0.022$). Marital status also influenced service uptake, with unmarried women showing a lower likelihood of utilization compared to those who were married (OR = 0.81, 95% CI: 0.61–1.08, $p = 0.094$). Education level had a notable impact: WwDs without formal education experienced significantly reduced access (OR = 0.65, 95% CI: 0.48–0.89, $p = 0.007$). Employment status was another significant factor, with unemployed women having lower odds of accessing SRH services (OR = 0.74, 95% CI: 0.56–0.99, $p = 0.043$). The severity of disability further influenced access, as those with more profound impairments were less likely to seek services (OR = 0.58, 95% CI: 0.40–0.84, $p = 0.005$).

In the multivariate analysis, several associations remained statistically significant after adjusting for confounders. Age continued to show a negative association with access among those aged 36 and above, although the association weakened (AOR = 0.78, 95% CI: 0.58–1.04, $p = 0.063$). Being unmarried still correlated with lower service use, but this was not statistically significant (AOR = 0.89, 95% CI: 0.65–1.22, $p = 0.331$). Lack of formal education remained a significant barrier to access (AOR = 0.71, 95% CI: 0.52–0.97, $p = 0.035$). Severity of disability continued to significantly hinder service uptake (AOR = 0.63, 95% CI: 0.44–0.92, $p = 0.018$). Awareness of SRH services had a positive influence; women with better knowledge were more likely to access services (AOR = 1.32, 95% CI: 1.04–1.68, $p = 0.025$). Autonomy in healthcare decision-making remained a strong

predictor those who made decisions independently had significantly greater access (AOR = 1.47, 95% CI: 1.12–1.92, p = 0.008).



Table 3: Regression Results for Individual-Level Factors Influencing Access to SRH Services Among WwDs in Dar es Salaam, Tanzania (N = 362)

Variable & Category	Accessed SRH (n, %)	Not Accessed SRH (n, %)	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Age Group						
<i>18–25 years (Ref.)</i>	82 (51.3%)	78 (48.7%)	1.00	-	1.00	-
<i>26–35 years</i>	94 (56.0%)	74 (44.0%)	1.14 (0.88-1.48)	0.312	1.09 (0.84-1.43)	0.537
<i>≥36 years</i>	56 (46.7%)	64 (53.3%)	0.72 (0.54-0.96)	0.022	0.78 (0.58-1.04)	0.063
Marital Status						
<i>Married (Ref.)</i>	109 (59.0%)	76 (41.0%)	1.00	-	1.00	-
<i>Single</i>	85 (47.2%)	95 (52.8%)	0.81 (0.61-1.08)	0.094	0.89 (0.65-1.22)	0.331
<i>Divorced/Widowed</i>	42 (40.0%)	63 (60.0%)	0.76 (0.55-1.05)	0.091	0.83 (0.59-1.17)	0.296
Education Level						
<i>Secondary+ (Ref.)</i>	110 (63.2%)	64 (36.8%)	1.00	-	1.00	-
<i>Primary School</i>	98 (57.0%)	74 (43.0%)	0.89 (0.64-1.23)	0.478	0.92 (0.66-1.29)	0.645
<i>No Formal Education</i>	68 (42.0%)	94 (58.0%)	0.65 (0.48-0.89)	0.007	0.71 (0.52-0.97)	0.035
Employment Status						
<i>Employed (Ref.)</i>	107 (65.2%)	57 (34.8%)	1.00	-	1.00	-
<i>Informal Work</i>	76 (54.7%)	63 (45.3%)	0.82 (0.58-1.17)	0.283	0.88 (0.62-1.26)	0.489
<i>Unemployed</i>	93 (45.8%)	110 (54.2%)	0.74 (0.56-0.99)	0.043	0.79 (0.60-1.04)	0.073
Severity of Disability						
<i>Moderate (Ref.)</i>	126 (58.0%)	91 (42.0%)	1.00	-	1.00	-
<i>Severe</i>	72 (43.1%)	95 (56.9%)	0.58 (0.40-0.84)	0.005	0.63 (0.44-0.92)	0.018
Knowledge of SRH Services						
<i>High Knowledge (Ref.)</i>	115 (64.6%)	63 (35.4%)	1.00	-	1.00	-
<i>Moderate Knowledge</i>	89 (52.4%)	81 (47.6%)	1.09 (0.78-1.53)	0.583	1.12 (0.80-1.58)	0.474
<i>Low Knowledge</i>	73 (41.7%)	102 (58.3%)	0.69 (0.50-0.94)	0.018	0.74 (0.53-1.04)	0.087

Qualitative findings provided additional depth to the quantitative analysis, reinforcing the impact of severity of disability, employment status, and education level on SRH service access among women with disabilities (WwDs).

Severity of disability was frequently cited by healthcare providers as a critical determinant of service utilization. A medical doctor emphasized the challenges faced by women with severe disabilities, noting: *"Women with severe impairments often struggle to access reproductive healthcare because they require specialized support, which many facilities lack. Mobility limitations and caregiver dependency further restrict their ability to seek services independently."* (45-year-old male medical doctor).

Similarly, employment status strongly influenced service access, as financial insecurity acted as a barrier for unemployed WwDs. A Ministry of Health official acknowledged that economic dependence significantly impacts healthcare-seeking behaviors, explaining: *"Many unemployed women with disabilities cannot afford transport or service fees, making it difficult for them to consistently access reproductive health care. Subsidized healthcare programs could significantly improve access."* (52-year-old male Ministry of Health official).

Additionally, education level played a pivotal role in service utilization, with healthcare providers highlighting the link between health literacy and SRH awareness. A nurse observed: *"Women with higher education levels are more informed about reproductive health services, and they actively seek care. Those with limited education often rely on misconceptions, which affect their decisions."* (38-year-old female nurse). These qualitative insights complement the statistical findings, illustrating how disability severity, employment status, and education shape SRH service uptake among WwDs

4.5 Community-Level Factors Influencing Access to SRH Services Among Women with Disabilities

The bivariate analysis revealed that several community-level factors significantly influenced access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam. Stigma and discrimination emerged as a major barrier, with WwDs who experienced high stigma being less likely to access SRH services (OR 0.54, 95% CI: 0.37-0.79, $p=0.002$). Negative cultural or religious beliefs also played a role in limiting access, as WwDs constrained by restrictive norms showed lower odds of service utilization (OR 0.71, 95% CI: 0.52-0.97, $p=0.035$). In contrast, strong family support was a facilitator, with women who received encouragement from family members having higher odds of accessing SRH services (OR 1.42, 95% CI: 1.08-1.86, $p=0.009$). Similarly, peer support contributed positively, as WwDs who had social networks promoting SRH engagement were more likely to seek healthcare (OR 1.37, 95% CI: 1.02-1.83, $p=0.037$).

After adjusting for confounders, stigma remained a significant predictor, as WwDs facing high stigma continued to have reduced SRH access (adjusted OR 0.57, 95% CI: 0.40-0.82, $p=0.003$). Family support retained its strong positive effect, with WwDs receiving encouragement from relatives showing increased odds of accessing SRH services (adjusted OR 1.39, 95% CI: 1.05-1.84, $p=0.020$). Peer support remained influential, with WwDs who had a supportive network showing higher SRH service utilization (adjusted OR 1.35, 95% CI: 1.00-1.80, $p=0.048$). These findings emphasize the importance of community sensitization programs and social inclusion initiatives to reduce stigma and enhance supportive networks for WwDs in accessing SRH care.

Table 4: Regression Results for Community-Level Factors Influencing Access to SRH Services Among WwDs in Dar es Salaam, Tanzania (N = 362)

<i>Variable</i>	Accessed SRH (n)	Not Accessed SRH (n)	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
<i>Stigma and Discrimination</i>	152	210	0.54 (0.37-0.79)	0.002	0.57 (0.40-0.82)	0.003
<i>Cultural/Religious Beliefs</i>	161	201	0.71 (0.52-0.97)	0.035	0.75 (0.56-1.03)	0.067
<i>Family Support</i>	185	177	1.42 (1.08-1.86)	0.009	1.39 (1.05-1.84)	0.020
<i>Peer Support</i>	168	194	1.37 (1.02-1.83)	0.037	1.35 (1.00-1.80)	0.048

Qualitative findings provided further insights into how community-level factors shape SRH access among WwDs. Stigma and discrimination were consistently highlighted by key informants, with a district leader for people with disabilities acknowledging: *"Many women with disabilities face stigma not just from the general community but even within their own families. This discourages them from seeking reproductive health services."* (48-year-old male disability advocate).

Conversely, family support emerged as a strong facilitator, reinforcing the quantitative findings. A facility in-charge from a public hospital emphasized the positive influence of supportive relatives, stating: *"When families actively encourage women with disabilities to seek reproductive healthcare, their confidence in accessing services improves significantly."* (50-year-old male facility in-charge).

Similarly, peer support played a crucial role, with a nurse pointing out the importance of social networks in SRH engagement, explaining: *"Women with disabilities who are part of organized peer groups or community programs tend to be more informed about reproductive health and are more likely to seek services."* (38-year-old female nurse).

4.6 Structural-Level Factors Influencing Access to SRH Services Among Women with Disabilities

The bivariate analysis revealed significant structural barriers influencing sexual and reproductive health (SRH) service access among women with disabilities (WwDs) in Dar es Salaam. Physical accessibility of health facilities posed a major challenge, as WwDs facing mobility difficulties had lower odds of accessing SRH services (OR 0.62, 95% CI: 0.43-0.89, $p=0.012$). Availability of disability-friendly services remained limited, with WwDs reporting a lack of accommodations such as wheelchair ramps and sign language interpreters, reducing their access odds (OR 0.68, 95% CI: 0.51-0.91, $p=0.009$). Communication barriers were notable, as women without access to sign language interpreters were less likely to utilize SRH services (OR 0.71, 95% CI: 0.52-0.98, $p=0.035$). Negative attitudes from healthcare workers were frequently cited, with dismissive provider behavior significantly lowering service engagement (OR 0.74, 95% CI: 0.54-1.01, $p=0.058$). High transportation costs deterred service use, particularly for WwDs relying on specialized transport (OR 0.66, 95% CI: 0.49-0.89, $p=0.008$). Awareness of inclusive health policies showed moderate influence, as WwDs knowledgeable about disability rights had higher service utilization odds (OR 1.25, 95% CI: 0.97-1.61, $p=0.087$). Health insurance coverage acted as a facilitator, with insured WwDs significantly more likely to access SRH services (OR 1.31, 95% CI: 1.02-1.68, $p=0.034$).

After adjusting for confounders, structural barriers remained key determinants of SRH service accessibility. Physical accessibility retained its impact, with WwDs facing mobility constraints continuing to experience reduced service access (adjusted OR 0.65, 95% CI: 0.46-0.92, $p=0.016$). Disability-friendly services remained essential, as WwDs without

adapted healthcare infrastructure continued to have lower odds of access (adjusted OR 0.70, 95% CI: 0.53-0.94, p=0.017). Communication barriers persisted, with WwDs unable to access sign language interpreters less likely to seek SRH services (adjusted OR 0.73, 95% CI: 0.55-1.00, p=0.049). Negative provider attitudes remained impactful, discouraging WwDs from accessing care (adjusted OR 0.76, 95% CI: 0.56-1.03, p=0.065). High transport costs continued to limit service utilization, particularly for financially vulnerable WwDs (adjusted OR 0.68, 95% CI: 0.50-0.93, p=0.014). Awareness of inclusive policies improved service access, as informed WwDs had higher odds of SRH utilization (adjusted OR 1.29, 95% CI: 1.00-1.67, p=0.047). Health insurance coverage remained a facilitator, with insured WwDs maintaining greater service access (adjusted OR 1.36, 95% CI: 1.07-1.74, p=0.011).

Qualitative findings provided critical insights into the structural barriers affecting SRH service access among women with disabilities (WwDs). Physical accessibility challenges were a recurrent theme among key informants, with a facility in-charge emphasizing the limited infrastructural adaptations in health facilities, stating: *"Many of our health centers are not built with accessibility in mind. Women with mobility impairments struggle to navigate facilities, and this affects their ability to seek consistent reproductive health care."* (42-year-old male facility in-charge).

Similarly, communication barriers remain a persistent challenge, particularly for WwDs requiring sign language interpretation. A nurse highlighted this concern, explaining: *"We rarely have sign language interpreters available in our clinics, which means women with hearing impairments often leave without fully understanding their health status or the advice given to them."* (38-year-old female nurse).

In contrast, health insurance coverage was cited as a facilitator, reinforcing quantitative findings that indicated insured WwDs had greater service access. A Ministry of Health official stressed the need for expanded insurance programs, stating: "Women with disabilities who have health insurance tend to utilize SRH services more frequently. Expanding insurance accessibility would help bridge many existing gaps in reproductive healthcare." (52-year-old male Ministry of Health official).

Table 5: Regression Results for Structural-Level Factors Influencing Access to SRH Services Among WwDs in Dar es Salaam, Tanzania (N = 362)

Variable & Category	Accessed SRH (n, %)	Not Accessed SRH (n, %)	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Physical Accessibility						
<i>Accessible</i>	98 (50.5%)	96 (49.5%)	0.62 (0.43-0.89)	0.012	0.65 (0.46-0.92)	0.016
<i>Inaccessible</i>	60 (35.3%)	108 (64.7%)	Ref.	-	Ref.	-
Disability-Friendly Services						
<i>Available</i>	108 (54.0%)	92 (46.0%)	0.68 (0.51-0.91)	0.009	0.70 (0.53-0.94)	0.017
<i>Not Available</i>	50 (31.3%)	112 (68.7%)	Ref.	-	Ref.	-
Communication Barriers						
<i>No barrier</i>	120 (57.1%)	90 (42.9%)	0.71 (0.52-0.98)	0.035	0.73 (0.55-1.00)	0.049
<i>Barrier present</i>	38 (29.7%)	90 (70.3%)	Ref.	-	Ref.	-
HCW Attitudes						
<i>Positive</i>	126 (58.1%)	91 (41.9%)	0.74 (0.54-1.01)	0.058	0.76 (0.56-1.03)	0.065
<i>Negative</i>	32 (27.6%)	84 (72.4%)	Ref.	-	Ref.	-
Transport Costs						
<i>Affordable</i>	115 (52.5%)	104 (47.5%)	0.66 (0.49-0.89)	0.008	0.68 (0.50-0.93)	0.014
<i>High Cost</i>	43 (30.1%)	100 (69.9%)	Ref.	-	Ref.	-
Awareness of Policies						
<i>Aware</i>	140 (55.3%)	113 (44.7%)	1.25 (0.97-1.61)	0.087	1.29 (1.00-1.67)	0.047

<i>Not Aware</i>	18 (28.1%)	46 (71.9%)	Ref.	-	Ref.	-
Health Insurance Coverage						
<i>Insured</i>	135 (57.0%)	102 (43.0%)	1.31 (1.02- 1.68)	0.034	1.36 (1.07- 1.74)	0.011
<i>Not Insured</i>	23 (28.4%)	58 (71.6%)	Ref.	-	Ref.	-

4.9 Assessment of Health Facility Infrastructure for Women with Disabilities

An assessment of 22 health facilities in, including 10 dispensaries (45.5%), 7 health centers (31.8%), and 5 district hospitals (22.7%), revealed significant gaps in accessibility for women with disabilities (WwDs). While some facilities have made progress toward disability inclusion, particularly through the efforts of Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT) in strengthening healthcare systems, major infrastructure limitations still persist across all levels of healthcare.

District Hospitals (22.7%)

The five district hospitals showed the highest level of compliance with accessibility standards, especially in terms of ramps, pathways, and door widths that accommodate wheelchair users. However, these hospitals still faced critical gaps in other areas. For example, none of the district hospitals had designated parking spaces, special seating, or clear signage for people with disabilities. Additionally, only 40% (2 out of 5) had wheelchair-accessible toilets, and 20% (1 out of 5) provided designated examination tables for patients with mobility impairments. These findings suggest that while district hospitals have made some progress in infrastructure accessibility, there remains a need for additional resources and adjustments to meet the needs of WwDs comprehensively. Moreover, a key challenge at the hospital level was the lack of properly trained staff to assist WwDs,

indicating that infrastructure improvements must be coupled with capacity building to ensure effective service delivery.

Health Centers (31.8%)

Among the seven health centers, the findings revealed inconsistent levels of accessibility. Three health centers (42.9%) had ramps and accessible pathways, while the remaining four (57.1%) lacked basic accessibility features such as designated entrances, signage, and adapted seating. Furthermore, only 28.6% (2 out of 7) of health centers had specialized toilets for WwDs. None of the health centers had adjustable examination tables or beds suited for WwDs, which points to a significant gap in the ability to provide specialized care. Notably, one health center had a single wheelchair available, but no other assistive mobility aids were found across the other facilities. In addition to these issues, many health centers did not provide standard lighting, handrails, or flooring adjustments, which hindered navigation for those with visual or mobility impairments. This inconsistency in infrastructure highlights the need for targeted improvements to ensure all health centers are adequately equipped to serve WwDs.

Dispensaries (45.5%)

Dispensaries, which are the most decentralized and community-accessible healthcare facilities, exhibited the most significant infrastructure gaps. Among the 10 dispensaries surveyed, none had designated signage, parking, or special entrance areas for WwDs. Only 20% (2 out of 10) had ramps and widened pathways, while the remaining dispensaries had narrow doorways and inaccessible staircases. Moreover, 90% (9 out of 10) of dispensaries lacked mobility aids such as wheelchairs, leaving just one dispensary with a single

wheelchair available for use. The absence of specialized examination tables and accessible toilets in all dispensaries further compounded the challenges faced by WwDs in accessing reproductive healthcare services. These findings underscore the urgent need for significant infrastructure improvements in dispensaries, as they are the primary healthcare facilities where most WwDs seek routine care, including maternal, newborn, and reproductive health services. Without these essential upgrades, the dispensaries remain largely inaccessible to women with disabilities, highlighting a critical barrier to equitable healthcare.

In conclusion, the assessment reveals that while some health facilities in have made strides in improving accessibility for women with disabilities, much remains to be done, particularly in dispensaries and health centers. These findings emphasize the need for urgent infrastructure enhancements to ensure that WwDs can access healthcare services in a comfortable and dignified manner. Moreover, the lack of mobility aids, specialized equipment, and trained staff further limits the ability of healthcare providers to offer comprehensive care. Addressing these gaps is crucial to achieving disability-inclusive healthcare across the region.

Table 6: Summary of Accessibility Features

Item	Facility Type	Available (n)	Unavailable (n)
Signage	Hospitals	2	3
	Health Centers	1	6
	Dispensaries	0	10
Designated Entrance Area	Hospitals	1	4
	Health Centers	2	5
	Dispensaries	0	10
Designated Parking	Hospitals	0	5
	Health Centers	0	7
	Dispensaries	0	10
Floors at Shared Parking for Wheelchair Users	Hospitals	3	2
	Health Centers	2	5
	Dispensaries	3	7
Door Handles (Accessible)	Hospitals	3	2
	Health Centers	2	5
	Dispensaries	1	9
Alternative Door (for Accessibility)	Hospitals	4	1
	Health Centers	3	4
	Dispensaries	0	10
Ramps	Hospitals	4	1
	Health Centers	3	4
	Dispensaries	2	8
Pathways	Hospitals	3	2
	Health Centers	3	4
	Dispensaries	2	8
Staircases	Hospitals	5	0
	Health Centers	7	0
	Dispensaries	9	1
Handrails on Stairs	Hospitals	2	3
	Health Centers	1	6
	Dispensaries	1	9
Special Seating in Waiting Areas	Hospitals	1	4
	Health Centers	0	7
	Dispensaries	0	10
Wheelchairs Available	Hospitals	3	2
	Health Centers	3	4
	Dispensaries	1	9
Designated Examination Table/Bed	Hospitals	1	4
	Health Centers	0	7
	Dispensaries	0	10
Disability-Friendly Toilets	Hospitals	2	3
	Health Centers	2	5
	Dispensaries	0	10

CHAPTER 5: DISCUSSIONS

5.1 Introduction

This chapter presents a comprehensive analysis of the study's findings, examining them in relation to the research objectives and relevant literature. It provides a detailed interpretation of the results, offering insights into their implications within the broader context of sexual and reproductive health access for women with disabilities.

5.2 Demographic Characteristics of Women with Disabilities (WwDs)

This study aimed to examine the factors affecting access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam, Tanzania. This study found that most women with disabilities (WwDs) in Dar es Salaam were in their reproductive years, unmarried, had limited education, and were unemployed demographic realities that significantly impact access to SRH services. In real life, this means that despite being of reproductive age and potential users of SRH services, many WwDs face structural and individual barriers that reduce their ability to utilize these services effectively. These findings align with studies from Uganda (Ahumuza et al., 2014) and Burkina Faso (Trani et al., 2019), which also reported a concentration of WwDs in this age group, underscoring the need for age-appropriate, disability-inclusive SRH interventions. The high proportion of single women, as also found by Devkota et al. (2018) in Nepal, reflects the social exclusion and stigma that limit access to SRH support typically available through partners. Unlike findings from Uganda (Eide et al., 2017), where formal education predicted better SRH access, this study observed that even WwDs with no formal schooling possessed some SRH knowledge, suggesting a possible reliance on informal or

community-based information channels in Tanzania. The high unemployment rate reinforces economic vulnerability, as noted by Banks et al. (2019) in Kenya, and points to the need for integrating economic empowerment into SRH programming for WwDs. Overall, these demographic findings emphasize the urgency of addressing intersectional inequalities through targeted, inclusive, and economically supportive SRH policies.

5.3 Utilization of Sexual and Reproductive Health Services Among WwDs

This study revealed significant gaps in sexual and reproductive health (SRH) service utilization among women with disabilities (WwDs), with maternal healthcare showing particularly concerning trends. While antenatal care (ANC) was relatively more utilized than other SRH services, only 43.4% of WwDs attended ANC, and a striking 79.0% failed to complete the recommended number of visits. This limited continuity of care mirrors findings from Trani et al. (2020) in Burkina Faso and Eide et al. (2017) in Uganda, where barriers such as provider attitudes, transport difficulties, and financial constraints disrupted ANC access. These gaps in maternal care further evidenced by low skilled birth attendance and poor postnatal follow-up signal a breakdown in sustained engagement across the maternity continuum. As echoed by Ahumuza et al. (2014), such patterns demand targeted follow-up strategies and disability-aware outreach to improve maternal health outcomes for WwDs.

Postnatal care (PNC), in particular, was highly underutilized, with 70.7% of WwDs not receiving any postnatal services despite the recognized risks associated with the post-delivery period. Health providers interviewed in this study confirmed a general lack of return visits for follow-up care, attributing this to limited awareness and systemic barriers. These findings align with Groce et al. (2013), who emphasized that neglecting PNC among

disabled women leads to preventable complications and long-term health consequences. Given the evidence from both local and comparative contexts, the absence of structured community-level follow-up systems and educational interventions for PNC represents a critical missed opportunity to safeguard maternal and infant health.

Preventive healthcare services and family planning also require urgent attention. Screening for STIs, cervical cancer, and HIV remained critically low consistent with global evidence from Shakespeare et al. (2022) and Groce et al. (2018), which attribute such gaps to infrastructure challenges and exclusionary healthcare practices. Although family planning uptake was generally low (32.9%), those who did use it tended to favor long-term methods such as implants, a trend supported by studies like Devkota et al. (2018) and Mitra et al. (2020), where WwDs preferred options requiring fewer facility visits. However, assumptions by providers that WwDs do not need contraception, as noted by Banks et al. (2019), suggest entrenched biases limiting informed choice. Together, these findings call for comprehensive, disability-inclusive SRH programs that strengthen continuity of care, improve access to preventive services, and promote reproductive autonomy for WwDs in Tanzania

5.4 Individual-Level Factors Affecting SRH Service Access Among WwDs

The study reveals critical individual-level factors that influence access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam, reinforcing patterns observed globally. Age-related disparities significantly impact service utilization, with older WwDs (aged 36 and above) experiencing lower odds of accessing SRH services. This trend aligns with findings by Eide et al. (2020) in Uganda, which suggested that older WwDs face compounded marginalization, likely driven by age-

related stigma and reduced mobility, as healthcare systems prioritize younger reproductive-age women. However, this contrasts with studies in South Africa (Hashemi et al., 2021), where older WwDs demonstrated higher healthcare engagement, suggesting the presence of stronger support networks in certain settings.

Similarly, disability severity remains a persistent barrier, mirroring global trends reported by WHO (2021) and Mugo et al. (2021) in Nairobi, where WwDs with severe impairments faced greater healthcare exclusion due to mobility challenges, provider biases, and inaccessible infrastructure. This suggests that Dar es Salaam's health infrastructure may be particularly ill-equipped to accommodate profound impairments, requiring structural modifications and disability-competent service delivery models.

Education and autonomy emerged as strong predictors of SRH service utilization. WwDs lacking formal education had significantly reduced access, consistent with UNFPA (2022) in Nigeria, where limited schooling restricted health literacy, economic empowerment, and healthcare navigation skills. Conversely, Groce et al. (2018) in Ethiopia suggested that community-based health education could mitigate formal schooling deficiencies, highlighting an alternative strategy for improving SRH knowledge among WwDs in Tanzania. Importantly, autonomy in healthcare decision-making was the strongest positive predictor, supporting Hashemi et al. (2021), who found that WwDs with greater self-agency and informed decision-making capacity were better equipped to overcome structural barriers.

While marital and employment status showed weaker associations after adjustment, the negative impact of unemployment reinforces findings by Wilkinson and Greenwood (2013) in Zimbabwe, where financial insecurity limited contraceptive uptake and healthcare

access among WwDs. However, the protective effect of SRH knowledge (AOR=1.32, p=0.025) suggests that peer-led education and rights-based interventions could help compensate for economic and educational disadvantages.

These findings collectively underscore the need for integrated interventions that address knowledge gaps, enhance personal agency, and remove barriers imposed by disability severity to improve SRH access among WwDs. While individual empowerment through education and autonomy plays a crucial role, structural modifications such as inclusive healthcare policies, economic empowerment programs, and tailored disability-sensitive service models remain essential to ensure equitable reproductive healthcare for WwDs in Tanzania.

5.5 Community-Related Factors Influencing Access to SRH Services Among WwDs

Community-level factors play a critical role in shaping sexual and reproductive health (SRH) service access for women with disabilities (WwDs), with stigma and discrimination emerging as major barriers. The finding that WwDs facing high stigma have significantly lower access to SRH services aligns with previous studies by Mitra et al. (2020) in South Africa, where social stigma led to exclusion from reproductive health discussions and denial of care. Similarly, Ahumuza et al. (2014) in Uganda reported that WwDs often internalize societal misconceptions, leading to lower confidence in seeking SRH services. The persistence of stigma highlights the need for sustained awareness campaigns and disability-inclusive community interventions to normalize SRH service utilization among WwDs.

Beyond stigma, negative cultural and religious norms significantly hinder SRH service access, reinforcing findings by Mprah et al. (2017) in Ghana, where restrictive beliefs regarding disability and sexuality were linked to decreased healthcare-seeking behaviors. Many societies still perceive WwDs as asexual or unfit for reproductive health services, discouraging them from accessing care. However, strong family support plays a critical role in counteracting these exclusionary norms, mirroring findings by Groce et al. (2018) in Ethiopia, which demonstrated that WwDs receiving family encouragement were more likely to seek SRH services.

Peer support also played a key facilitative role, with WwDs engaging in social networks exhibiting higher SRH service utilization, similar to Devkota et al. (2018) in Nepal, who found that peer-driven reproductive health education significantly increased service uptake among WwDs. These findings highlight the importance of community sensitization programs and peer-led advocacy initiatives, which can foster inclusive SRH environments, reduce stigma, and enhance service accessibility for WwDs.

Overall, the study underscores the dual role of community-level influences—both as barriers (stigma, restrictive norms) and facilitators (family and peer support)—in shaping SRH service access for WwDs. Addressing these challenges requires holistic interventions, including community education on disability rights, culturally sensitive health messaging, and strengthened peer networks, to ensure equitable reproductive healthcare for WwDs in Dar es Salaam.

5.6 Structural-Level Factors Influencing Access to SRH Services Among Women with Disabilities

Structural barriers remain key determinants of sexual and reproductive health (SRH) service access among women with disabilities (WwDs), with physical inaccessibility, communication challenges, and negative provider attitudes significantly restricting healthcare engagement. Facility inaccessibility including the absence of ramps, height-adjustable examination tables, and adaptive technologies has been widely documented, as seen in Shakespeare et al. (2022) in Malawi, where WwDs reported mobility constraints as a primary obstacle to reproductive healthcare. Similar challenges were identified by Mugo et al. (2021) in Nairobi, reinforcing that urban healthcare facilities often lack disability-friendly infrastructure, leading to lower service utilization among WwDs with mobility impairments.

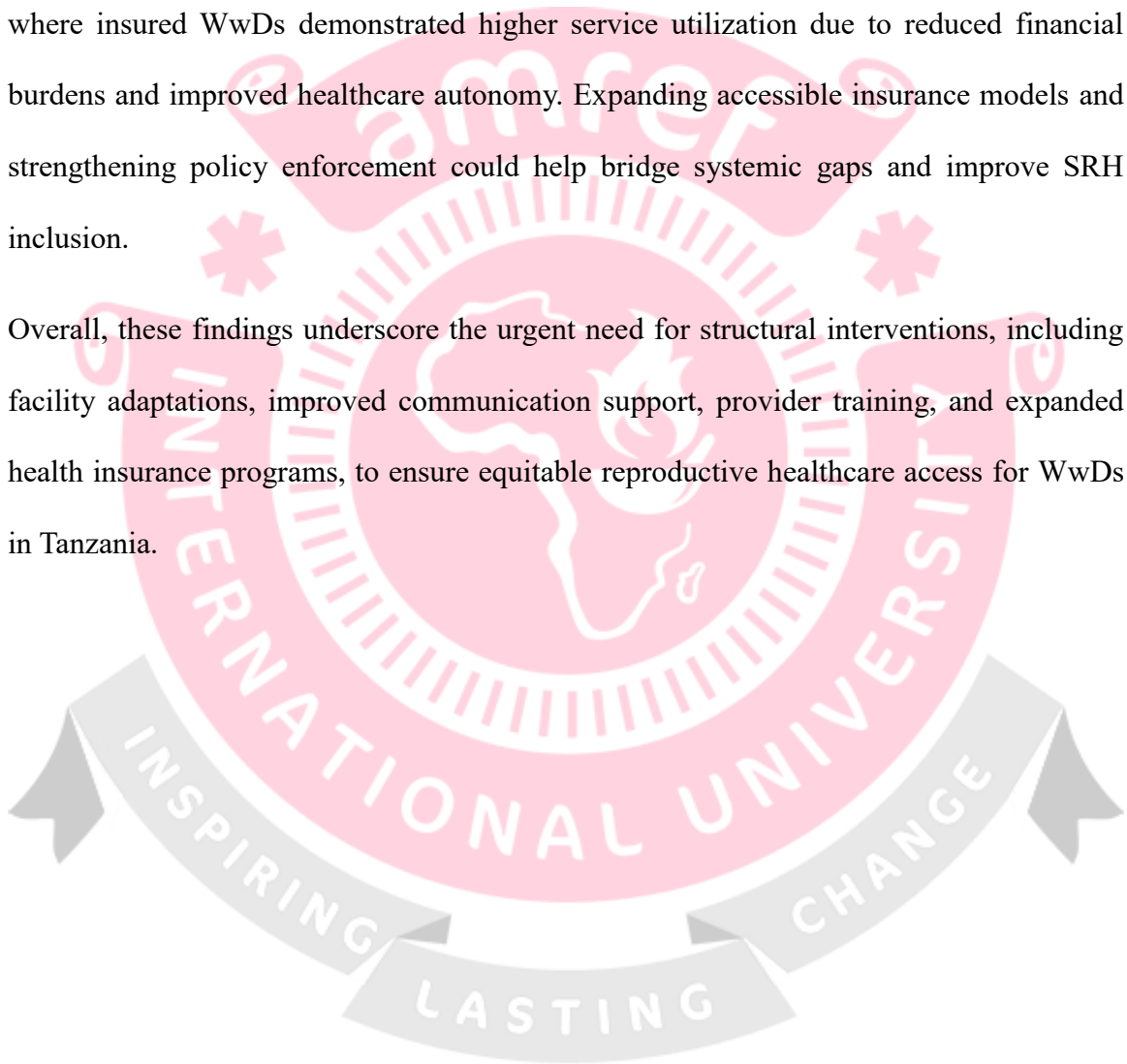
Communication barriers further exacerbate healthcare inequities, particularly for WwDs requiring sign language interpretation. Findings from this study align with Mprah et al. (2017) in Ghana, where the absence of trained interpreters led to miscommunication between patients and providers, often resulting in misdiagnoses or inadequate treatment recommendations. A nurse in this study echoed these concerns, highlighting the limited availability of sign language interpreters, which forces WwDs with hearing impairments to navigate complex healthcare interactions alone.

Negative provider attitudes remain another major deterrent, with dismissive behavior lowering service utilization rates among WwDs. The qualitative data in this study corroborates findings by Banks et al. (2019) in Kenya, where prejudiced healthcare interactions discouraged WwDs from seeking SRH services, fostering feelings of exclusion

and distrust in the health system. Addressing provider biases through disability-sensitive training programs could significantly enhance healthcare experiences for WwDs.

Despite these challenges, health insurance coverage emerged as a positive facilitator of SRH access, reinforcing global trends documented by Trani et al. (2020) in Burkina Faso, where insured WwDs demonstrated higher service utilization due to reduced financial burdens and improved healthcare autonomy. Expanding accessible insurance models and strengthening policy enforcement could help bridge systemic gaps and improve SRH inclusion.

Overall, these findings underscore the urgent need for structural interventions, including facility adaptations, improved communication support, provider training, and expanded health insurance programs, to ensure equitable reproductive healthcare access for WwDs in Tanzania.



CHAPTER 6: CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter summarizes the key findings of the study, draws conclusions based on the research objectives, and provides recommendations to improve access to sexual and reproductive health (SRH) services for women with disabilities (WwDs) in Dar es Salaam. By addressing individual, community, and structural barriers, this study contributes to ongoing efforts to advance equitable healthcare and inform disability-inclusive SRH policies and practices.

6.2 Conclusion

Based on the findings of this study, it can be concluded that the utilization of sexual and reproductive health (SRH) services by women with disabilities (WwDs) in Dar es Salaam remains significantly low, with various individual, community-related, and structural factors influencing access. Despite the availability of SRH services, WwDs face compounded barriers that hinder their ability to seek and utilize essential reproductive healthcare.

At the individual level, age, marital status, education, employment status, and severity of disability were found to be key determinants of access. Older WwDs were less likely to seek SRH services, reinforcing global trends where aging women with disabilities experience heightened exclusion. Additionally, lower levels of formal education and unemployment restricted access, as WwDs with limited literacy and financial insecurity struggled to navigate health systems. Furthermore, women with severe disabilities faced heightened barriers due to mobility limitations and inaccessible healthcare environments.

However, awareness of SRH services and autonomy in healthcare decision-making emerged as facilitators, demonstrating the importance of empowering WwDs through health education and decision-making support.

At the community level, stigma, discrimination, and restrictive cultural or religious norms were significant deterrents to SRH service utilization. Many WwDs reported experiencing social exclusion and prejudice, discouraging them from seeking care, as reflected in similar findings across Sub-Saharan Africa. Nevertheless, family and peer support proved to be strong enablers, as WwDs with supportive networks were more likely to engage with reproductive healthcare services, reinforcing the need for community-based interventions to normalize SRH access for WwDs.

At the structural level, facility inaccessibility, communication barriers, provider attitudes, and financial constraints emerged as major obstacles. Many health facilities lacked disability-friendly infrastructure, making access challenging for WwDs with mobility impairments. Additionally, the absence of sign language interpreters and adaptive communication tools excluded WwDs with hearing impairments from effective healthcare interactions. Provider biases further discouraged service uptake, demonstrating the need for disability-sensitive training among healthcare workers. However, health insurance coverage facilitated access, as insured WwDs had greater service utilization, highlighting the importance of financial inclusion strategies in improving SRH access.

In conclusion, multi-level interventions are urgently needed to enhance SRH access for WwDs in Dar es Salaam. Addressing individual awareness, reducing stigma, improving healthcare infrastructure, and strengthening policy implementation will be essential in ensuring equitable reproductive healthcare access for WwDs. Through targeted

interventions and disability-inclusive policies, Tanzania can make meaningful progress toward universal health coverage and gender equality



6.3 Recommendations

6.3.1 Improving Access to SRH Services for Women with Disabilities

- i. **Upgrade facility accessibility:** The *Ministry of Health* and healthcare facility administrators should ensure that all SRH service delivery points are physically accessible by installing ramps, height-adjustable examination beds, grab bars, and clear signage. These upgrades must be prioritized through dedicated budget allocations and executed with the guidance of disability advocacy organizations.
- ii. **Integrate communication support:** Healthcare facilities must recruit and deploy qualified sign language interpreters and provide assistive communication technologies (e.g., visual aids, braille materials) to support WwDs with hearing or visual impairments. The Regional Health Management Team (RHMT) should coordinate training and deployment in collaboration with the Tanzania Association of the Deaf and other relevant bodies.
- iii. **Conduct community sensitization campaigns:** Community-based organizations, faith-based groups, and traditional leaders should lead inclusive awareness campaigns that address myths, stigma, and cultural misconceptions surrounding disability and reproductive health. These efforts should involve testimonies from WwDs and engage men and caregivers to foster supportive community norms.
- iv. **Strengthen peer and family support systems:** Health facilities and local NGOs should establish and support peer-led support groups and family outreach programs that build WwDs' confidence and reduce social isolation. These groups should serve as platforms for knowledge sharing, empowerment, and encouraging service uptake.

- v. **Expand disability-sensitive health insurance:** The Ministry of Health in collaboration with the National Health Insurance Fund (NHIF) should design and implement insurance packages that explicitly cover SRH services for WwDs, including subsidized contraceptive services, maternal care, and regular check-ups. These packages should be publicized through disability networks to increase enrollment.
- vi. **Improve transport accessibility:** Local government authorities and urban transport planners should introduce subsidized or priority transportation options for WwDs to improve physical access to healthcare facilities. This may include mobility support programs (e.g., tricycles or transportation vouchers) in high-traffic areas of Dar es Salaam.

6.3.2 Recommendations for Further Study

- i. **Conduct longitudinal research:** Universities and public health research institutions should initiate long-term cohort studies to track SRH service utilization trends among WwDs over time. These studies should explore the impact of socio-economic status, evolving disability-related needs, and the effectiveness of current interventions on service uptake.
- ii. **Undertake regional comparative studies:** Government health authorities and disability-focused research bodies should carry out comparative studies across rural and urban settings to understand disparities in SRH access. These findings will inform geographically tailored interventions and infrastructure investments.
- iii. **Evaluate policy and program effectiveness:** National and international development partners should support impact evaluations of disability-inclusive

SRH policies, community outreach models, and facility-based services. Results should be used to scale up effective practices and inform policy refinements.



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APPENDICES

Appendix i: Consent Form

Information Sheet

Title of the Study: Factors Affecting Access to Sexual and Reproductive Health Services Among Women with Disabilities in Dar es Salaam, Tanzania

Purpose of the Study: This study is conducted by Rhoda Ndakwe, a Master of Public Health (MPH) candidate at Amref International University, as part of her academic research. The study aims to examine the factors influencing access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam, Tanzania. Findings from this research will provide evidence-based recommendations to improve policy implementation, healthcare provider training, and disability-inclusive SRH services, ensuring equitable reproductive healthcare access for WwDs.

Reason for Your Participation: You have been invited to participate because your experiences as a woman with a disability will contribute valuable insights into the barriers and facilitators affecting access to SRH services. Your participation is crucial in identifying gaps and challenges in healthcare service delivery while providing recommendations to improve SRH inclusivity.

Study Procedure and Duration: This study will involve structured surveys and in-depth interviews (IDIs) with women with disabilities, healthcare providers, and policymakers. Each interview will last approximately 45–60 minutes and will be conducted in a private and confidential setting within healthcare facilities or other agreed-upon locations.

Interviews may be audio-recorded with your permission to ensure accuracy in documentation.

Voluntary Participation: Your participation in this study is completely voluntary. You may choose to decline or withdraw at any time without consequence to your healthcare services or personal rights. By signing this consent form, you confirm your willingness to participate in the study.

Confidentiality: All responses and personal information will remain strictly confidential. No identifying details will be recorded in interview transcripts, and all participants will be assigned unique identification codes to protect anonymity. Audio recordings and collected data will be stored securely on password-protected devices accessible only to the research team. All data will be destroyed three years after the study concludes in accordance with ethical research guidelines.

Risks and Benefits of Participation: There are no known physical risks associated with participating in this study. However, questions related to SRH may involve sensitive topics, and you may skip any questions that make you uncomfortable. If any distress arises, referral information for psychosocial support services will be provided upon request. While there is no direct benefit to you, this study will contribute to policy development and service improvements, potentially benefiting women with disabilities in Tanzania in the future.

Data Dissemination: The findings of this study will be published in the researcher's thesis and may be submitted to peer-reviewed journals and academic conferences. All results will be presented in a manner that ensures participant anonymity and confidentiality.

Contact in Case of Questions or Concerns: If you have any questions, concerns, or need clarification, you may contact:

Rhoda Ndakwe

P.O. Box 35713

Dar es Salaam

Phone: +255 752331624

Email: rndakwe@gmail.com

Ethical Approval:

This study has been reviewed and approved by the Amref International University Ethics Committee, ensuring compliance with ethical standards for research involving human participants.

Consent Form for Participants Aged 18 and Above

I, _____ [Name of Participant], agree to participate in Rhoda Ndakwe's research study on factors affecting access to sexual and reproductive health services among women with disabilities in Dar es Salaam, Tanzania.

I confirm that I have read and understood the information sheet and the purpose of the study. I acknowledge that my participation is voluntary, and I may withdraw at any time without consequences. I consent to the use of my data for research purposes, including scientific publications and academic presentations, with the assurance that my responses will remain anonymous and confidential.

Name: _____

Signature: _____ Date: _____

Statement by the Researcher/Person Taking Consent

I have explained the information sheet to the potential participant and ensured, to the best of my ability, that they understand the nature and objectives of the study.

I confirm that the participant had an opportunity to ask questions, which have been answered satisfactorily. The participant’s decision to participate is voluntary, and they have not been coerced into providing consent.

Name of Researcher/Person Taking Consent: _____

Signature: _____

Date: _____



Kiambatisho ii: Fomu ya Ridhaa

Karatasi ya Taarifa

Jina la Utafiti: Sababu Zinazoathiri Upatikanaji wa Huduma za Afya ya Uzazi na Kinga (SRH) Miongoni mwa Wanawake Wenye Ulemavu (WwDs) jijini Dar es Salaam, Tanzania

Lengo la Utafiti: Utafiti huu unafanywa na Rhoda Ndakwe, mwanafunzi wa Shahada ya Uzamivu ya Afya ya Umma (MPH) katika Chuo Kikuu cha Kimataifa cha Amref, kama sehemu ya utafiti wake wa kitaaluma. Utafiti unalenga kuchunguza sababu zinazoathiri ufikiaji wa huduma za afya ya uzazi na kinga (SRH) kwa wanawake wenye ulemavu (WwDs) jijini Dar es Salaam, Tanzania. Matokeo ya utafiti huu yatatoa mapendekezo yenye msingi wa ushahidi ya kuboresha utekelezaji wa sera, mafunzo kwa watoa huduma za afya, na huduma za SRH zinazojumuisha wanawake wenye ulemavu, kuhakikisha usawa wa huduma za afya ya uzazi kwa WwDs.

Sababu ya Kushiriki Kwako: Umealikwa kushiriki kwa sababu uzoefu wako kama mwanamke mwenye ulemavu utasaidia kutoa maarifa muhimu kuhusu vikwazo na vyanzo vinavyochangia ufikiaji wa huduma za SRH. Ushiriki wako ni muhimu sana katika kubaini mapungufu na changamoto katika utoaji wa huduma za afya, pamoja na kutoa mapendekezo ya kuboresha ujumuishaji wa huduma za SRH.

Taratibu za Utafiti na Muda: Utafiti huu utahusisha maswali ya utafiti (surveys) na mahojiano ya kina (IDIs) na wanawake wenye ulemavu, watoa huduma za afya, na wabuni sera. Kila mahojiano yatachukua takriban dakika 45–60 na yatafanyika katika mazingira ya faragha na ya siri ndani ya vituo vya afya au maeneo mengine yatakayokubaliana.

Mahojiano yanaweza kurekodiwa kwa sauti kwa idhini yako ili kuhakikisha usahihi wa kumbukumbu.

Ushiriki wa Hiari: Ushiriki wako katika utafiti huu ni wa hiari kabisa. Unaweza kukataa kushiriki au kuachana wakati wowote bila madhara yoyote kwa huduma zako za afya au haki zako za kibinafsi. Kwa kusaini fomu hii ya ridhaa, unathibitisha uamuzi wako wa kujiunga na utafiti.

Ulinzi wa Siri: Majibu yote na taarifa za kibinafsi zitabaki kuwa siri. Hakuna taarifa ya kutambulisha itaandikwa katika nakala za mahojiano, na washiriki wote watapewa nambari za kitambulisho za kipekee ili kulinda kutojulikana kwa jina. Rekodi za sauti na data zilizokusanywa zitahifadhiwa kwa usalama katika vifaa vilivyo na nenosiri, vinavyoweza kufikiwa na timu ya utafiti pekee. Data zote zitafutwa miaka mitatu baada ya kumalizika kwa utafiti, kwa kufuata miongozo ya maadili ya utafiti.

Hatari na Faida za Ushiriki: Hakuna hatari za kimwili zinazojulikana zinazohusiana na kushiriki katika utafiti huu. Hata hivyo, maswali yanayohusiana na afya ya uzazi na kinga yanaweza kuhusu mada nyeti, na unaweza kuruka maswali yoyote yanayokufanya usikivu. Ikiwa utahisi msongo wa mawazo, taarifa za huduma za kisaikolojia zitolewa kwa hiari. Ingawa hakuna faida ya moja kwa moja kwako, utafiti huu utasaidia katika ukuzaji wa sera na uboreshaji wa huduma, na kwa uwezekano wa kuwafaa wanawake wenye ulemavu nchini Tanzania baadaye.

Usambazaji wa Data: Matokeo ya utafiti huu yatachapishwa kwenye tasnifu ya mtafiti na yanaweza kutumiwa katika majarida ya kitaaluma na makongamano ya kitaaluma.

Matokeo yote yatawasilishwa kwa njia inayohakikisha kutojulikana kwa washiriki na ulinzi wa siri.

Mawasiliano Kwa Maswali au Wasiwasi: Ikiwa una maswali yoyote, wasiwasi, au unahitaji ufafanuzi, unaweza kuwasiliana na:

Rhoda Ndakwe
P.O. Box 35713
Dar es Salaam
Phone: +255 752331624
Email: rndakwe@gmail.com

Idhini ya Maadili: Utafiti huu umekaguliwa na kupitishwa na Kamati ya Maadili ya Chuo Kikuu cha Kimataifa cha Amref, kuhakikisha kuwa unafuata viwango vya maadili ya utafiti unaohusisha washiriki wa kibinadamu.

Fomu ya Ridhaa kwa Washiriki Wenye Umri wa Miaka 18 na Kuzaa

Mimi, _____ [Jina la Mshiriki], nakubali kushiriki katika utafiti wa Rhoda Ndakwe kuhusu sababu zinazoathiri ufikiaji wa huduma za afya ya uzazi na kinga kwa wanawake wenye ulemavu jijini Dar es Salaam, Tanzania.

Nathibitisha kuwa nimesoma na kuelewa karatasi ya taarifa na malengo ya utafiti. Ninakubali kuwa ushiriki wangu ni wa hiari, na ninaweza kuachana wakati wowote bila madhara.

Ninakubali kutumika kwa data yangu kwa madhumuni ya utafiti, ikiwa ni pamoja na uchapishaji wa kisayansi na uwasilishaji wa kitaaluma, kwa hakikisho kwamba majibu yangu yatabaki bila kutajwa jina na kwa siri.

Jina: _____

Sahihi: _____

Tarehe: _____



Taarifa ya Mtafiti/Mtu Anayepokea Ridhaa

Nimeelezea karatasi ya taarifa kwa mshiriki anayeweza kushiriki na kuhakikisha, kwa uwezo wangu wote, kwamba ameelewa asili na malengo ya utafiti.

Ninatambua kwamba mshiriki alipata fursa ya kuuliza maswali, ambayo yamejibiwa kwa kuridhisha. Uamuzi wa mshiriki wa kushiriki ni wa hiari, na hajakambanwa kutoa ridhaa.

Jina la Mtafiti/Mtu Anayepokea Ridhaa: _____

Sahihi: _____

Tarehe: _____



Appendix iii: Questionnaire on Sexual and Reproductive Health (SRH) Access Among Women with Disabilities in Dar es Salaam, Tanzania

Instructions:

This questionnaire is designed to assess factors influencing access to sexual and reproductive health (SRH) services among women with disabilities (WwDs) in Dar es Salaam. All responses will remain confidential and will be used solely for research purposes. Please answer all questions honestly by marking (✓) the appropriate response or filling in the blank where applicable.

SN	Question	Response Options	Code	Go To
PART A: DEMOGRAPHIC INFORMATION				
A1	Age in years	_____ years	—	—
A2	Marital status	Single	1	A3
		Married/Cohabiting	2	A3
		Divorced/Widowed	3	A3
A3	Level of education	No formal education	1	A4
		Primary education	2	A4
		Secondary/Vocational	3	A4
A4	Employment status	Unemployed	1	A5
		Informal/Entrepreneur	2	A5
		Formally Employed	3	A5
A5	Type of disability	Physical	1	A6
		Sensory	2	A6
		Multiple	3	A6
A6	Severity of disability	Mild	1	Next Section
		Moderate	2	Next Section
		Severe	3	Next Section
PART B: KNOWLEDGE & UTILIZATION OF SRH SERVICES				
B1	Knowledge of SRH services	Low	1	B2
		Moderate	2	B2
		Adequate	3	B2
B2	Perceived need for SRH services	Yes	1	B3
		No	2	End Survey
B3	Autonomy in SRH decision-making	No autonomy	1	B4
		Partial autonomy	2	B4
		Full autonomy	3	B4

B4	Antenatal care (ANC) utilization	Yes	1	B5
		No	2	B6
B5	Number of ANC visits	<5 visits	1	B6
		≥5 visits	2	B6
B6	Skilled birth attendant at delivery	Yes	1	B7
		No	2	B7
B7	Postnatal care (PNC) utilization	Yes	1	B8
		No	2	B8
B8	Family planning utilization	Yes	1	B9
		No	2	B9
B9	Most used family planning method	Implants	1	B10
		Injectable Contraceptives	2	B10
		Oral Contraceptives	3	B10
B10	Screening for sexually transmitted infections (STIs)	Yes	1	B11
		No	2	B11
B11	Cervical cancer screening	Yes	1	B12
		No	2	B12
B12	HIV testing and counseling	Yes	1	B13
		No	2	B13
B13	Regular health facility visits	≥1 visit per year	1	Next Section
		<1 visit per year	2	Next Section
PART C: COMMUNITY-LEVEL FACTORS AFFECTING SRH ACCESS				
C1	Have you ever faced stigma when seeking SRH services?	Yes	1	C2
		No	2	C3
C2	If yes, from whom did you experience stigma or discrimination?	Healthcare providers	1	C3
		Family members	2	C3
		Community members	3	C3
		Religious leaders	4	C3
		Other (Specify)	88	C3
C3	Do you believe stigma has affected your willingness to seek SRH services?	Yes	1	C4

		No	2	C4
C4	How would you describe cultural beliefs regarding SRH for WwDs?	Supportive	1	C5
		Neutral	2	C5
		Restrictive	3	C5
C5	Have religious beliefs influenced your ability to seek SRH services?	Yes	1	C6
		No	2	C6
C6	How would you rate your family's support for your SRH needs?	Strong support	1	C7
		Limited support	2	C7
		No support	3	C7
C7	Do you rely on peer support groups for SRH information or access?	Yes	1	C8
		No	2	C8
C8	Have peer networks helped you overcome barriers to SRH access?	Yes	1	C9
		No	2	C9
C9	What community interventions could improve SRH access for WwDs?	Awareness campaigns	1	Next Section
		Peer support networks	2	Next Section
		Family engagement	3	Next Section
		Policy advocacy	4	Next Section
PART D: STRUCTURAL-LEVEL FACTORS AFFECTING SRH ACCESS				
D1	Is your nearest health facility physically accessible?	Accessible	1	D2
		Inaccessible	2	D2
D2	Does the health facility provide disability-friendly services?	Available	1	D3
		Not Available	2	D3
D3	Have you experienced communication barriers when seeking SRH services?	No barrier	1	D4
		Barrier present	2	D4

D4	How would you describe healthcare provider attitudes towards WwDs?	Positive	1	D5
		Negative	2	D5
D5	How would you rate transport affordability for accessing SRH services?	Affordable	1	D6
		High Cost	2	D6
D6	Are you aware of policies supporting SRH access for WwDs?	Aware	1	D7
		Not Aware	2	D7
D7	Do you have health insurance coverage for SRH services?	Insured	1	End Survey
		Not Insured	2	End Survey



Appendix iv: Interview Guide for Key Informants

Title of Study: Factors Affecting Access to Sexual and Reproductive Health (SRH) Services Among Women with Disabilities in Dar es Salaam, Tanzania

Principal Investigator: Rhoda Ndakwe, MPH Candidate, Amref International University

Instructions:

This interview guide is designed to explore perspectives on barriers and facilitators influencing access to sexual and reproductive health (SRH) services for women with disabilities (WwDs) in Dar es Salaam. The responses will remain confidential and will be used solely for research purposes. Participants may skip questions they are uncomfortable with.

Section A: Background Information

1. Can you briefly introduce yourself (name, role, and professional background)?
 - *Probe:* What is your experience working with women with disabilities in healthcare settings?

2. What SRH services does your facility/organization provide, and how accessible are they to women with disabilities?
 - *Probe:* Are there specific adaptations made for individuals with different types of disabilities?

Section B: Accessibility and Utilization of SRH Services

3. From your experience, how frequently do women with disabilities seek SRH services?
 - *Probe:* How does demand compare between urban and rural settings?
4. What challenges do women with disabilities face when accessing SRH services in healthcare facilities?
 - *Probe:* Can you provide examples of situations where women faced difficulties obtaining services?
5. Are there specific SRH services that women with disabilities struggle to access more than others (e.g., family planning, antenatal care, postnatal care, STI screening)?
 - *Probe:* What factors contribute to these disparities?
6. How does the severity and type of disability influence SRH service utilization?
 - *Probe:* Are there services more accessible to women with mild disabilities compared to those with severe impairments?

Section C: Community-Level Influences

7. What role do social stigma and discrimination play in SRH access for women with disabilities?
 - *Probe:* Do healthcare providers exhibit biases, and how does this affect care?

8. How do cultural and religious beliefs impact SRH service-seeking behaviors among women with disabilities?

- *Probe:* Are there specific misconceptions about disability and reproductive health?

9. Can you describe any community-driven initiatives that support women with disabilities in accessing SRH services?

- *Probe:* Have peer support groups or local advocacy efforts played a role in improving service uptake?

Section D: Structural and Health System Barriers

10. What are the major structural barriers (e.g., inaccessible facilities, lack of adaptive communication) that hinder SRH service access for women with disabilities?

- *Probe:* Have you observed improvements or changes in healthcare infrastructure?

11. How do healthcare provider attitudes and training influence service delivery for this group?

- *Probe:* Do providers receive any specific training on disability-inclusive care?

12. Are there existing policies that support disability-inclusive SRH services? If so, how effective are they in practice?

- *Probe:* What are the gaps in policy implementation, and how can they be addressed?

13. How does health insurance and financial affordability affect SRH service utilization among women with disabilities?

- *Probe:* Are there financial support programs specifically targeting women with disabilities?

Section E: Recommendations and Possible Interventions

14. What changes do you think are necessary to improve SRH access for women with disabilities?

- *Probe:* What role should policymakers, healthcare providers, and community organizations play?

15. What strategies could be implemented at the facility, community, and policy levels to ensure inclusive SRH services?

- *Probe:* What lessons can be learned from other countries or successful local programs?

16. Are there specific programs or interventions you believe have successfully addressed SRH challenges for women with disabilities?

- *Probe:* What factors contributed to their success?

Closing Statement

Interviewer: *“Is there anything else you’d like to share regarding SRH access for women with disabilities that we haven’t covered?”*

Interviewer: *“Thank you for your time and valuable insights. Your input will greatly contribute to improving SRH services for women with disabilities in Dar es Salaam.”*



Appendix v: Similarity Report

Rhoda Mrina

EXPLORING FACTORS AFFECTING SEXUAL AND REPRODUCTIVE HEALTH SERVICES ACCESS FOR WOMEN WI...

- Proposals
- MPH Proposals
- Amsref International University (AMIU)

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Appendix vi: Approval Letter



October, 23rd 2023

RHODA OSIMBO NDAKWE SHS/MPH/4098-2/2021

RESEARCH TITLE: ASSESSING FACTORS INFLUENCING ACCESS TO SEXUAL AND REPRODUCTIVE HEALTH SERVICES BY WOMEN WITH DISABILITIES IN DAR ES SALAAM CITY, TANZANIA.

Following your full proposal presentation on 9th March 2023, and subsequent review of your revised proposal, Graduate School has approved your work for submission for ethical review before the commencement of fieldwork. Please note that ethical approval is a mandatory requirement for all research process.

We advise you to seek ethical approval from your country Institutional Research Board (IRB) and share the copy of approval letter with Graduate School. You are required to update Graduate School of your progress after every three months by submitting progress reports using the forms attached.

Sincerely,

Dr. Dancan Irungu
Dean, Graduate School & Lead Enterprise Development



THE UNITED REPUBLIC
OF TANZANIA



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NIMR/HQ/R.8a/Vol.IX/4612

25 April 2024

Ms. Rhoda Ndakwe
AMREF International University
P O Box 35713
Dar es Salaam

RE: ETHICAL CLEARANCE CERTIFICATE FOR CONDUCTING
MEDICAL RESEARCH IN TANZANIA

This is to certify that the research entitled: "Factors affecting sexual and reproductive health services access for women with disabilities in Dar es Salaam, Tanzania" (Ndakwe, R. *et al*) has been granted ethical clearance to be conducted in Tanzania.

The Principal Investigator of the study must ensure that the following conditions are fulfilled:

1. Progress reports are submitted to the Ministry of Health and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from the National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health and the National Institute for Medical Research.
4. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III Section 10(2).
5. Sites: Dar es Salaam region.

Approval is valid for one year from 25 April 2024 to 24 April 2025.

Name: Prof. Said S. Aboud

Name: Prof. Tumaini J. Nagu


Signature
CHAIRPERSON
MEDICAL RESEARCH
COORDINATING COMMITTEE


Signature
CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH

c.c: Director, Health Services-TAMISEMI, Dodoma.
RMO of Dar es Salaam region.
DMO/DED of respective districts.

