

**Exploring the barriers to HIV Pre-Exposure Prophylaxis for Men
who have sex with men and transgender women in Harare
Metropolitan Province, Zimbabwe.**

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**A mini thesis submitted in partial fulfilment of the requirements for the
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KEYWORDS

- Adherence.
- Key populations.
- Pre-exposure prophylaxis.
- Antiretroviral therapy.
- Human immunodeficiency virus.
- New Start Centre, Zimbabwe.
- Men who have sex with men.
- Tenofovir disoproxil fumarate.
- Combination Prevention Interventions.
- Optimize



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ABSTRACT

Background: Zimbabwe has made great strides in lowering overall HIV incidence and prevalence rates. However, regardless of the type of epidemic or the local context, some defined groups referred to as key populations are at an increased risk of HIV acquisition because of various economic, social, political, and social factors. Oral pre-exposure prophylaxis (PrEP) is an effective strategy to reduce the risk of HIV transmission in high-risk individuals. The effectiveness of oral pre-exposure prophylaxis is highly dependent on user adherence and there has been a struggle to optimise this with key populations in low- and middle-income settings like Zimbabwe.

Methodology: This qualitative descriptive study aimed to explore the barriers associated with the adherence and continuation of pre-exposure prophylaxis for men who have sex with men and transgender women in two urban health facilities in Harare Metropolitan Province, Zimbabwe. The study also aimed to explore the HIV prevention and treatment-seeking behaviours of MSM and transwomen including access and adherence to PrEP. Data collection was done through semi-structured, individual, in-depth interviews with 17 MSM and one transwoman who were purposively sampled from among patient lists of MSM and trans-women accessing services at the two facilities. One nurse and two lay community health workers were also interviewed as key informants. The researcher obtained ethics clearance from the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee, Populations Services International/Zim and the Medical Research Council of Zimbabwe. The interviews were conducted in person in English and Shona languages. All sessions were audio-recorded upon asking for permission from the participants. Thematic analysis was used in organizing and analysing the data.

Results: The results showed stigma (PrEP-related, health service-related), lack of health system support and follow-up, side effects, competing priorities, daily pill taking, forgetfulness, alcohol use, and low HIV risk perception were barriers to PrEP adherence. Social support, shared adherence behaviour, supportive health care system, flexible PrEP dispensation and resupplies, reminders and routines, individual agency, absence of side effects and high-risk perception were identified to be important facilitators of PrEP adherence.

Conclusion and Recommendations: Learning from the study finding on participants' experiences, facilitators and barriers to PrEP for MSM and transwomen can help inform program improvements and adaptations to support increased uptake of PrEP. The study recommendations are that health workers in both public sector and private health facilities be trained and equipped to provide HIV prevention services to MSM, trans- and other key populations in a gender and sexuality-affirming manner, raise community awareness and "normalize" PrEP through carrying out awareness campaigns (radio, tv, IEC material etc.) to reduce PrEP related stigma, inform on PrEP medication, dosage, side effects. Peer education should continue to be encouraged and expanded and there is a need to adopt PrEP adherence support group programmes similar to those found in the ART program.

DECLARATION

I declare that “ *Exploring the barriers to HIV Pre-Exposure Prophylaxis adherence for men who have sex men and transgender women in Harare Metropolitan Province, Zimbabwe*” is my work, that it has not been submitted for any degree or examination in any university, and that all sources I have used or quoted have been indicated and acknowledged by complete references.

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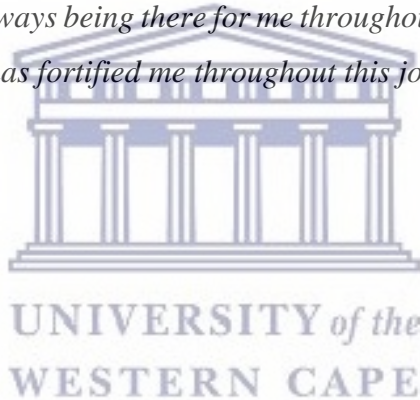
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Glossary of Acronyms and Abbreviations.

ART Antiretroviral Therapy.

CeSHHAR ZIMBABWE Centre for Sexual Health and HIV/AIDS Research Zimbabwe.

DHIS Demographic Health Survey.

DHIS2 District Health Information Software 2.

FSW Female Sex Workers.

HIV Human Immunodeficiency Virus.

K.P Key Populations.

LGBTQI - Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, and Intersex.

MSM Men who have sex with Men.

NSC New Start Center.

N.A.H New Africa House.

PrEP Pre-exposure prophylaxis.

PEPFAR President's Emergency Plan for AIDS Relief.

P.S.I/Zimbabwe Population Services International/Zimbabwe.

OI Opportunistic Infections.

TDF/FTC Tenofovir Disoproxil Fumarate and Emtricitabine.

STI Sexually Transmitted Infection.

TB Tuberculosis.

USAID United States Agency for International Development.

WHO World Health Organization.



TABLE OF CONTENTS

Key words	i
Abstract	ii
Declaration	iii
Acknowledgements	iv
Glossary of Acronyms and Abbreviations	v
Table of contents	viii
List of tables	ix
List of figures	x

CHAPTER ONE: A DESCRIPTION OF THE STUDY

1.1. Introduction	1
1.2. Problem analysis and statement	3
1.3. Rationale	4
1.4 Study setting	5
1.4. Outline of this report	5



CHAPTER TWO: LITERATURE REVIEW

2.1 Overview of HIV and AIDS in Zimbabwe	6
2.2 Historical overview of HIV Prevention efforts in Zimbabwe	7
2.2.1. Structural Interventions	8
2.2.3 Behavioural Interventions	16
2.3 PrEP as an HIV Biomedical Prevention Intervention	18
2.4 Barriers to PrEP adherence and continued usage	19
2.4.1 Individual Barriers	19
2.4.2 Health Facility related	21
2.4.3 Society barriers	23

2.5 Conclusion.	24
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CHAPTER THREE: METHODOLOGY

3.1. Introduction.	25
3.2. Study aims and objectives.	25
3.3 Study design.	26
3.4.1 Study population.	27
3.4.2. Sampling procedure and sample size	27
3.4.3. Participant Recruitment	28
3.5 Data collection.	29
3.6. Data analysis	30
3.9. Rigour	30
3.10. Ethical considerations	31



CHAPTER FOUR: RESULTS

4.1. Introduction.	33
4.1.1. Demographic description of study participants: Key Populations.	33
4.1.2 Health worker study participants	35
4.2 Themes and Sub-Themes	36
4.2.1 MSM AND transwomen’s experiences in health care.	37
4.2.2 Sexual risk and HIV Prevention strategies	44
4.2.3 Perceptions on PrEP.	47
4.2.4 Barriers and facilitators to PrEP adherence	49
4.3. Summary of results	64

CHAPTER FIVE: DISCUSSION

5.1. Introduction.	66
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5.2 Key Facilitators and Barriers to PrEP adherence among MSM and Transgender women...	66
5.3 MSM and transwomen experience accessing health services like PrEP.....	67
5.4 Health-care provider capacity as a barrier to service uptake	68
5.5 Limitations of study	72

CHAPTER SIX: CONCLUSION

6.1. Recommendations.....	74
REFERENCES.....	76
APPENDICES	93



LIST OF TABLES

4.2.1	Table 1: The main characteristics of the study participants	34
4.2.1	Table 2: Age distribution of MSM and trans-women study participants	35
4.2.2	Table 3: Biographical Profile of Health-Worker Participants	36
4.2.4	Table 4: Exemplar Quotes of Barriers and Facilitators	49



LIST OF FIGURES

2.2

The DREAMS Logic Model

12



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LIST OF APPENDIXES

Appendix 1: Participants Consent Form.

Appendix 2: Semi-structured interview guide- English.

Appendix 3: Semi-structured interview guide-Shona.

Appendix 4: Key informant interview guide- English.

Appendix 5: Key informant interview guide- Shona.

Appendix 6: UWC Senate Research Committee Ethics Approval.

Appendix 7: Medical Research Council of Zimbabwe (MRCZ) Letter of approval.



CHAPTER ONE

INTRODUCTION

This chapter provides a background to the study, the problem statement, and the rationale of the study. It concludes by providing an outline of the rest of the research report.

1.1. BACKGROUND

Great strides have been made in Zimbabwe throughout the past decade to reduce the impact of the HIV epidemic. Adult HIV prevalence has steadily decreased by 64% over the last twenty years, from a peak incidence of 33.7 % in 2000 to 11.8% in 2020 (Ministry of Health, Zimbabwe, 2020). This decline was driven by HIV reduction behavioral changes including reductions in extramarital, commercial, and casual sexual relations, and associated reductions in partner concurrency stimulated by increased community awareness of AIDS deaths and secondarily by the country's economic deterioration. This decline is also attributed to prevention programs utilizing both mass media and church-based, workplace-based, and other inter-personal communication activities (Halperin et al, 2011). Despite this progress, some groups of people within the country as a result of an underlying complex intersection of economic, social, policy, and cultural factors continue to be at a higher risk of HIV transmission (Syvertsen *et al.*, 2010).

These groups referred to as key populations (K.P) include men who have sex with men (MSM), transgender women (TGW), female sex workers (FSW), people who inject drugs (PWID), and people in closed spaces like prisons. HIV incidence in these key populations remains higher than in the rest of the population. HIV incidence among sex workers in Zimbabwe is estimated to be 5-fold higher than in the general population whilst a high HIV incidence has also been noted in the MSM community (Ministry of Health, Zimbabwe, 2018). An estimated 50% of self-reported FSW in Zimbabwe are HIV positive (UNAIDS, 2018). MSM in Zimbabwe are also at significantly higher risk of HIV infection with prevalence at 31% compared to the national prevalence of 11.8% (Samuel, 2020). It is forecasted that without interventions new infections in these populations will proportionally increase over time making them a priority for HIV prevention programs (Ministry of Health, Zimbabwe, 2018).

A lot of effort has been put into addressing some of the structural factors driving HIV transmission in these key populations in Zimbabwe. However, multiple barriers that include legislation that criminalizes same-sex interactions, societal stigma and a constrictive economic environment continue to hinder these populations from accessing the appropriate HIV preventive and treatment services. One such HIV preventive intervention that has been proven to be effective in reducing HIV transmission in key populations is Pre-exposure prophylaxis (PrEP). Multiple studies have demonstrated the effectiveness of oral PrEP in the prevention of sexually acquired HIV infection among some high-risk groups like men who have sex with men (MSM), drug users who inject, sex workers, and transgender women (Grant *et al.*, 2010; Thigpen *et al.*, 2012; Baeten *et al.*, 2012). The antiretroviral medications tenofovir and emtricitabine, which are taken daily before HIV exposure in healthy subjects, are intended for use as a preventative and prophylactic intervention. The goal of oral PrEP is to reduce HIV transmission and prevent subsequent infection with the virus.

Whilst HIV transmission has been proven clinically to be reduced by PrEP (Lee *et al.*, 2010), other studies (Martin *et al.*, 2015) have shown that PrEP efficacy strongly depends on user adherence. One study showed that PrEP users who took their medication at least four times a week had drug concentrations that resulted in 90% drug efficacy or higher (Anderson *et al.*, 2010). Other studies have also shown significant differences in PrEP efficacy between those individuals that are adherent and those that are non-adherent. A South African clinical trial on the use of tenofovir gel among women demonstrated this correlation between PrEP efficacy and adherence. It was noted that among those individuals who were highly adherent (adherence >80%), the HIV incidence was 54% lower. In those individuals with moderate adherence (50–80%) and low adherers (adherence below 50%), the HIV incidence was reduced by 38% and 28% respectively (Karim *et al.*, 2010). Drug pharmacokinetic studies have also shown that for rectal mucosa protection, adherence should approximate 28%. This, from clinical studies corresponds to approximately two to seven doses per week for MSM and transgender women (Rohan *et al.*, 2013).

Whilst there has been some insight from empirical research into factors affecting those individuals that may be more susceptible to non-adherence in Zimbabwe, the findings from these studies are mainly focused on specific demographics like adolescent girls, young women, and female sex workers (Busza *et al.*, 2021; Muhumuza *et al.*, 2021). Generally, there is a paucity of reliable

research available about PrEP adherence patterns among Zimbabwean MSM and transgender women and as such, questions on how to increase adherence and retention to HIV prevention care among these populations in the country's context persist. This study aimed to explore the barriers associated with the participants' adherence and continuation of Pre-exposure prophylaxis to optimize adherence and retention support in the Key Populations pre-exposure prophylaxis program in Zimbabwe.

1.2. PROBLEM ANALYSIS AND STATEMENT

To achieve epidemiological control of the HIV pandemic, all countries including Zimbabwe must ensure the reduction of HIV transmission in sub-populations with higher HIV transmission rates collectively known as key populations (Bulstra *et al.*, 2020). Oral Pre-Exposure Prophylaxis in the form of a daily course of antiretroviral drugs (ARVs) taken by HIV-negative people to protect themselves from infection has been demonstrated to be an effective HIV prevention intervention (Eakle *et al.*, 2018). Research shows that, when taken consistently and correctly, PrEP reduces the chances of HIV infection to nearly zero percent.

Although Zimbabwe is currently scaling up access to HIV Pre-exposure Prophylaxis (PrEP) services among its key populations (O'Malley *et al.*, 2019), there is however limited research into the factors associated with adherence and treatment continuation of individuals put on PrEP medication. Some clients that have been initiated on PrEP in PSI/Zimbabwe clinics have defaulted their medication and ended up acquiring HIV infection. The research aimed to explore the factors associated with adherence and continuation of PrEP for key populations in two NGO run clinics in Zimbabwe.

1.3 RATIONALE

The Zimbabwe National AIDS Strategic Plan 4 (**ZNASP 4**) outlines the national goal of ending AIDS as a public health threat by 2030. This plan identifies the comprehensive biomedical HIV prevention methods required particularly to those groups of individuals at heightened risk of HIV infection (Zimbabwe National HIV and AIDS Strategic Plan, 2016). Pre-Exposure Prophylaxis (PrEP) is a highly effective and convenient HIV prevention method, the uptake of which needs to

be increased particularly among the priority groups at substantial risk of HIV acquisition (Eackle *et al.*, 2018). The 2016 Zimbabwe HIV Guidelines on HIV Prevention, Treatment and Care included PrEP as part of routine HIV prevention modalities that should be routinely offered to people at substantial risk of HIV. High-risk populations include key-populations, adolescent girls and young women, negative partners in HIV serodiscordant relationships, and high-risk men e.g., truck drivers, among others.

As a result of the introduction of PrEP in the basket of HIV prevention interventions in Zimbabwe in 2016, there has been extra demand placed on the health system to understand this new intervention and to scale up the usage of PrEP among at-risk populations. To meet the increased demand for optimizing care of HIV-negative at-risk key populations, nurses and other healthcare workers require knowledge, skills, and training in dealing with the various factors that cause clients to continue or discontinue PrEP. Unfortunately, in Zimbabwe like in most African countries, the PrEP program is still in the nascent stages with health facilities not yet fully capacitated to address the special needs of key populations. Only a small number of health workers are adequately trained to effectively communicate with and manage key populations (Makurumidze *et al.*, 2020). While the current Zimbabwe PrEP manual training for health care workers is quite comprehensive and includes modules on medication adherence, counselling, and demand creation for PrEP, the development of this manual was largely carried out in an environment where there is a paucity of local research on factors that influence PrEP uptake and discontinuation in Zimbabwe. Krakower and Meyer (2016) postulated that training nurses with particular emphasis on the psychosocial needs of PrEP users was key to the successful scaling-up of the use of PrEP as part of an HIV prevention package by primary providers.

National program data from the Adolescent Girls and Young Women (AGYW) and Key Populations programs in Zimbabwe suggests that between Jan- June 2022 approximately 40% of those clients that were started on PrEP discontinued within two months. This has raised concerns about whether these clients are discontinuing PrEP because their perceived HIV risk is low at the time of discontinuation or whether there are other factors causing clients to discontinue PrEP which have not yet been elucidated.

This study, therefore, was designed to partly address the gaps mentioned above and address the

following research questions:

- What are the barriers to adherence to PrEP as identified by MSM, transgender women, and health service providers?
- What are the perceived gaps in PrEP service delivery as identified by participants?
- What are the recommendations for further research and policy for the PrEP program?

This study therefore was important in garnering insights into the reasons why some MSM and transgender women discontinue PrEP, and these insights will help in the continuous development of the PrEP training curriculum for healthcare workers.

1.4. STUDY SETTING

Population Services International (Zimbabwe) with funding from the President's Emergency Fund for AIDS Relief (PEPFAR) is running integrated clinics offering HIV and sexual reproductive health services (Gwarisa, 2017). These services include HIV testing services (HTS), screening and treatment for sexually transmitted infections (STI), Voluntary Male Medical Circumcision (VMMC) services, tuberculosis (TB) screening, diagnosis and treatment, pre-exposure prophylaxis for HIV (PrEP) provision, and HIV care and treatment services for key populations and the general community. Additionally, services for family planning, cervical cancer screening, and treatment of pre-cancerous lesions are also included, as are services for survivors of sexual violence. With clinics in the major cities in Zimbabwe, these clinics offered an opportunity of studying the factors associated with PrEP adherence in an urban setting among the cohort of clients initiated on PrEP as an HIV prevention intervention. Two of PSI's New Start Centre clinics namely New Africa House and Chitungwiza New Start Centres were identified as a setting for the study as they have a particular focus on Key Populations. Located in the centre of Harare and Chitungwiza cities these facilities normally offer more than two hundred clients HIV or sexual reproductive health services per day (Mpfu, 2018).

1.5. OUTLINE OF THIS REPORT

This report consists of six chapters. The first chapter puts this study into context. In the second chapter, a review of the literature related to HIV prevention interventions and PrEP adherence

among key populations is presented. The third chapter describes the methodology that was used to carry out this study. The fourth chapter presents the results of the study, and the fifth chapter presents an analysis, discussion, and interpretation of the results. The sixth and final chapter presents the conclusion and recommendations drawn from the study.



CHAPTER TWO

LITERATURE REVIEW

This chapter reviews key literature on PrEP adherence among key populations in Zimbabwe to place this research topic in a wider context. This review summarizes the literature on where the PrEP field is today and covers how PrEP can be leveraged as a cost-effective HIV prevention service. It will first give a brief statistical overview of HIV/AIDS in Zimbabwe and then focus on HIV/AIDS in key populations in Zimbabwe. Secondly, a review of the different types of HIV prevention interventions and how these have been rolled out in Zimbabwe is presented. This will include the role of PrEP as an HIV biomedical prevention modality. Thirdly, the individual barriers to PrEP adherence and continued usage will be discussed. Fourthly, the literature focuses on health facility-related and societal barriers to PrEP adherence.

2.1. OVERVIEW OF HIV/AIDS IN ZIMBABWE

Sub-Saharan countries like Zimbabwe carry the highest HIV prevalence burden in the world (UNAIDS, 2020). According to the 2020 UNAIDS global report on the AIDS epidemic, of the 37.3 million people globally living with HIV in 2020, about 1.3 million are domiciled in Zimbabwe (UNAIDS, 2020). This approximates about 12% of the total population in Zimbabwe (UNAIDS, 2020). Current data shows that new HIV infections have globally declined by 31% from 2.1 million in 2010 to 1.5 million in 2020. However, Zimbabwe still had 38 000 people who were newly infected with HIV whilst another 22 000 people died from an AIDS-related illness in 2020 (UNAIDS, 2020). So, while the present situation has improved significantly as compared to the turn of the century these statistics still make grim reading and this calls for concerted efforts to address the factors driving the HIV pandemic in Zimbabwe.

Although great strides have been made in containing the HIV epidemic in Southern Africa, studies have shown that in generalized epidemic contexts of Sub-Saharan Africa, key populations and their sexual partners account for 25% of new HIV infections (Garnet, 2021). In concentrated epidemic settings, defined as situations where HIV has spread rapidly in one or more defined sub-populations but is not well-established in the general population, key populations can account for

as much as 80% of infections (UNAIDS, 2017). In Zimbabwe, there is a growing epidemic among key populations, such as sex workers and men who have sex with men (MSM), with these sub-populations being at higher risk of HIV acquisition (Jin *et al.*, 2021). Although the information on these populations is minimal (Fraser *et al.*, 2010), from the available data, it's estimated that around a third (31%) of men who have sex with men (MSM) living in Zimbabwe are HIV positive (UNAIDS, 2019). This makes it imperative to ensure that this sub-population is reached with appropriate, evidence-based HIV prevention interventions like PrEP.

2.2 HISTORICAL OVERVIEW OF HIV PREVENTION EFFORTS IN ZIMBABWE

Since the advent of HIV in Sub-Saharan Africa in the early 1980s, several governments in their quest to bring down HIV incidence sought effective, low-cost interventions to ameliorate the impact of HIV (National Research Council, 1996). Multiple factors contributed to the rapid spread of HIV in Zimbabwe in the 1990s. These factors categorized into individual-level, societal, health-infrastructure and structural factors are on a spectrum. They range from those factors that an individual has some control over to development-related issues over which often an individual has little control over (National Research Council, 1996).

Given the multi-pronged nature of the drivers of the HIV epidemic in Sub-Saharan Africa, it was important that basic HIV prevention programs that were set up to tackle the epidemic be comprehensive in scope to address the factors highlighted above (National Research Council, 1996). Most countries including Zimbabwe found it necessary to have an amalgamation of biomedical, behavioural, and structural interventions as part of their combination prevention interventions¹ (Piot *et al.*, 2008). In the sections that follow, the journey that Zimbabwe has taken to roll out HIV prevention interventions will be examined. This will start by looking at structural interventions eventually culminating in an examination of PrEP rollout as an HIV biomedical prevention in Zimbabwe.

¹ Combination Prevention Interventions- A set of strategically-selected interventions that matches the needs of a given country or community—and is delivered at the scale needed to make an impact

2.2.1. Structural Interventions

‘Structural HIV interventions typically include strategies such as contingent funding, community mobilization, integration of HIV services, and economic and educational interventions (Blankenship *et al.*, 2006). Friedman and O’Reilly (1997) identified that “structural interventions alter the context in which health is produced and reproduced”. They further postulated that these interventions are impactful because they often change the health environment in a direction that makes it easier to promote safer behaviours or diminish risk without overt reliance on individual behaviour change. Sweat and Denison (1995) had earlier characterized structural interventions to include “laws, policies, and standard operating procedures”. The following sections will zero in on some of the important policies and laws that were instituted in Zimbabwe to curb the spread of HIV/AIDS and the impact of these policies. The review will then pivot to describe a few other structural interventions like funding, integration of HIV services, and community mobilization and how these have impacted HIV prevention in the country.

Laws and Policies.

In 1985 the first HIV/AIDS case was identified in Zimbabwe and by 1987 that number had grown rapidly to 119 documented cases (Duri *et al.*, 2013). Like many other African countries, there was originally a denial of the problem and the political commitment to acknowledge the challenge was sporadic (Dehne *et al.*, 1992). Despite the initial reluctance in acknowledging the problem some initial steps towards curbing HIV spread were taken “policy-wise”. Evidence for this can be seen in the introduction of the Short-Term Emergency Plan (1987 to 1988) and the first Medium-Term Plan (1988 to 1993) which guided the country’s initial HIV response (Symphorosa, 2013). These two plans generally focused on curbing HIV and other sexually transmitted infections and reducing the medical and psychological effects of the epidemic (Symphorosa, 2013). These plans guided early efforts at setting up HIV preventive programs in the country.

Some of the early HIV prevention programs that were set up as a result of these policies include the introduction of HIV-1 testing of donated blood and blood products in August 1985 by the

National Blood Services Zimbabwe (NBSZ) (Duri *et al.*, 2013). This was then followed by the establishment of National Ante-Natal HIV surveillance in Zimbabwe in 1990 and later that year the STI and Condom program was established (Buzdugan *et al.*, 2013). These programs were then followed up by HIV testing services in 1992 (Buzdugan *et al.*, 2013). It could be argued that attempts to set up HIV preventive programs in the country would have been scuppered without these early efforts at having an HIV response policy framework. Whilst these policies helped the country to roll out HIV biomedical programs that helped limit the spread of HIV, some deficiencies in the coordination of these early responses were noted (Symphorosa, 2006). These gaps in multisectoral coordination of the HIV response needed to be addressed. This was finally done through an act of Parliament in 1999 which set up an organization known as the National AIDS Council to coordinate and facilitate the national multi-sectoral response to HIV and AIDS (Mpofu and Nyahoda, 2008). The setting up of the National AIDS Council also had a material impact on the contingent funding for the HIV response in the country and this is discussed below as part of the review of “funding” as a structural intervention.

Contingent Funding.

The same act that set up the National AIDS Council also mandated the newly formed body to collect funds through the AIDS levy i.e., 3% collected from every worker's taxable income (PAYE) and corporate tax. This levy has generated substantial resources for the HIV response with recent earnings in 2016 totaling 35 million USD (Bhat *et al.*, 2016). These funds were channelled towards the procurement of antiretroviral medications, HIV prevention, and monitoring and evaluation programs among others (Bhat *et al.*, 2016). The AIDS levy is generally perceived to be a local solution that has provided local funding ownership and reduced donor funding dependence in the HIV response (Bhat *et al.*, 2016). Although the AIDS levy has proven to be a “home-grown” solution in the mobilization of local funding resources for HIV/ART programs including prevention programs a huge chunk of HIV response funds still comes from international donors like PEPFAR, Global Fund among others (O'Brien and Broom, 2011). So, whilst there is an existing policy and operational bodies like the National AIDS Council which are buttressing the coordination of the HIV response in Zimbabwe, the fact that much of the interventions are still overtly donor-funded is worrying. One reason that has been given for this donor dependence is the economic decline that has been seen in the country over the years (O'Brien and Broom, 2011). Ichoku and colleagues

(2013) have argued that the economic environment is an important social determinant of health, so the next paragraph looks at how economic challenges have affected HIV prevention programs in Zimbabwe.

Economic and Educational Interventions.

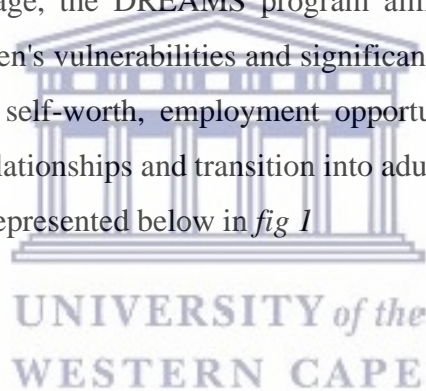
Economic Challenges

Zimbabwe has encountered dire economic challenges since the turn of the century including a period of severe hyperinflation from 2006- 2008 (Coomer and Gstraunthaler, 2011). These economic challenges negatively impacted health service delivery and saw many health metrics nose-diving during this period (Kidia, 2018). This decline was most visible in important areas such as maternal and child health, for example, the Expanded Programme on immunization (EPI) and basic obstetric care for pregnant women, once well-performing core elements of Zimbabwe's Primary Health Care (PHC) system. Despite the worsening provision of basic health services and the serious economic challenges that affected the country at the turn of the century, several HIV prevention programs were scaled up in Zimbabwe (Chevo and Bhatasara, 2012). This was achieved through synergies between the public and the private health sectors. Interventions which formed part of the integrated HIV services that were scaled up includes HIV Testing Services, Prevention of Mother to Child Transmission (PMTCT), Voluntary Male Medical Circumcision, etc. The lessons learnt in these interventions have subsequently informed strategies scaling up Pre-Exposure prophylaxis (PrEP) as an intervention in Zimbabwe (Cowan *et al.*, 2019). So, whilst the country has been undergoing another bout of inflationary and currency pressures which may in the long run impact the scale-up of PrEP, the lessons and strategies employed in the previous hyperinflation periods will prove valuable. Availability of quality health care services at minimum economic cost to the client is an important social determinant of health (W.H.O, 2008). The fact that most HIV prevention services like Condoms, VMMC, and HIV testing are free to end-users has positively impacted access to HIV prevention services in Zimbabwe (Tlhjoane *et al.*, 2018). It can be argued that since PrEP is also free in the public sector in Zimbabwe, this will help in increasing the uptake of PrEP by at-risk clients. This will be important in reducing HIV among at-risk populations who are often economically marginalized.

Economic Interventions

There is a general belief that educational and economic interventions can reduce HIV/AIDS risks for women and girls and help them in being sexually empowered (Blankenship *et al.*, 2006). A 2001 South African study showed that “relative economic disadvantage” can result in an increased probability of one engaging in a variety of unsafe sexual behaviours and this was seen more in girls than boys (Hallman, 2001). This was followed by a 2003 Botswana study that revealed that economic independence and negotiating power are the strongest predictors of condom use (Greig, 2003). Such findings have guided the setting up and implementation of programs like the DREAMS program for adolescent girls and young women in Zimbabwe. The Determined, Resilient, Empowered, AIDS-free, Mentored and Safe (DREAMS) program is an ambitious public-private partnership aimed at reducing rates of HIV among adolescent girls and young women (AGYW) in the highest HIV burden countries including Zimbabwe. Through funding a multi-component services package, the DREAMS program aims to cover the root causes of adolescent girls and young women's vulnerabilities and significantly improve their lives broadly-improving their societal value, self-worth, employment opportunities, schooling options, and improving experiences within relationships and transition into adulthood (Saul *et al.*, 2018).

The DREAMS Logic Model is represented below in *fig 1*



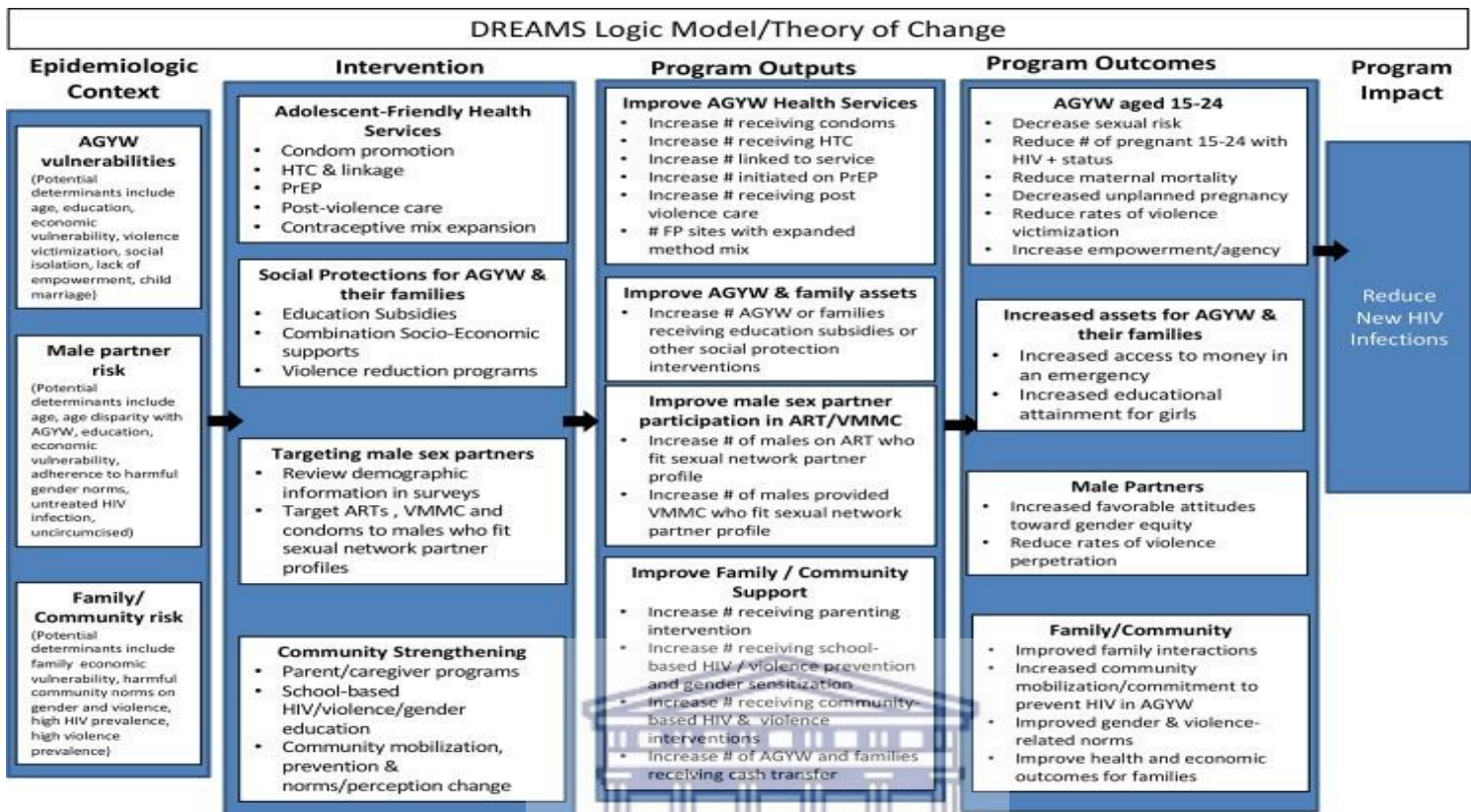


Fig 1: Accessed and Reproduced from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6285267/figure/ponc.0208167.g002/>

So, whilst programs like the DREAMS program have been set up which seek to address multiple determinants of health with regards to HIV for vulnerable populations like AGYW (Adolescent Girls and Young Women) it must be called into question whether something similar for MSM and trans populations would not be impactful. Given that the level of social and economic marginalization may be higher in these key populations such a comprehensive package for MSM, and trans populations may reduce HIV incidence in these sub-populations. It remains to be seen whether the country is going to adopt and adapt some components of the DREAMS package for MSM and trans populations.

PrEP As Part of Zimbabwe National HIV Strategic Plan 2021-2025.

The country has ensured the integration of PrEP services into the national policy on HIV prevention and adopted relevant evidence-based guidelines. A 2017 Zimbabwean study surmised that it was important to have comprehensive policies that ensured that PrEP was integrated into all service delivery points with other HIV prevention services so as to make the services readily available for intended users (Cowan *et al.*, 2017). Whilst the PrEP implementation policy has been developed and anti-retroviral drugs have been procured and made available at facilities, concerted efforts are still needed to ensure PrEP services are fully integrated into the package of preventive services available at all relevant service delivery points across health facilities. Even as the availability of PrEP services has improved at public health facilities the country must examine how sustainable the intervention is given that the program is largely donor-driven. The questions that have plagued the HIV care and treatment programs on how to improve government funding and ween off support from external funders are also important for the PrEP conversation. This is important so as to ensure continuity of PrEP services for at-risk populations in the event of external shocks like “donor fatigue”.

Service Delivery as a Structural Intervention.

It is particularly important to ensure that health services provision places the client at the fore and that entails paying attention to the setting in which the people access services (Bhattacharya *et al.*, 2010). Various models have been utilized in Zimbabwe especially after the advent of COVID-19 to ensure that clients access their ART/PrEP supplies. This includes providing services in non-traditional settings including homes and workplaces (Mangenah *et al.*, 2021). The usage of differentiated service delivery models that include community provision of PrEP has modified how health services are accessed and this is forecasted to be very impactful in reducing HIV (International Aids Society, 2021).

This improved access to PrEP services may yet prove to be the game-changer in HIV prevention among at-risk populations. Access was defined by Sipe *et al* (2017) as the ‘*provision of a health product or service or actions that make such products or services more readily available to the intended users.* Cowen *et al* (2016) identified that for the PrEP program to be successful in Zimbabwe the services needed to be readily accessible to all including stigmatized populations.

This normalization of PrEP as an accessible HIV prevention intervention was identified as important both for creating demand and optimizing retention for at-risk key populations (Cowen *et al.*, 2016). These various adaptations to health service provision including telehealth have been accelerated by COVID-19 and must be fostered and expanded in the post-COVID-19 period. Although the physical space where communities access health services is important this should be buttressed by having a competent health worker footprint that is trained to provide services. Therefore, this makes capacity-building a bedrock in ensuring that functional health systems are set up capable of delivering the right HIV preventive services.

Capacity Building as a Structural Intervention.

Capacity Building in their taxonomy on structural interventions was highlighted by Sipe *et al* (2017) to be “*change that improves an agency’s ability to provide services or programs*”. They also went on to identify further sub-categories under the capacity building category namely: provider/supervisor training, technology, hiring staff/funding, and staff incentives (Sipe *et al.*, 2017). During the PrEP rollout in most countries a “nurse model” has been adopted. In such models’ nurses were trained as crucial providers of PrEP-related services, with doctors being consulted for ‘complex cases’ (Sharma *et al.*, 2018). Researchers identified that such a task-shifting strategy was likely more cost-effective and allowed for decentralized care (Roesch, 2019). The nurse practitioners were trained to carry out routine tasks associated with PrEP care including eligibility screening, screening for HIV and STIs, PrEP initiation, and adherence support. The roll-out of the PrEP program in Zimbabwe has involved the adoption of similar “nurse-led” models to deliver PrEP as an HIV prevention intervention (Mangenah *et al.*, 2021). The use of a ‘nurse-led model which is like the models that have been utilized in HIV/ART programs may mirror the adherence and retention challenges seen in HIV care and treatment program (Cowen *et al.*, 2016). As has already been highlighted before the country is facing serious economic challenges and that has affected the retention of health care workers in the public sector (Dzinamarira and Musuka, 2021). The loss of PrEP-trained providers is invariably going to impact PrEP service delivery and access to service. As this remains a fluid situation it remains to be seen what measures will be put in place to retain health workers in service and how this will impact PrEP scale-up.

Community mobilization as a Structural Intervention.

Whilst building the capacity of health systems to provide impactful HIV prevention interventions is important it must be linked to robust demand creation to ensure uptake of those interventions. Community mobilization is the lynchpin of all demand creation activities (Sharkey *et al.*, 2014). Sipe *et al* (2017) identified Community Mobilization as another important category of structural interventions. They identified community mobilization as a “*process of change involving multiple stakeholders within a community including people who live in the community*”. It is important to have the community involved in health programs as often this results in collective efficacy and increased uptake of services. The community through its interlinks must become involved and this increased community involvement results in increased collective efficacy e.g., increasing demand for clients to use condoms by sex workers. A significant amount of change is produced by community members who take an active role in developing and implementing the intervention. A 2013 study by Campbell in Manicaland, Zimbabwe concluded that community groups play a significant role in framing peoples’ responses to HIV/AIDS (Campbell *et al.*, 2013). Early PrEP trials in several countries demonstrated the importance of community engagement in demand creation, education, dispelling myths, and misconceptions, and supporting adherence and follow-up in the PrEP rollout (Kaplak 2009; Ukpong 2009). The lessons learnt from some of these early discontinued trials demonstrated that to optimize the PrEP adherence and retention following its roll-out in Zimbabwe there was a need to involve organizations that already had social capital with key populations an example being the Gays and Lesbians Association of Zimbabwe (GALZ), Rainbow Alliance etc.

2.2.3. Behavioural interventions

Behavioural interventions seek to prevent HIV transmission by helping people change the sexual and drug-using behaviours that place them at risk for HIV (Hagger, 2019). The effectiveness of behavioural interventions in HIV prevention is controversial. Coates *et al* (2008) argued that whilst important, behavioural interventions were not adequate as stand-alone interventions. They argued that behavioural strategies need to be a combination of approaches targeting multiple levels of influence. It has been suggested by some that estimates of decreased HIV incidence in 33 countries coupled with reduced sexual-risk behaviour in young people may be evidence of the efficacy and effectiveness of interventions based on behavioural theory in promoting population-level health behaviour change (UNAIDs, 2011; Sexually Transmitted Infections journal, 2010). However, a study of multipronged prevention interventions in the Eastern region in Zimbabwe did not reveal such an effect (Gregson *et al.*, 2007). This highlights the need to not only roll out behavioural interventions in HIV prevention but follow these with evidence-based biomedical prevention interventions like VMMC and PrEP.

Multiple behavioural interventions have been pursued in Zimbabwe over the years to rein in the HIV/STD epidemic. This includes the Sista2sista and DREAMS programs whose focus was on increasing HIV risk knowledge and encouraging behaviour change that may reduce individual-level HIV risk among female sex workers and adolescent girls and young women (Yu *et al.*, 2020). The general understanding underpinning these behavioural interventions is driven by messages on abstinence, being faithful (reduction of sexual partners) and condom use (i.e., ABC strategy). However as already has been highlighted above, the veracity of the impact of such interventions has already been called into question. It also then implies that it is also necessary to review whether socio-behavioural interventions can be impactful in lowering HIV incidence among female sex workers and MSM in Zimbabwe.

An HIV and STI biobehavioral survey among men who have sex with men, transgender women and genderqueer carried out in 2020 in Zimbabwe, seems to suggest the impact of behavioural messaging around condom use. In this survey, approximately 67% and 58% of MSM and transgender women reported the use of condoms in last anal sex with a male partner (ICAP at Columbia University, 2020). What is worrying from these findings is the significant percentage of

MSM and transgender women who did not use a condom during their last sexual contact. These findings should be viewed in the context a 2016 study in Vietnam study on multiple and concurrent sexual partnerships among men who have sex with men whereby 69.5% indicated that they had multiple sexual partnerships in the last 6 months preceding the study (Garcia *et al.*, 2016). Although there is limited data on whether similar findings may prevail in Zimbabwe this speaks to the limited impact that behavioural interventions may have on reducing high-risk behaviour among the MSM community and hence the need to link these with biomedical prevention interventions like PrEP.

Mass media campaigns in South Africa have suggested some initial effects of these on risk behaviours but the impact on multiple partnerships was minimum (Letsela, 2009). However, some reviews carried out in high-income countries indicated the increased incidence of seroadaptive behaviours with the shift from generic behavioural strategies to those focused on the HIV status of both partners (McCaid and Hart, 2010). In one such review, approximately 30 % of HIV-negative MSM reported restricting unprotected anal intercourse to serodiscordant partners whilst there was evidence of some clients using partner viral load as another determinant on which risk reduction behaviour to take (Prestage *et al.*, 2009). What this means for the MSM in Zimbabwe is unclear and whether MSM and transgender women will exhibit similar sero-adaptive behaviours to discordant partners in the local context is also not known. What is immediately clear, is that for most HIV prevention interventions to be effective, they should be used in combination with each other e.g., structural (e.g., law reform), biomedical (e.g., ART, PrEP, VMMC), and behavioural (e.g., needle and syringe programs). One key question that needs to be answered is if PrEP is scaled up as an intervention, what behavioural interventions need to be tied to this intervention to ensure adherence and retention on PrEP for those individuals still engaging in high-risk behaviour. The other question is how to scale up PrEP as an intervention without negatively affecting the other behavioural interventions that have been adopted by communities like condom use. This research aims to begin to shed light on these areas and contribute meaningfully to the body of knowledge around PrEP and its use in the presence of other HIV reduction interventions like condoms.

The next discussion of this literature review will pivot away from the other HIV Prevention Interventions to HIV biomedical prevention interventions. Whilst other biomedical prevention interventions are available in Zimbabwe e.g., VMMC, Post Exposure Prophylaxis etc. this review will be restricted to Pre-exposure prophylaxis (PrEP). This section aims to define what PrEP is and

then review the barriers associated with PrEP uptake and other HIV biomedical interventions.

2.3 PrEP AS AN HIV PREVENTION INTERVENTION.

The World Health Organization (WHO) recommends oral PrEP as part of the standard of prevention for people defined as being at substantial risk of HIV infection (WHO, 2016). Such a risk was elucidated by WHO as the geographical HIV incidence of 3% or higher. Numerous worldwide research studies have demonstrated the practicality and acceptability of providing PrEP to different key populations, such as men who have sex with men (MSM), and transgender women (TGW) (AVAC, 2021). Taking cognizance of this substantial evidence base the number of countries implementing PrEP has increased over the past years (Hodges-Mameletzis *et al.*, 2018). This includes Zimbabwe which launched its PrEP program in 2016 (AVAC, 2021).

Converting the demonstrated effectiveness of PrEP from the trial into effective population-level interventions constituted a substantial challenge to HIV program designers and implementors. Aggregating all the data that has been generated by the various studies on PrEP, the World Health Organization (W.H.O) produced guidelines and tools for PrEP program implementation. In these implementation tools, a successful PrEP program is outlined as one in which “people at a substantial risk of HIV are properly identified, offered PrEP program and then use PrEP as directed” (W.H.O, 2017).

The guidance on the oral PrEP strategy is hinged on consistent daily pill-taking. This is important, more so for heterosexual women who require a high concentration of drugs in the genital tract to get maximum protection from HIV acquisition (Cottrell *et al.*, 2016). PrEP studies have revealed that for heterosexual women to reach adequate ART levels in potentially HIV-exposed tissue (e.g., vaginal or anal) a near-perfect adherence to a seven-day regimen is necessary (Kashuba *et al.*, 2015). This picture is different from MSM who may reach adequate protective levels in anal tissues with non-consecutive four days of pill taking in a week (Kashuba *et al.*, 2015). However, since this requires consistent pill-taking which is dependent on the behaviour of the individual taking PrEP, long-acting injectables e.g., cabotegravir, vaginal rings e.g., dapivirine ring have been developed to increase the number of options available to individuals in need of PrEP. This makes use of

lessons from family planning where it was noted that increasing the number of contraceptive options has been shown to increase the overall uptake of contraceptives. (Delany-Moretlwe *et al.*, 2016). Understanding the adherence behaviour of clients on PrEP will be important in determining the success of the PrEP program in Zimbabwe.

It is imperative to understand the rates of PrEP adherence among key populations and the barriers preventing adherence so as to ensure the long-term success of PrEP as an intervention (UNAIDS, 2017). For this study, adherence is defined as “*the ability to start, manage, and maintain a given medication regimen at the times, frequencies, and under specified conditions as prescribed by a health care provider.*” (Patel *et al.*, 2010). In the literature review below, factors affecting adherence to PrEP and its utilization among two key population groups namely female sex workers (FSW) and men who have sex with men (MSM) are examined under three broad categories namely, individual, health facility-related, and societal factors. There is limited research in the Zimbabwean context on PrEP adherence among the different subsets of key populations despite the country having the third-largest PrEP program in Africa after Kenya and South Africa. As a result of the limited research on PrEP adherence in Zimbabwe, the researcher thought it pertinent to include selected literature on barriers to ARV adherence and accessing post-exposure prophylaxis as these barriers may be similar to those of PrEP therapy.

2.4. Barriers to PrEP adherence and continued usage.

2.4.1 Individual Barriers

Fear and Stigma.

Stigma has been identified broadly in literature as a reason for non-adherence in HIV/ART² programs (Ekama *et al.*, 2012). Fear of stigma results in a reluctance to visit facilities for ART or PrEP services and reluctance to take anti-retroviral therapy in public as this might prompt questions about the use of the medication. This means an individual may miss doses if they are unable to take their medication discreetly (Boehme *et al.*, 2014). A 2014 study by Young *et al.*, revealed that although there was a willingness to use PrEP among MSM and transgender women,

² Anti-Retroviral Therapy

participants also expressed concerns around stigma associated with taking PrEP from family and friends. Similarly, focus groups on experiences with PrEP among men who have sex with men (MSM) and female sex workers in Kenya found that although the acceptance of oral PrEP was high, concerns around the social costs of PrEP (e.g., stigma, gossip, rumours) were pervasive (Restar *et al.*, 2017). This feared stigma was noted to be coming from the daily dosage formulation of PrEP and its similarity to HIV antiretroviral therapy and the subsequent association with being HIV positive.

In terms of fear, exposure to abuse and violence within a relationship has also been shown to result in low adherence to PrEP. A study carried out among serodiscordant couples across Africa found that women who had experienced verbal, physical, or economic abuse from a partner were more likely to have low PrEP adherence. The reasons given included stress and forgetting, leaving home without pills, and partners throwing pills away (Haberer *et al.*, 2013).

Other Factors.

In a study on factors affecting PrEP adherence among MSM in cities in the USA, Cohen *et al.*, (2014) attributed differences in PrEP adherence to several factors including knowledge and awareness of PrEP, its availability, and the participants' level of education. Low literacy levels can affect an individual's understanding of their diagnosis and treatment, which leads to non-adherence (Patel *et al.*, 2010). Although willing to take PrEP, sex workers across several studies raised a few notable concerns about PrEP which could affect adherence namely, the side effects associated with PrEP, disruptions arising from travelling, possible interactions with alcohol and other substances, social stigma, discrimination, and misunderstandings from family and close ones (Van der Elst, 2013). Although willing to take PrEP, subsequent studies done in India showed that when adherence was tracked within a study group, adherence was initially high at 80% but dropped rapidly to 50% within the first few months; then rallying and maintaining at around 60% for the rest of the study. It was also noted that some participants, instead of taking PrEP daily, resorted to taking it when they felt that they were at a higher risk (Reza-Paul, 2010). Forgetting to take the tablets and being busy were two commonly cited reasons for non-adherence (Reza-Paul, 2010). Literature on factors associated with poor HIV medication adherence in MSM and transgender women cites younger age, lower socio-economic status, lower education, and increased sexual risk

behaviour as some of the other factors associated with poor adherence (Amiko *et al.*, 2014).

2.4.2 Health Facility related.

Health worker attitude.

Patel *et al.* (2010) have identified health worker attitude as a barrier to adherence to health services programs. Literature is replete with discussions on the impact of uncaring attitudes and discrimination on adherence to medication in HIV programs and other health services. A Nairobi study among female sex workers showed that some sex workers experienced health worker stigmatization upon multiple requests for Post-exposure prophylaxis (PEP). Although this study was looking at barriers to PEP services, it would follow that the same health worker attitudes may negatively impact adherence to other HIV preventive programs (Izulla *et al.*, 2016).

Staff shortages.

Studies on ART adherence in HIV programs have shown the impact of skilled staff shortages on ART adherence. Shortages of staff often lead to long waiting times and poor quality or brief counselling sessions (Gourlay *et al.*, 2013). Long waiting times are associated with poor quality counselling, and this has been shown to negatively impact adherence in ART programs (Bakenya *et al.*, 2019). A 2013 study on barriers to ART adherence among sex workers in Zimbabwe showed that long waiting times and competing time commitments contributed to poor ART retention (Mtetwa *et al.*, 2013). This may similarly impact PrEP retention among MSM and transwomen in Zimbabwe and needs to be considered when optimizing the PrEP program in the country. There has been a significant brain drain in the health sector in Zimbabwe and this has accelerated in the past few years due to the economic challenges in the country (Dzinamarira and Musuka, 2021). This loss of skilled workers has significantly impacted health services provision in HIV preventive services and PrEP access and retention have also been affected. Most health areas have also been impacted negatively by the COVID-19 pandemic. The increased number of COVID-19 cases and hospitalizations have put a huge strain on health systems across the world and Zimbabwe has not been spared (Chirisa *et al.*, 2021). Nursing staff shortages have been seen in many health areas as a significant number of nurses have been deployed to the COVID-19 vaccination, care, and

treatment program areas. This shortage of staff may have an impact on the quality of PrEP counselling and it's important to examine further how this has affected PrEP retention.

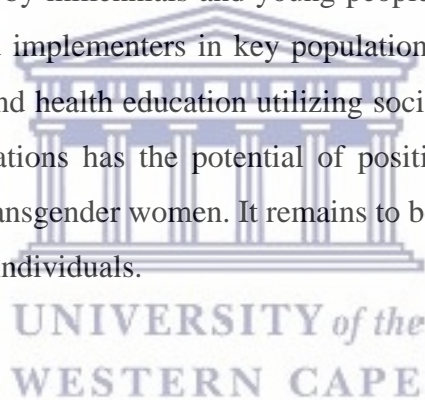
Drug shortages.

Cohen *et al.* (2014), in a study showing varying degrees of PrEP adherence among men who have sex with men across three cities in the United States of America, identified PrEP availability as one of the factors responsible for PrEP adherence differences in Washington, Miami, and San Francisco. There is a potential for PrEP drug shortages in a resource-limited setting like Zimbabwe, as has happened in ARV drug services provision, and this could impact adherence (Chipunza, 2017). However, currently, there is limited data available on how PrEP drug availability has impacted PrEP services provision and there is a need for further research in this area.

2.4.3 Society barriers.

The most important societal barrier to adherence identified in the literature is stigma (Gourlay *et al.*, 2013). Stigma may operate at the level of the individual but more often it is broader, having a pervasive influence on society. Society's perception and stigma toward men who have sex with men and transgender women often acts as a barrier to testing, seeking, and adhering to treatment (Tsang *et al.*, 2019). The current Zimbabwe Criminal Law (Codification and Reform) Act makes specific sexual acts illegal but falls short of criminalizing LGBTI status. This criminalization of homosexual acts has entrenched stigma against MSM and transgender women and remains one of the most important barriers to their access to HIV-related services. This has affected their health-seeking decisions and behaviours often leading to feelings of hopelessness and depression (Tsang *et al.*, 2019). This in turn results in MSM and transgender women either not testing for HIV or not following up on ART treatment or HIV preventive therapy.

A study exploring the perceived barriers and facilitators of PrEP uptake among young people in Uganda, Zimbabwe, and South Africa identified that some of the barriers to PrEP uptake for young people included community factors like peer influence and social stigma. These findings are especially important given that a large constituent of the MSM and the transgender women population in Zimbabwe falls in the young people category (below 30 years). Anecdotal evidence seems to suggest that the incidence of HIV in the younger MSM may be lower than in those individuals that are above the age of 30 years. This, coupled with the increased use of condoms in this age band means there may be reduced HIV transmission risk in this population. This may be different in the older MSM who due to societal norms tend to be leading “double lives” and are often married with families. The older MSM may find it more difficult to be open about PrEP uptake and this may impact retention on PrEP. There is a need to articulate how PrEP messaging and health education can be provided to the older MSM on PrEP given their social standing. The increased usage of social media by millennials and young people presents myriad opportunities for PrEP program designers and implementers in key populations programming (Beaudoin and Hong, 2021). PrEP messaging and health education utilizing social media spaces like Facebook, Twitter other interactive applications has the potential of positively impacting peer influence among the younger MSM and transgender women. It remains to be seen if such opportunities can be translated to the older at-risk individuals.



Other Factors

COVID-19 Impact

With the onset of the COVID-19 pandemic, there have been spirited arguments around government restrictions to curb the spread of the disease (Meyerowitz-Katz *et al.*, 2021). What is without debate is that “lockdowns” have had an impact on access to health facilities by clients. Lockdowns are defined as a highly restrictive set of non-pharmaceutical interventions against COVID-19, including either stay-at-home orders or interventions with an equivalent effect on movement in the population through restriction of movement. This restricted movement by clients has resulted in reduced access to health facilities by clients and this includes clients accessing PrEP. In many countries, health systems have tried to adapt to those restrictions through community delivery of

health services, telemedicine, etc. however, it is not all clients that have managed to access services. This has huge ramifications on how adherence and retention in the PrEP program is optimized and there is a need for program managers to rally around innovative solutions to adapt to the pandemic.

2.5. Conclusion

This literature review sought to summarise some of the literature related to PrEP as part of Combination Prevention Interventions. It looked at the structural and behavioural interventions that have been used by countries to reduce HIV incidence. It then narrowed to PrEP as a biomedical HIV prevention method, reviewing what PrEP is and why it has been included as an HIV prevention intervention. The review then finally looked at barriers to adherence as reported in the literature. This involved looking at barriers identified in similar programs like the HIV care and treatment program. However, although internationally there is a wide range of literature on factors impacting adherence, it has been observed that there is a lack of research on the subject in the Zimbabwean context. It is therefore anticipated that this research will make a significant contribution to filling this gap.



CHAPTER THREE

METHODOLOGY

3.1. Introduction

The previous chapters introduced the study and summarized some of the literature related to HIV prevention and PrEP adherence. This chapter presents the methodology used to conduct the study. It sets out the aim and objectives of the study, the study design, the study setting and the population. It then describes the sample size and sampling approach for the study population. Methods used to collect and analyse data, rigour and ethical considerations are also presented in this chapter.

3.2. Study Aim and Objectives

3.2.1 Aim

The study aimed to explore the perceived barriers to HIV pre-exposure prophylactic therapy adherence for men who have sex with men and transgender women in Harare Metropolitan Province, Zimbabwe.

3.2.2 Objectives

The objectives of the study were as follows:

- Understand the social background of sample respondents who are accessing PrEP (MSM and transgender women) at two urban PSI New Start Centre facilities.
- Explore their HIV prevention and treatment-seeking behaviour including access and adherence to PrEP.
- Understand barriers to adherence to PrEP as perceived by MSM, transgender women who have discontinued PrEP or are poorly adherent, and health service providers.
- Highlight perceived gaps in PrEP service delivery by research participants and make recommendations for further research and policy for the PrEP program.

3.3. Study Design

A qualitative descriptive approach was employed to meet the objectives of this study. This design was identified as important and appropriate for research questions focusing on discovering the who, what, and where of events or experiences and gaining insights from informants regarding a poorly understood phenomenon (Neergaard *et al.*, 2009). A qualitative descriptive design allowed the researcher to unpack the barriers to the continuation of Pre-exposure prophylaxis from the perspectives of men who have sex with men and transgender women and explore their attitudes, and beliefs regarding access to and continuation of PrEP.

3.4.1 Study Population

The population for this study was HIV-negative men who have sex with men (MSM) and HIV negative transgender women (TGW) initiated on HIV PrEP therapy at New Africa House and Chitungwiza New Start Center facilities. For this research, health workers in Harare and Chitungwiza NSC involved in direct service delivery on HIV prophylaxis were interviewed as key informants. These, as a result of their skills and knowledge, were able to provide a deeper insight into the factors affecting adherence to Pre-exposure prophylaxis therapy and corroborate research participants' accounts thus improving the validity of the research findings (Shenton, 2004).

3.4.2 Sampling

It was suggested by Liamputtong and Ezzy (2005) that in qualitative studies sampling ought to aim at identifying participants who “*will provide a full and sophisticated understanding of all aspects of the phenomenon*”. Additionally, Bernard (2002) proposes that the study participants should be “*...people to whom you can talk to easily, who understand the information you need and who are glad to give it to you...*”. For this study purposive sampling was carried out because the researcher was targeting MSM and transwomen accessing PrEP services at the health centres. In order to commence data collection permission was sought from the person in charge of the

PSI/Zimbabwe clinics to recruit respondents from patient lists of men who have sex with men (MSM) and transgender women accessing services at the two facilities. The sample group was accessed from the identified members of the MSM cohort who had been initiated on HIV prophylaxis and identified to have either discontinued their prophylactic therapy or have poor adherence. Adherence monitoring at the facilities is dependent on self-reporting by clients as to whether they are taking their drugs consistently or are skipping some dosages. Those that have skipped more than 3 doses or have missed a drug resupply by more than 7 days are regarded as poor adherers' or have discontinued treatment, respectively. Clinicians at the two facilities due to their knowledge of the study population assisted in the sampling by identifying respondents from the facility patient's records. Participants were randomly selected from the list of respondents identified from the facility patients' records however clients who had disengaged from the health system were not recruited as many had stopped coming altogether. 17 MSM, 1 transgender woman and 3 health workers (clinician and health workers) were recruited for the study. These participants were able and willing to provide an understanding of the issues that formed the focus of the research. The participants were not incentivized to participate in the study but were reimbursed \$5 USD for transport and lunch. The researcher had aimed to recruit more transwomen for the study however clinicians only managed to identify one transwoman willing to be part of the study.

The inclusion criteria for this study included being:

- HIV-negative.
- Men who have sex with other men (MSM) i.e. (Gay, Bisexual engaging in anal sex)
- Transgender Women (engaging in anal sex).
- Having been initiated on HIV PrEP therapy at New Africa House and Chitungwiza New Start Center facilities.
- Identified through self-reported adherence assessments at the health facilities to have discontinued or to have poor adherence to their prophylactic treatment yet still perceived to be at a high risk of HIV acquisition.
- Have continued PrEP as prophylactic therapy for HIV.

The exclusion criteria for this study included:

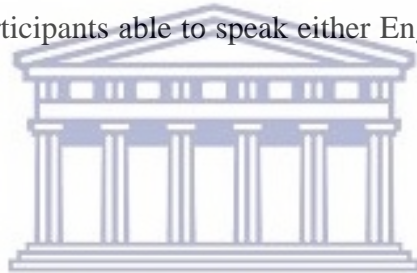
- HIV- positive
- Non-self-identification as Gay, Bisexual, Transwoman

- Not accessing PrEP at the two health facilities

3.4.3 Participant Recruitment

As highlighted earlier the recruitment was done with the help of clinicians who are working in the PrEP program at the facilities. The clinicians reached out to eligible participants through phone calls informing them about the study. Interested participants were asked to come to the facilities where the purpose of the study was explained to them, and participants questions were also answered. The researcher provided his phone number to allow participants the opportunity to reach out to him if they had follow-on questions. As a result of the sensitivity around same-sex engagements and the ethical issues surrounding the age of sexual consent in Zimbabwe the participants engaged were all aged 18 and above (Gunda, 2010). For ease of accessibility to participants and to minimize costs, the informants were all resident in Harare or Chitungwiza. For ease of communication, only participants able to speak either English or Shona were engaged in the study.

3.5. Data collection



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Semi-structured, face-to-face interviews were conducted in English or Shona with each of the study participants at convenient times at New Africa House and Chitungwiza New Start Centres using an interview guide (see **Appendix 3 and 4**). Semi-structured interviews were utilized as these allowed the researcher to gain a deeper insight into participants' experiences in accessing HIV prophylaxis services at the two facilities, as well as identifying and exploring demotivators for the continuation of pre-exposure prophylaxis therapy from the participants' perspective (Mack *et al.*, 2005). Semi-structured questioning was also used because it also provides structure to the interviewing process while being flexible enough to address the different aspects of Pre-exposure prophylaxis discontinuation that may be important to the participants (Miles and Gilbert, 2005).

To adhere to COVID-19 guidelines on infection prevention and control, social distancing was maintained during the interviews. To reduce the risk of exposing participants to COVID-19, the room used for interviews was sanitized before and after every interview and a well-ventilated room

was utilised. Rules on continuous masking during the interviews were adhered to, whilst sanitized pens were used for consenting with different pens used during the process. Care was taken to ensure that materials used for the study were not contaminated by using plastic folders that were sanitized.

The interviews with the key informants (nurse clinician, KP Differentiated Service Delivery Assistant , peer mobilizer) explored what health/community workers experienced in providing HIV care or community psycho-social services perceived to be barriers and facilitators to the uptake and retention of PrEP. These, as a result of their experience and expertise, were able to furnish valuable insights into the factors affecting adherence to Pre-exposure prophylaxis medication and their input was triangulated with research participants' accounts thus improving the validity of the research findings.

With the consent of the participants, the interviews were audio recorded and then transcribed for data analysis. The process of audio recordings transcription was made easier using audio-to-text applications. However, the researcher still had to go through the transcriptions and make corrections in order to ensure they accurately reflected the interviews. Data collection took place over 8 weeks and once the data collection was completed data analysis was commenced.

3.6. Data analysis.

Thematic coding analysis was used to analyze the data. The researcher did not have prior hypotheses regarding the subject, and codes and themes were derived from the content of the raw data and the research question (Thomas, 2003).

The data was analyzed manually. The researcher immersed himself in the data, becoming familiar with it by repeatedly reading the transcripts and then making a summary of key ideas and recurrent themes from them (Braun and Clarke, 2006). Data preservation was ensured by making electronic copies of the transcribed interview data and recordings and storing these in an encrypted personal vault of a web cloud-based storage i.e., Microsoft Share drive. Manual coding of the data was done by writing the codes on the margins of the transcripts (Braun and Clarke, 2006; Robson 2011). Coding was both descriptive and analytical. Examples of what was coded includes insights, activities, or behaviours of people relating to high-risk sexual behaviour and retention on pre-

exposure prophylaxis, as well as meaning and interpretations they placed on the consequences of their actions.

The codes were then grouped into categories from which themes were identified (Braun and Clarke, 2006). Identifying a thematic framework involved first listing and describing the codes and then clustering similar codes. This helped in identifying themes that formed a coherent pattern and reflected the understanding of the researcher of the data set (King, 2004). The final step was the integration and interpretation of the data to provide conclusions about the factors causing the discontinuation of HIV pre-exposure prophylaxis. This involved comparing and contrasting themes, identifying structure among them, building theoretical models, and constantly checking these against the data (Robson, 2011).

3.7. Rigor.

Credibility, transferability, dependability and confirmability as defined by Lincoln and Guba (1985) are useful criteria for identifying whether qualitative research is trustworthy or not. To ensure that the data collected was credible, member checking was used with participants providing feedback on data analysis and interpretation against their experiences to verify the accuracy of the data. Some aspects transcribed interviews were shared with the respective participant and they gave feedback on whether these accurately captured their experiences and perspectives. Triangulation of data sources involved interviewing members of the MSM community at New Africa House and Chitungwiza New Start Centre facilities and interviewing key informants namely nurse clinicians, and peer mobilizers, amongst others. This allowed the systematic emergence of common themes from several sources thus ensuring credibility (Creswell and Miller, 2000). To ensure the dependability of the research an audit trail of the research was established by making certain that all raw data (field notes and audio recordings), data reduction and analysis products (quantitative summaries, condensed notes), study proposal, research journal were kept allowing for examination by relevant external parties (Cutcliffe and Mckenna, 2004). The provision of explicit details of the research sample, participants, methods, and research settings helped to establish the transferability of this research (Korstjens and Moser, 2018). A reflective journal was kept which was used to document the researcher's response to findings as well as assess the researcher's influence on the research process and results and this helped in ensuring the confirmability of the

data. Personal reflexivity requires researchers to reflect on and clarify their expectations, assumptions, and conscious and unconscious reactions to contexts, participants, and data (Gentles et al. 2014) . As the researcher was coming from a clinical background there were some prior assumptions about possible barriers to PrEP through relating them to ART adherence. During engagements with study participants the researcher had to continue reflect on whether these assumptions were not causing any bias in gathering data. The reflective journal helped the researcher to reflect and interrogate about these “biases” in order to minimize them and ensure that the participants views were accurately captured.

3.8. Ethical Considerations.

Permission to conduct research was sought and obtained from the Medicines Research Council of Zimbabwe as well as the research body of Population Services International /Zimbabwe. Ethics approval was also sought and obtained from the Biomedical Research Ethics Committee of UWC. Participation in the study was voluntary. A participant information sheet containing all relevant information regarding the study and assuring participants of confidentiality was given to the participants. The participants had the option of reading the information sheet or for those who would have been identified as illiterate, this information would have been read to them. Consent was obtained by signing a consent form with these filled.

The research participants were all adult men who have sex with men, transgender women, and health workers who were deemed legally competent to give consent (see appendices). Due to the nature of the study and the legal issues surrounding same-sex relationships in Zimbabwe, it was anticipated that some participants would possibly experience negative feelings about being non-adherent. All efforts were made to prevent harm and no participants sought to withdraw from the study even though that option was open to them. All participants that needed clinical care were linked to available services. In addition, the researcher ensured that participants would not feel judged for being non-adherent by expressing understanding and acceptance towards non-adherent participants. Also, it was stressed that research participants would not be penalized by health workers for discontinuing HIV pre-exposure prophylaxis. This pre-emptively addressed concerns from some research participants who may have feared that they would not be able to get services following the research.

Confidentiality was also an important consideration for this study because of the legal status of same-sex interactions in Zimbabwe. Participants were not identified in any way, and any information they provided had personal identifiers removed by use of codes. Identifying information was only accessible to the researcher, who kept this information confidential. Research findings were disseminated to all key stakeholders upon completion of the research.

3.4. Conclusion.

This chapter outlined the methodology used to conduct this research. The study population and sampling methods used were also described. The data collection and data analysis were described. The chapter further described the steps that were taken to ensure that the study was rigorous and ethical considerations taken into account. The next chapter presents the findings of the study.



CHAPTER FOUR

RESULTS

The purpose of this chapter is to present the major research findings. More specifically, the chapter first presents the main characteristics of the study participants. Secondly, an outline and description of some of the main barriers to adherence to PrEP as perceived by the MSM and transwoman interviewed is provided. Key themes and sub-themes around the decision-making process, the circumstances and the health-seeking experiences of clients that emerged from the process of data analysis are then described. This will also include the insights from the interviewed health care workers (nurses and community peer mobilisers) about their experiences working in the PrEP program.

4.1 PROFILE OF THE RESEARCH PARTICIPANTS

4.2.1. Demographic description of study participants: Key Populations

As shown in Figures 1 and 2, the analysis involved 17 MSM and 1 trans-woman. Of the 17 MSM 7 were from the Chitungwiza NSC cohort and 10 were from the New Africa House NSC. Of the 17 MSM interviewed, in terms of their sexuality 10 identified as gay whilst 7 identified as bisexual. Their ages ranged from 21 to 42 years with a mean age of 27 years. All the informants interviewed were unmarried and 8 of them were in relationships whilst 10 were not in relationships. Educationally, 5 had attained primary education³ 7 participants reported to have O-Level education⁴, but had either not passed their O-Level or dropped out before examination, 3 had attained Diploma Level or Tertiary Education qualifications whilst another 3 were still doing their Tertiary education. In terms of employment only two participants were formally employed whilst 12 of the study participants reported that they were unemployed. Another four participants indicated that they were involved in various miscellaneous activities to earn income including vending

³ Primary Level education- typically 7 years in Zimbabwe, equivalent to the 3 phases- Foundation, Intermediate and Senior phase of Primary Education in South Africa

⁴ O- Level is a level that is almost equivalent to Matric Qualification or N (C) V Level 4 however there are some more advanced courses in the Matric Qualification.

of various wares and hairdressing. In addition, three study participants were involved in sex work to supplement their income at the time of the interview whilst one other participant had a history of sex work which they had stopped.

Table 1: The main characteristics of study participants

Characteristic	Category	Participants
Marital Status	Married	0
	Not married	18
Race	Black	18
	Mixed	0
	Caucasian	0
Relationship Status	In a relationship with one partner	4
	In a relationship with multiple partners.	3
	Not in a relationship but with sexual partner(s)	3
	Not in a relationship and with no sexual partner(s)	8
Education	Primary Education	5
	Secondary Education (O-Level)	7
	Secondary Education (A-Level)	1
	Tertiary Education (Diploma/University- Still Studying)	2
	Tertiary Education (Diploma/University- Qualified)	3
Employment Status	Unemployed (Including those still studying)	12
	Employed – (Formal)	2
	Self – Employed – (Various including vending)	4
Sex work history	Currently involved in sex work	3
	History of sex work (since stopped)	1
	No history of sex work	14
Sexual Orientation	Bi-sexual	7
	Gay	10
Gender	Male	17

	Trans-woman	1
Orientation Disclosure	To family members	7
	To friends only	11
	No disclosure	0
	Community	0

Table 2: Age distribution of study participants

Age groups	Participants (n)
18-20	0
21-30	13
31-40	4
41 and above	1

4.2.2. Health worker study participants

As shown in Figure 3, three health workers participated in the study. They included one nurse practitioner who served as an integrated HIV care nurse at the NGO facilities and 2 community health workers in the Key Populations program. Of the two community health workers, one participant worked as a Key Populations Differentiated Service Delivery Assistant. This participant's role at the facility was to support nurses in delivering HIV PrEP medication, follow up with clients who had defaulted either HIV treatment or HIV Pre-Exposure Prophylaxis, support in delivering HIV self-testing kits, lubricants, and condoms to key populations. The other community health worker was an Enhanced Peer mobiliser whose main role was to create demand for HIV and Sexual Reproductive Health services through interfacing with the various key populations' communities, providing health education and sometimes distributing HIV self-testing kits to clients.

Table 3: Biographical Profile of Health-Worker Participants

Facility	Participant Code	Gender	Time working In Key Populations Programming	Total years of experience
New Africa House	Nurse 1	Female	10 years	25 years
Chitungwiza NSC	KP DSD Assistant	Female	5 years	8 years
Chitungwiza NSCS	Enhanced Peer Mobiliser	Male	5 years	5 years

4.2 THEMES AND SUB-THEMES

This section examines the different themes and sub-themes that emerged from the interviews with different MSM and key informants.



Overview of Interview Themes

Based on thematic coding, four major themes with related subthemes were identified. The major themes were:

- MSM and trans-specific experience in health care- includes health services access, and stigma.
- Sexual risk and HIV prevention strategies-including risk behaviour experiences, and sexual and reproductive health-seeking behaviours of participants including condom and lubricant use.

- Perspectives on PrEP- knowledge of PrEP, peer influence.
- Facilitators and Barriers to PrEP including experiences with disclosure, stigma, side effects experienced, competing priorities , and low HIV risk perception.

4.2.1 PARTICIPANT EXPERIENCES IN HEALTH CARE

Health services accessed from health centres.

To answer one of the study objectives which sought to explore the HIV prevention and treatment-seeking behaviours of MSM, study respondents were asked questions about their access to health services from the two health facilities. From the interviews, it emerged that most participants were utilizing the two health centres to access HIV prevention, care, and treatment services. Respondents also highlighted that they were also accessing sexual and reproductive health services including STI treatment and accessing condoms and lubricants at the facilities. This was mainly because these health centres are key population-focused clinics which mainly focus on providing integrated HIV/ SRHR (Sexual Reproductive Health and Rights) services. Most of the clients cited positive experiences when they accessed various health services at the health centres. These positive perspectives were underpinned by mainly four factors namely friendliness of staff, privacy, reduced waiting times, and non-stigmatizing experiences. An in-depth exploration of these factors is carried out below.

Staff friendliness

The majority of the participants were happy with the quality of the services provided at the centres and this positively influenced them to keep on accessing services like PrEP at the facilities. Some cited that the quality of services provided for them was much better than at public sector facilities which did not necessarily have a particular focus on key populations.

"There is no stigma, the staff is friendly unlike when I used the public hospitals. It wasn't easy for an MSM to access services in public hospitals. The health centre has KP friendly staff" (MSM respondent 15).

Although most respondents felt that the sites were providing quality health services some highlighted this was an improvement from previous years when health providers were not as friendly. This indicated that improvements in service delivery are necessary and possible if there are concerted efforts to improve quality of services through aggregating feedback from MSM communities and working on identified challenges.

"The service is good, there has been an improvement from the past. Now the staff is very friendly and helpful. We even had a time when we got refreshments" (MSM respondent 16)

Similarly, the nurse respondent agreed with these sentiments about the incremental improvement in quality of health services provided to key and vulnerable populations as quoted below:

"We have realized that the majority of the clients are coming out. It used to be difficult for married men to tell us that they were also MSM but now they trust the system and are opening up. It makes it easier to discuss PrEP uptake and adherence" (Nurse respondent 1)

Apart from staff friendliness towards key populations, short patient waiting time was another positive factor which participants deemed to be contributory towards them continuing to access services at the NGO health centres.

Patient Waiting Times.

Many participants reported that reduced patient waiting times contributed to their positive perceptions towards the services provided at both facilities.

"The service is fast, and we don't have to wait in line. We have a separate room from other clients, it's quite private. We are not judged." (MSM respondent 13)

"We receive very good care; they attend to us quickly" (MSM respondent 5)

The respondents felt that they spend less time accessing health services at the health facilities because the sites have designated private spaces whereby key populations like MSM could access fast-tracked services. This was different from most public health facilities.

Privacy

Some of the interviewed research participants also indicated that they preferred to have services provided for them in designated rooms for MSM clients as was being done at the NGO health facilities rather than being served together with other clients. They felt that because they were being served in their own private spaces, they encountered less stigma.

"At first, we would be mixed with heterosexual clients, and they would be suspicious as to why we were getting special treatment when the clinicians came. Right now, it is better as we go straight to a designated room" (Peer Mobiliser).

The study participants also highlighted that the ColourZ intervention whereby MSM had their designated service delivery points and where services for MSM could be fast-tracked was important and recommended that such services be provided in other facilities including government public sector facilities. In response to the question, 'do you think the ColourZ room has helped in MSM accessing services?' two participants explained:

" Yes, definitely. We don't have to go in the line or have numbers called out with people wondering what we are doing or who we are"(MSM respondent 2)

"I find the service here very efficient. I go straight to the ColourZ room where I get express service. There is no mixing with other people. The service is quick and discreet" (MSM respondent 17).

Telephone Consultations

Some participants indicated that during the Covid-19 lockdowns, the clinicians from the NGO

health facilities would contact the clients telephonically and enquire about PrEP availability and do some clinical sessions over the phone:

"I would get it (PrEP) at least once a month and I would call in for more supplies once the medication was finished" (MSM Respondent 1)

The participants reported that these telephonic consultations were a great way to support them to be adherent and that it was something that needed to be continued even during the post COVID-19 period.

Absence of stigma from health workers

Most of the respondents explained that they did not encounter stigma when accessing health services at the two NGO health facilities. They further highlighted that because health workers there were non-judgmental, they felt safe in accessing services like PrEP from there. These experiences were markedly different from what they had encountered in public health facilities whose experience in working with MSM communities was minimal as highlighted by a respondent below.

"The staff is so open and friendly. I once went to a clinic in X with a friend who had contracted an STI, and he was MSM. They were so rude to us and insisted that we seek help elsewhere. They shamed us and a friend ended up referring us to another facility . When we started receiving services here, we felt welcome and accepted. Here, we state our issues as they are so that we get proper assistance even though sodomy is outlawed in our country" (MSM respondent 3)

Some respondents because of earlier experiences in public sector facilities would initially be afraid of being "outed" as gay, bi-sexual or trans by clinicians they interfaced with at the NGO as indicated by a respondent below.

"The services were fine but initially I was tense because I was afraid that people would find out. The clinician was super friendly, that's why I continue to come back to her" (MSM respondent 11).

However, upon receiving KP- friendly services which contrasted with their previous experiences at public sector facilities the participants ended up continuing to access services at the NGO facilities.

However, the nurse respondent sentiments highlighted that she felt that the services at public sector facilities were now KP-friendly but that some clients were still holding on to their previous experiences leading to them avoiding public sector facilities as reflected below:

“Because of my outreach work I know that at public facilities, clinicians are now KP friendly. However, KPs still believe that if they are transferred to government facilities, they will not be treated well”. (Nurse respondent 1)

Some participants did however highlight some limitations with the health services they received at the NGO facilities as discussed below.

Perceived limitation of health services provided

The major perceived limitations included limitations in the scope of health services provided and reduced access to health systems mainly as a result of COVID-19 restrictions. The two NGO health centers mainly provided HIV/SRHR services and clients had to go to other private or public sector facilities when suffering from other ailments. This sentiment is encapsulated in the following quotation below.

"At this centre. I get my PrEP from here. At times I go to X (an organization supporting LGBTIQI populations) for other ailments. I wish we could get all services from here" (MSM respondent 16).

Many agreed that they would have preferred to access other health services not necessarily directly related to HIV but that could influence their ability to continue accessing HIV preventive services like PrEP. Mental health services were highlighted as an important service which they would have wanted to access at the NGO facilities rather than going to other health facilities which they felt were not as KP friendly:

"Yes, last year was particularly bad, I suffered from depression, and I was suicidal. I was lonely and I also have a fear of growing up in this body. I even lost my hair. I was confused and I ended up getting a tattoo, I didn't know where to go" (Transwoman respondent 1)

Similar sentiments were echoed by the nurse respondent who when asked about her thoughts on the mental health support provided to MSM and trans population at the health facilities explained:

"There is support being given in the form of counseling, but I feel that it's not adequate. I think some clients actually require a psychologist because they go through very difficult situations especially when they come out" (Nurse respondent 1.

She further explained that although they were equipped to handle the counselling needs of clients she felt that some clients needed more support which they could not provide e.g., clients with suicidal ideation:

"I think we can handle the counseling, but some clients need further management and assessment. Some clients are suicidal and thus they need more support from experts". (Nurse respondent 1)

Health Systems Inaccessibility

In addition to the identified limitations in the health services package available to them as MSM, some respondents also highlighted that a lack of accessibility to the NGO health facilities, especially during the COVID-19 lockdowns had negatively affected them. Some of the challenges included transport challenges in accessing health facilities. This varied among respondents with some participants hardly experiencing any challenges but for some, it was a huge challenge that led to some stopping PrEP even though they were still at risk of getting HIV. This challenge was only addressed through the home or community deliveries of PrEP medication:

"Yes, during the first lockdown. I then had to stop for about 5 to 6 months because it was hard to get to the clinic" (MSM respondent 7)

"Yes, I did. Travelling was very difficult, and travel authorization documentation during COVID

lockdowns was required. Home deliveries of medication really helped” (MSM respondent 10)

Another health system related challenge that participants identified was the lack of follow ups by health workers as discussed below.

Lack of health system follow ups.

Some of the respondents highlighted that they had quietly stopped PrEP without alerting the clinicians as the conversation below shows:

Q: "When you stopped taking PrEP, did you tell the clinicians at the X clinic?"

A: " No, I didn't, I just went quiet" (Transwoman Respondent 1).

The same was also noted by the nurse respondent as reflected in the quote below:

“Most clients will stop taking PrEP without first discussing it with us. They will cite pill burden as the reason why. However, when we explore the sexual behaviour, those clients will still be at risk” (Nurse respondent 1).

She further highlighted that transport cost was often cited by clients as one of the reasons for them not informing about stopping PrEP;

“The majority will use transport costs as an excuse. Others claim that they are now in stable relationships and no longer require PrEP, especially female sex workers”. (Nurse respondent1)

For some of the respondents, lack of follow-up by clinicians when they stopped taking PrEP was perceived as lack of support.

A: "No, they didn't, no one followed up" (Transwoman Respondent 1)

Some felt if clinicians had followed up with them, they might have continued taking their PrEP:

“ No, they didn't, no one followed up, if they had I may have continued taking my medicines” (MSM Respondent 4)

The quotes in the previous sections demonstrate that positive experiences when interfacing with the health care system by MSM, and transgender women was associated with continued uptake of services. These experiences included interacting with KP-friendly, non-stigmatizing providers in private settings. Fast-tracking of services also enhanced participants experience when accessing health services. Absence of other health services like mental health services was perceived negatively by MSM and trans-women as they felt that such services impacted whether they continued accessing HIV preventive services like PrEP or not. For some individuals, COVID-19 had affected their access to health facilities and had resulted in them discontinuing PrEP. However, utilization of various differentiated service delivery models like community and home deliveries of PrEP medications was seen positively as a way of addressing accessibility challenges. The next chapters will pivot towards discussing the sexual risk and HIV prevention strategies utilized by MSM and trans-women and their uptake of HIV testing as an entry point to all HIV prevention interventions like PrEP.

4.2.2 SEXUAL RISK AND HIV PREVENTION STRATEGIES

HIV Testing as an entry point to HIV Prevention.

HIV testing is the most common entry point into HIV prevention programs including HIV Pre-exposure prophylaxis (Rucinski *et al.*, 2022). All of the respondents interviewed had been tested for HIV at the health centres. However, the reasons for testing varied and these included having had a risky sexual encounter which had put the participant at risk of getting HIV. In the majority of cases, the respondents had not used HIV preventive methods like condoms during the sexual encounters as highlighted:

"I was happy when I tested HIV negative because I had had some unprotected sexual encounters and it was a relief to come out negative" (MSM respondent 17).

"I was happy and relieved because I had unprotected sex. I was scared before taking the test. Even the clinicians celebrated with me because I was still negative at that age"(MSM respondent 16)

Some respondents also highlighted that once they interfaced with the health system, they would continue getting regular HIV testing and often would influence their partners to get tested also. This is reflected in the quote below:

"Yes, we have been tested together and we have been regularly tested together at the NGO health centres (MSM respondent 11).

All of the participants interviewed had accessed HIV self-testing services from the two NGO health facilities. However, some participants reported using self-testing kits repeatedly within the same testing period following risky sexual encounters despite the repeat HIV negative results.

Q: When was the last time you had such an encounter? A: "It was in January and after that, I had HIV self-test kits and I kept testing myself. I was super afraid that I had gotten HIV and kept on testing myself every week" (MSM Respondent 2).

Once tested for HIV, all the respondents highlighted that at the bare minimum they had all been offered HIV preventive services like condoms with these being readily available. However, the usage of these interventions during risky sexual encounters was noted to be inconsistent as discussed below.

Condom and Lubricant use for HIV prevention.

The interviews revealed that although condoms are being used in synergy with other HIV preventive services like PrEP, condoms were not being used consistently in all sexual encounters. Worryingly this included sexual encounters with non-regular partners or instances where the respondents assumed the sexual partner was HIV negative even in the absence of testing. These insights are captured in the quotation below:

'Sometimes, I do use protection but at times I don't, especially if I think the other guy is HIV negative (MSM respondent 13)

Another respondent involved in sex work also highlighted this inconsistent use of condoms despite having access to them as cited below:

"Yes, there are risks associated with my sexual life, if my first sexual encounter in a particular week is unprotected, I will end up having unprotected sex for that whole week even if I have condoms." (Peer Mobiliser)

This was also reinforced by another respondent who is quoted below:

"Yes, especially when I go clubbing. It's a turnoff to have to look for condoms when there is a sexual vibe. You have a fling or one-time encounter and that's it." (MSM respondent 2)

In addition, some of the respondents indicated inconsistency with condom use if there was concurrent PrEP use. One such respondent said:

" Yes. Some claim that condoms hurt them, and they can't use them. In these instances, I just give in as I know I have protection against HIV from PrEP. If there are signs and symptoms of an STI I quickly seek medical attention." (MSM respondent 15)

Lubricant use among the respondents interviewed was varying with some respondents happy to use lubricants whilst some respondents preferred not to use them. The most common reason cited by some respondents was the negative impact lubricants had on the sexual experience.

"From a top perspective, sex is all about friction so the more the friction, the more satisfying the encounter is. So, using lubes reduces friction and makes sex less enjoyable" (MSM respondent 4).

"They are actually good but if they are exposed to air they harden and make penetration difficult. That means the lubricant has to be applied generously which is bad for intercourse" (MSM respondent 2).

Some of the respondents were not happy with some of the lubricants products available in the

public sector market as indicated below:

"Personally, I don't see the difference between the lubricants but those in the community claim that there's a pink one that dries out quickly, they don't like it." (MSM Respondent 15)

Inconsistent use of condoms and lubricants among MSM and trans-women even when engaging in risky sex highlights the need to improve their access and adherence to PrEP. The paragraphs below will mainly present the findings on awareness and knowledge on PrEP by MSM transwomen and then the perceptions of MSM, trans-women, nurses and peer mobilisers on barriers and facilitators to PrEP adherence.

4.2.3 PERCEPTIONS ON PrEP

PrEP awareness and knowledge.

PrEP awareness was generally high with most of the respondents having good knowledge about PrEP. For some this knowledge had been acquired through health education sessions with health providers whilst for some, their friends or peers had been their first source of knowledge about PrEP as quoted below.

"I was still at school, and my friends told me about PrEP. They showed me what it looked like and also explained that it should be taken by those who are at risk of contracting HIV, especially if you were having unprotected sex" (MSM respondent 14)

Peer influence was identified by many respondents to have played a role in determining whether they took up PrEP or not. One respondent in response to being asked about whether his friends were taking PrEP explained:

"Yes, some do and there are a few who are taking it because they saw it working for me" (MSM respondent 5)

The health care worker also agreed with the MSM respondents highlighting that peer influence was highly influential in dissemination of PrEP related information as quoted below:

“Roughly 60% of clients get information from their peers (Nurse Respondent1)

Another participant noted that even by teaching a small number of MSM about PrEP, PrEP messaging would spread through word of mouth within MSM communities:

"It's a matter of getting through to a few. They will tell others" (MSM respondent 13).

Another participant also highlighted that whilst MSM were more aware of PrEP for those that were bi-sexual their female partners did not know a lot about PrEP. In response to the question *"With your other sexual partners especially the women, do you talk about PrEP?"* he said *" No, but the guys I meet are on PrEP and we talk about it" (MSM Respondent 3)*

Many respondents also highlighted the critical role that peer mobilisers played in raising community awareness about PrEP with one respondent saying:

“There was a discussion at X organization, but it was a friend of mine, M (a peer mobiliser) who encouraged me to take it. When I was in Chitungwiza, I had multiple partners, so I had to protect myself.” (MSM respondent 17)

Some participants indicated that there was scant and inaccurate information about PrEP, suggesting that correct PrEP educational message is not reaching some members of MSM communities. One participant voiced concerns that the younger MSMs had inadequate knowledge about PrEP and that some were actually unfamiliar with PrEP:

"We don't even ask those questions, some of the guys I hook up with are young and have no idea about PrEP. They will only ask about PrEP after the encounter and come back for information. I have referred quite a number to the NGO health centres " (MSM respondent 13)

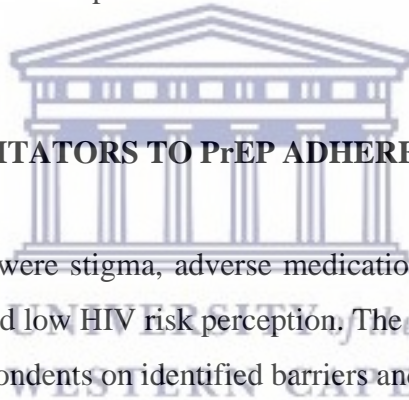
Another respondent explained his own previous uncertainty about the importance of daily adherence.

"I had some misconceptions that if I skipped the pill it didn't matter, I had heard this from my friends. The clinician corrected this and told me that it mattered, and it was important to take my pill daily"(MSM respondent 3)

Some participants wanted to find out further information about PrEP especially on other PrEP delivery methods like long-acting injectable PrEP. According to them such information was not readily available to MSM and trans communities. They contextualized that this could help address challenges with oral PrEP adherence.

"Yes, I would like to ask more about injectable PrEP because it would be the most convenient. With oral PrEP it is difficult to remember to carry it with me when I travel" (MSM respondent 9)

The next section will focus on facilitators and barriers to PrEP adherence as identified by MSM, trans-women, peer mobilisers and nurse practitioners.



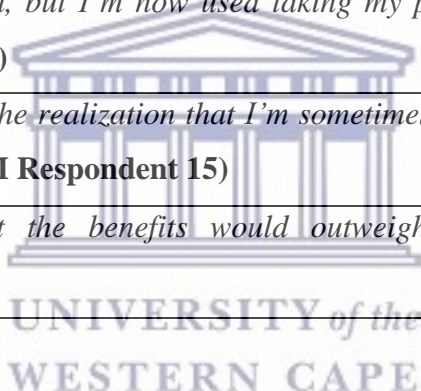
4.2.4 BARRIERS AND FACILITATORS TO PrEP ADHERENCE

The dominant thematic barriers were stigma, adverse medication effects, competing priorities, health systems inaccessibility, and low HIV risk perception. The table below is an aggregation of some insightful quotes from respondents on identified barriers and facilitators to PrEP adherence.

Table 4: Exemplar Quotes of Barriers and Facilitators

BARRIERS	
Stigma	<i>"Yes, I did experience a lot of stigma from my family. I have been verbally assaulted so many times. Even though I didn't tell my dad about my sexual orientation, he could just tell, and he would insult me together with other relatives. It strained our relationship." (MSM respondent 8)</i>
Health Systems	<i>"No, they didn't, no one followed up, if they had I may have continued taking my medicines." (MSM Respondent 4)</i>

Perceived Adverse Effects	<i>“I experienced dizziness, and I stopped after 3 months in 2020 as it wasn’t subsiding. I decided to stop.” (MSM Respondent 17)</i>
Competing Priorities	<i>“I got very busy and never got a chance to visit the centre to collect my PrEP medications.” (MSM Respondent 3)</i>
Risk Perception	<i>“I stopped PrEP because just observed that everything was now alright, and I had no problem” (MSM Respondent 1)</i>
FACILITATORS	
Social Support	<i>“It’s part of our routine. He takes it religiously at 20h00” (MSM Respondent 3)</i>
Health Systems	<i>“No, from the first day X (KP DSD Assistant) advised us to set an alarm as an everyday reminder to take the PrEP at a specific time. I also told my friends so that they would remind me to take the PrEP.” (MSM Respondent 2)</i>
Reminders	<i>“I set an alarm, but I’m now used taking my pill at 9 every night.” (MSM Respondent 13)</i>
Risk Perception	<i>“With me, it’s the realization that I’m sometimes at risk because of my sexual choices.” (MSM Respondent 15)</i>
Individual Agency	<i>“I just thought the benefits would outweigh the side effects.” (MSM Respondent 7)</i>



Experiences with sexual orientation disclosure and stigma.

Respondents were asked questions that specifically sought to gather insights into respondents' experiences with sexual orientation disclosure and stigma. The next section will focus on the participants experiences with stigma and in particular how these experiences related to disclosure and sexual orientation impacted their uptake of HIV services.

Stigma (Sexual Orientation related).

Stigma was a commonly cited challenge and was linked to PrEP adherence. Stigma was experienced in multiple forms. Some participants had experienced stigma in the form of

homophobia from close family members.

"Yes, I did experience a lot of stigma from my family. I have been verbally assaulted so many times. Even though I didn't tell my dad about my sexual orientation, he could just tell, and he would insult me together with other relatives. It strained our relationship." (MSM respondent 8)

"My then girlfriend discovered messages on my phone which showed that I was dating the guy who was my roommate. She showed the messages to my brother who then physically assaulted me." (MSM respondent 3)

Stigma was also experienced by some participants from members of the community in cases where their sexual orientation was disclosed without their permission as highlighted below.

"Yes, sometimes if you have conversations with a guy that you would like to have sexual relations with, the person might pretend to like you and maliciously record the conversations you have. The audio recordings might end up being shared in WhatsApp groups. I have experienced it about 4 to 5 times. This year I had one such experience in January" (MSM respondent 5)

Stigma, for some respondents, was also perpetuated by health care workers when accessing services from public sector facilities and this was a barrier in accessing health services from public facilities. The quote below from a respondent below summarizes this challenge

"For general illnesses, yes, but for STIs, they insist that I bring my partner. They won't understand if I have sores or other symptoms in the anal region etc. They will ask too many awkward questions" (MSM Respondent 13).

Sexual orientation disclosure and PrEP disclosure.

The majority of the participants had not disclosed their orientation to close family members including parents as they feared the reaction of their parents given the negative perceptions towards homosexuality in Zimbabwe.

*"No, my family doesn't know. My mum is super- Christian, so she doesn't believe in those things."
(MSM Respondent 2)*

"Well, I asked my mum what she thought about gay people, and she told me that it wasn't natural, and it was a really sad thing. In her mind, every gay person's character is like Somizi (an openly gay South African celebrity)" (MSM Respondent 6)

"No, I didn't disclose to my mother, but someone told her. I denied it when she asked me" (MSM Respondent 5)

As a result of not disclosing their sexual orientation to family members some participants then found it difficult to openly talk about PrEP to family members and had to take it in secret. This lack of family support network was identified by some to be a barrier to PrEP adherence and was closely related to PrEP related stigma.

Absence of social support and PrEP related stigma.

Participants highlighted the numerous ways different people ranging from partners, friends, family members, and peers influenced their PrEP taking habits . As highlighted previously the majority of participants had not disclosed to their biological family members their sexual orientation and that they were taking PrEP. Some participants highlighted that the stigma or scrutiny for using PrEP was often tied to their fear of having to disclose their sexuality to their family or community, and stigma related to misperception of being HIV-positive or being promiscuous.

" I can't tell my family about PrEP because they will ask me what the medication is for. If I tell them that it is to prevent STIs, they will ask me who I'm having sex with since I've never brought a girl home. There was an incident just at the beginning of COVID, my brother saw the PrEP bottle and thought it contained ARVs. At first, he did not say anything, but he later asked if I was eating nutritious food and if I was HIV positive. I told him that I wasn't, but the pills were meant to prevent HIV." (Peer Mobiliser).

In the same vein, another participant highlighted that he had stopped taking PrEP medication because he feared that his mother would discover the PrEP medication and he would find it difficult to explain why he had the medication:

"I continued taking PrEP till I was 20. I stopped taking PrEP because I was afraid that my mum would discover the medication. I then continued taking it for about a year and when I went to South Africa I didn't know where to access it. I also didn't have a partner there" (MSM respondent 11)

Similarly, another participant reflections were that he would find it difficult to reveal to his families that they were taking PrEP and as such when he visited home, he would stop taking his medicines until after that visit:

Q: Do you think there was anything that could have made it difficult for you to take PrEP consistently? A: No, but when I would visit my home, it was difficult to take the PrEP. I wouldn't take PrEP during those visits so to avoid questions. I would resume taking it when I got back to my place (MSM 14)

A participant also highlighted that, had he been able to open up to close family like parents about taking PrEP it may have helped with adherence.

"I think If I had my mom's approval that would have boosted me morally" (MSM respondent 11)

For some MSM their friends in the MSM community had supplanted their biological families in being an important support structure. Lack of social support similar to the issue of stigma impacted PrEP uptake and adherence. Explicit resistance to PrEP by friends and partners was highlighted to be a barrier to adherence with PrEP related stigma from peers or partners hindering access to adherence support:

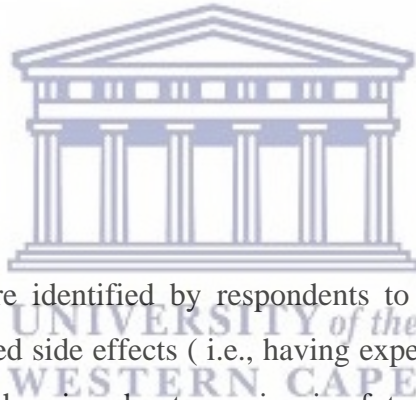
"No, my partner was not supportive, he said PrEP was for sex workers. He said if I continued taking them, it was a sign that I was unfaithful. So, so I stopped" (Transwoman respondent 1).

"No, they (friends) are not supportive. They say that taking PrEP means one is always medicated and that is bad for the body. They are not supportive at all. I tell them that the pills are safe, but I can't seem to convince them" (MSM respondent 16).

"Yes, I told some friends, but they told me that PrEP is for promiscuous people. I told them that it wasn't the case and that one could never tell the HIV status of people in the street" (MSM respondent 6).

Another participant highlighted that changes in social circumstances like getting married resulted in some stopping PrEP as they couldn't reveal reasons for taking PrEP to their new partner as they would inadvertently "out" themselves as bisexual:

"He got married, he was bi. He couldn't take PrEP anymore because his wife wouldn't understand" (MSM Respondent 2)



Side effects.

PrEP medicine side effects were identified by respondents to be an adherence barrier. This included both directly experienced side effects (i.e., having experienced the undesirable effects) and feared side effects (i.e., apprehension about experiencing future side effects but not yet having experienced them). Nausea, hunger pangs, general body weakness, headaches, and dizziness were some of the most commonly experienced side effects. The majority of participants who experienced side effects, such as a transient presentation of headaches and nausea, reported the resolution of these side effects shortly after starting PrEP.

"I won't lie, the first 3 days were bad, I had diarrhoea, slight headaches, and general body weakness. I got better after about a week. I had been warned about the possible side effects" (MSM Respondent 6).

However, for some clients the experience was different with some of them experiencing persistent side effects that eventually led them to discontinue PrEP despite the ongoing risk of HIV acquisition as quoted below:

"I experienced dizziness, and I stopped after 3 months in 2020 as it wasn't subsiding. I decided to stop" (MSM Respondent 5)

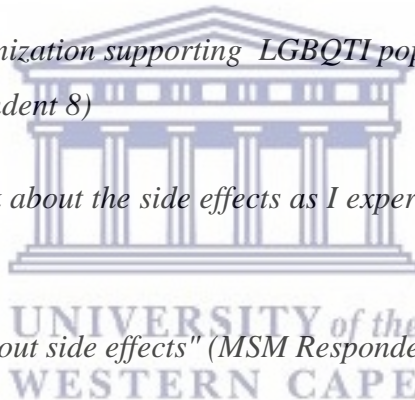
"It was difficult because I got sick at first, I was nauseous and lost my appetite and so I decided to stop after a month" (MSM Respondent 17)

Participants were generally happy with the information about PrEP side effects that they received from health providers. However, some highlighted that they had received inadequate information about PrEP side effects at initiation and that when they did experience them, they were not mentally prepared to deal with them. This is reflected in the following responses:

"No, the staff at X (another organization supporting LGBTQI populations) didn't explain enough about side effects" (MSM Respondent 8)

"Yes, I wish so, especially to talk about the side effects as I experienced them and stopped taking PrEP". (MSM Respondent 7)

"No, they never said anything about side effects" (MSM Respondent 4)



Pill Burden.

Some participants cited daily pill taking as a burden and a challenge that made it difficult for one to continue taking PrEP. Daily oral PrEP pill taking was regarded as far too similar to pill taking for HIV treatment and for some it didn't make sense for one to take medication daily as if they were HIV positive:

"Yes, because it is like someone is already HIV positive and they have to take their pill every day. It's a burden" (MSM respondent 9).

The health care worker respondent also highlighted similar concerns:

“One of the concerns is the stigma associated with taking the pill daily which is usually mistaken for ARVs. Generally, there is not enough information on PrEP. Also taking medication every day when one is HIV negative is burdensome. Some people are afraid of side effects” (Nurse respondent 1)

As a result of the challenges associated with pill burden, many participants highlighted that they would prefer to switch to injectable PrEP once this product was available in the Zimbabwean market. This is reflected in the response from an MSM respondent:

“Definitely, at last, that would last for a few months. We only take the pills because those are the available ones. They are inconvenient, especially the questions asked when one travels. People conclude that the pills are ARVs” (MSM respondent 13)

Some respondents also expressed that it was burdensome to take daily oral PrEP especially if one did not have a regular sexual partner:

“I don’t think it would work because I was told that I would need to take at least a 7-day course for it to work especially if I don’t have a regular partner”.(MSM respondent 4)

One respondent further highlighted willingness to take Event-Driven PrEP⁵ as this was less burdensome.

“I didn't know. We should make arrangements so that I get this” (MSM respondent 4)

However, some respondents did not think Event-Driven PrEP would help ease the pill burden and they echoed perceptions from the community that it was associated with promiscuity with one participant saying:

“Hhhhhm, I think it's for promiscuous people” (MSM respondent 16).

Another respondent also pointed out that they had encountered bad side effects upon taking Event-Driven PrEP:

⁵ Event Driven PrEP- Event-driven PrEP involves taking a double dose (two pills) of Truvada (tenofovir disoproxil fumarate/emtricitabine) between 2 and 24 hours before sex is anticipated, and then, if sex occurs, one pill 24 hours after the double dose and another 24 hours later. If sex occurs several days in a row, one pill should be taken each day, until 48 hours after the last event.

"The first time it was terrible, I took it (Event-)Driven PrEP 3 hours before a partner came over. When I was escorting them to the bus stop, that's when I started feeling dizzy and I had a slight headache. When my dad came home, I had a fever, but I couldn't tell him the truth. When I felt better, I took the last 2 pills" (MSM respondent 9)

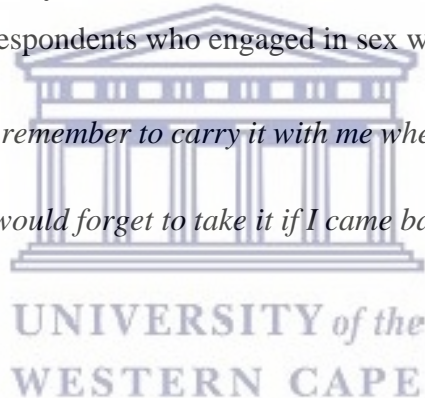
The challenge of pill burden was closely linked to the challenge of forgetfulness as a barrier to PrEP adherence and as such it will be discussed below.

Forgetfulness.

Some participants disclosed that sometimes they would forget to take PrEP medication due to various reasons including being away from home, hectic schedules or if they went out. This was a strong factor, especially for the respondents who engaged in sex work as highlighted below:

"With oral PrEP, it is difficult to remember to carry it with me when I travel (MSM respondent 9).

"I go to the club sometimes and would forget to take it if I came back late " (MSM respondent 8)



Competing Priorities.

Respondents detailed an assortment of competing life needs that either directly were an impedance to PrEP adherence (e.g., work plans that prevented members from taking PrEP) or indirectly prevented them (e.g., not being able to prioritize, HIV avoidance).

"I kept procrastinating when it came to collecting the PrEP in person, I eventually forgot about it" (MSM Respondent 1)

"I got very busy and never got a chance to visit the centre to collect my PrEP medications" (MSM respondent 3)

Alcohol Use.

Some studies have suggested that heavy drinking of alcohol is related to diminished medication adherence and that individuals with problem drinking may be more likely to miss a dose of medicine as a result of drinking alcohol or taking illicit drugs, forgetting, or allowing their medical supplies to get depleted. Although the majority of participants highlighted that they were not heavy alcohol users, one respondent identified that alcohol use may have resulted in him engaging in risky sexual encounters:

"I had sex while I was drunk and didn't know if I used protection or not" (MSM Respondent 15)

Other participants pointed out that alcohol use was also a factor resulting in his MSM friends or partners forgetting to take their PrEP medications on time, their responses are captured below:

"Yes, I have several (friends) who have reported forgetting after drinking heavily" (MSM Respondent 12)

"He just hates pills in general, he just does not like pills for any illness. He's also a heavy drinker and he forgets" (MSM respondent 8)



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Risk Perception:

Some participants highlighted that low perceived vulnerability to HIV may have resulted in them using PrEP inconsistently or stopping altogether.

"I stopped PrEP because just observed that everything was now alright, and my partner seemed fine, I had no problem " (MSM respondent 1)

Some of the clients discontinued PrEP because they perceived that they were out of risk and that there was no need to continue PrEP. This is ideal as PrEP is supposed to be taken during a season of risk. This is reflected in the quotations below:

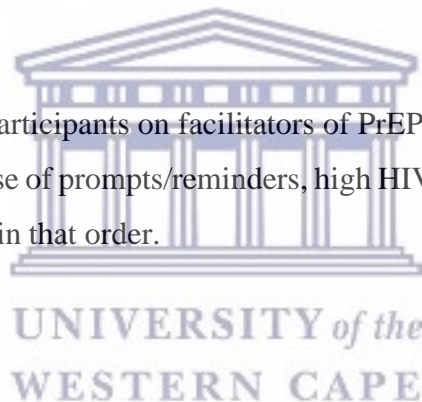
"When I was in a relationship, I took the PrEP every day, at the same time. I now take the PrEP if I think I'm at risk. I stopped taking PrEP when I broke up with my boyfriend and I didn't want to be in another relationship" (MSM respondent 14)

"If I had had a counsellor with whom I had a rapport, I probably would have taken my initial PrEP course consistently" (MSM Respondent 8)

In summary, when the barriers to PrEP as identified by MSM, trans-women and health workers are distilled it can be seen that side effects, stigma, pill burden, forgetfulness, heavy alcohol use, competing stressors and absence of social support are some of the are the most common barriers identified by participants. The next section will now focus on identified facilitators to adherence.

FACILITATORS OF ADHERENCE:

The themes that emerged from participants on facilitators of PrEP adherence were social support, supportive health care systems, use of prompts/reminders, high HIV risk perception, and individual agency. These will be discussed in that order.



Social Support:

As discussed previously social support networks were identified by participants as important in helping them take their PrEP. These social support networks included close family members, friends/peers or even partners.

Shared adherence behavior

An example of such support that was highlighted was the mechanism of taking medications at the same time which could be followed by peer competition that reinforced PrEP adherence. In the case of some respondents this included taking PrEP with a partner as highlighted below:

"Yes, he was as he was the one who told me about it, and we would take it together" (MSM Respondent 4)

No, I don't forget to take PrEP, one of the groups to which I belong is very alert and we remind each other to take our medication (MSM respondent 10)

Another respondent highlighted that having people that he lived with who were also taking PrEP proved invaluable in helping him to be adherent to PrEP:

"It was the people I lived with, they were on their own medication and when they took theirs, I would be reminded to take mine" (MSM respondent 5)

Some other participants revealed that having relatives who were taking medications for chronic conditions like HIV helped them to remember to take PrEP and motivated them to remain negative:

"I have had times when I forget to take it but usually, I take it consistently. I haven't had any problems. I can testify that it works. Since 2018 up to now, I dated an HIV positive partner, but I have remained negative. My partner is on ART, and we take our medication together" (MSM Respondent 14)



Supportive health-care systems

In the previous sections, it was identified that poor support from health systems could act as a barrier to PrEP adherence the converse was also noted to be true. Participants highlighted that health services could be a facilitator to PrEP adherence. Notable overlaps were noted between health worker support and social support with participants revealing that they had received adherence-related counselling and support from clinic staff like nurses or KP DSD Assistants⁶.

"No, from the first day X (KP DSD Assistant) advised us to set an alarm as an everyday reminder to take the PrEP at a specific time. I also told my friends so that they would remind me to take the PrEP" (MSM Respondent 2).

⁶ KP DSD Assistant- Key Populations Differentiated Service Delivery Assistant

Health care worker support was noted to be pivotal at initiation with some participants highlighting that being given enough information by clinicians about side effects had helped them continue to take their medicines even when they experienced side effects:

Q: "Because of the side effects, were you not tempted to stop taking PrEP?"

A: "No, we had been counseled on the possible side effects and had been advised that the body would eventually adjust to PrEP" (MSM Respondent 5)

This support was also experienced in cases where the participant delayed getting their PrEP refills or when they stopped taking medication. In these cases, clinicians followed up to establish reasons for that and support the client. Apart from being just friendly and non-judgmental long-term support from clinicians was noted to be important:

"I was told that it helps prevent HIV. I had been given this information in 2018 when I took PrEP briefly but defaulted. I was called by the clinicians asking me why I was not collecting my pills" (MSM Respondent 12)

Another participant when asked whether he received support when he stopped PrEP replied:

"Yes, when I went back to the X NGO health centre , they asked me why I had stopped, and I told them. They advised me about the positives of taking PrEP" (Peer Mobiliser)

Flexible PrEP dispensation and resupplies.

During the different waves of the COVID-19 pandemic, to ensure safety for clients and to reduce the pressure of patients coming to the clinic in person PrEP was prescribed for up to one to 3 months to ensure continuity of care. Many participants highlighted that they appreciated this multi-month dispensation of medication and felt that it had helped them adhere to their medicines:

"Not at first, but I explained my situation and indicated that I would sometimes go camping and they started giving me doses for 2 to 3 months at a time" (MSM Respondent 2)

Other participants also revealed that apart from the multi-month dispensation of PrEP medicines the usage of various Differentiated Service Delivery models whereby they could get their medication resupplies at home also helped them to adhere to their medicines:

"There was a point when clinicians brought us our PrEP at home, at least things got better then" (Peer Mobiliser).

Another participant went on to indicate that these at-home deliveries of PrEP would often result in people becoming curious about PrEP and it became a good opportunity to conduct health education sessions on PrEP:

"The clinicians come to my home" (MSM Respondent 13)

Q: Are you comfortable with that arrangement?

A: " Yes, I am. Some neighbors were curious, and I explained what PrEP is" (MSM Respondent 13)

However, for some, home deliveries became a bit of a challenge as sometimes they wouldn't appreciate the extra attention they would receive when clinicians came to their places of residence:

Q: "Won't the neighbours be curious if PrEP is delivered at home?"

A: "Actually, I experienced that problem in H (a neighborhood) some time back. The landlady was very nosy and would eavesdrop by my window if I had guests. She was a snoop. There is no problem where I stay now" (MSM Respondent 16)

This was also highlighted by the health care worker who is quoted below:

" When we ask them if they are comfortable receiving PrEP at home, they ask to meet away from their residence, maybe at shops or a road some distance from their homes. They don't want their neighbours to know. Some don't mind if we go to their homes. Leaders for sex worker groups don't mind if we go directly to their homes and deliver medication" (Nurse Respondent 1)

Reminders and Routines:

The majority of the participants highlighted the role that prompts like alarms, text messages or WhatsApp messages, and regular reminders from partners and health care workers played in helping them to remember to take their medicines. Some also reported that routines like taking medicines at a constant time daily helped them adhere to their medications. Some went further to indicate that even simple things like keeping their medications in a highly visible place helped them to remember to take their medications. Some respondents who were taking other medications for other conditions also indicated how they had integrated PrEP into their current pill-taking habits. Some of the quotations below buttress those viewpoints:

"I take it every morning. I usually go out and I put a pill in my bag so that I can take it. I eat first and then take my pill" (MSM Respondent 8)

"I set an alarm, but I'm now used taking my pill at 9 every night" (MSM Respondent 13) "I have a group to which I belong, we remind each other" (Peer Mobiliser)

One participant indicated that whilst they had a built system of using alarms as a reminder, sometimes, they would end up taking more than the daily dose as reflected below:

Never, I don't forget. I take it at 6 am as soon as I get up. However, I sometimes take it twice, having fallen asleep after the 6 am dose. When I wake up again, I forget that I took the dose for the day (MSM Respondent 16)

Risk Perception.

As shown previously perceived low risk of HIV acquisition was identified as a barrier to PrEP adherence. However, some participants recognized assessment of their risk of getting HIV as an important factor in promoting adherence to PrEP:

"With me, it's the realization that I'm sometimes at risk because of my sexual choices" (MSM

respondent 15).

Individual Agency.

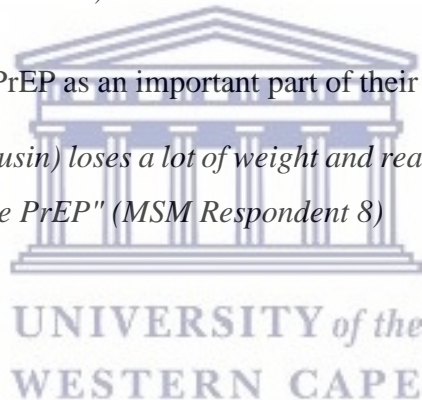
It was noted that risk perception and recognizing one's vulnerability to acquiring HIV helped participants to perceive the "loss" of health associated with not taking PrEP consistently. It was noted that individual agency and seeking to invest in one's health positively contributed to PrEP adherence. Some participants specifically highlighted personal responsibility for caring for one's health and the perception of control over their health as important:

"I just thought the benefits would outweigh the side effects" (MSM Respondent 7)

"I had to analyze my risk and felt I couldn't stop yet as I didn't trust the person I was in a relationship with" (MSM Respondent 15)

Another participant highlighted PrEP as an important part of their general wellbeing:

"However, sometimes she (my cousin) loses a lot of weight and reacts adversely to ARVs, so I don't want to be sick that way, so I take PrEP" (MSM Respondent 8)



Absence of Side Effects

Whilst side effects were noted to be an important barrier to PrEP adherence it was also noted that the absence of side effects resulted in PrEP being seen favourably. Clients who had not experienced any side effects were likely to see PrEP positively and they would likely adhere to their medications:

I like it. It is very helpful. Others complain of side effects, but I have not experienced any. (MSM respondent 16)

Yes, we were told about headaches, feeling weak etc. but I didn't experience any (MSM respondent 2)

4.3. SUMMARY OF RESULTS

Theme 1 presented MSM and transwomen's experiences in accessing health services and how these experiences played a role in PrEP adherence. Theme 2 outlined the sexual risk faced by MSM and trans women and the HIV prevention strategies adopted to mitigate their risk of getting HIV. It also linked this with the uptake of PrEP as an HIV prevention service. Theme 3 looked at perspectives of participants on PrEP and peer influence on the acquisition of knowledge on PrEP and linked this with PrEP adherence. Finally, theme 4 explored the specific barriers and facilitators to PrEP adherence as identified by MSM, trans women and health care providers which included disclosure, stigma, side effects experiences, competing priorities, HIV risk perception amongst others as facilitators and barriers to PrEP adherence.



CHAPTER FIVE

DISCUSSION

5.1 Introduction

The purpose of this chapter is to discuss the importance of the study findings. In this chapter's presentation the researcher examines how the findings relate to prior research by discussing the themes and sub-themes in the context of relevant literature. Secondly a consideration of the limitations of the study follows and thirdly the recommendations are outlined. The study established what nurses, KP -peer mobilisers, MSM and transgender women believed to be the key facilitators and barriers to PrEP adherence and continuation. The study also explored the HIV prevention and treatment-seeking behaviour of MSM, and trans-women including access and adherence to PrEP and also identified gaps in PrEP service delivery, and these will enable the researcher to make recommendations for further research and policy for the PrEP program.

5.2 Key Facilitators and Barriers to PrEP adherence identified by MSM and Transgender women

Despite the high levels of PrEP awareness and knowledge shown by the study participants they highlighted significant barriers to PrEP use. These barriers included societal and health care system related stigma, medication side effects, reduced risk perception, forgetfulness and competing priorities. Despite the above barriers, positive social support, health systems support, reminders, HIV risk perception, multi month delivery of PrEP drugs during COVID-19 were identified as primary facilitators for PrEP continuation. While there has been some research that has been carried out in Zimbabwe on PrEP barriers and facilitators this research has focused on general populations, adolescent girls and young women, and female sex workers. This particular study focused on MSM and trans-women whose PrEP access needs are not as well understood and documented in Zimbabwe.

For PrEP to be an effective intervention there is need for it to be acceptable, accessible, and adopted in sustainable manner as part of a comprehensive HIV prevention care package. In the event that some of the above components are missing even the most highly effective PrEP

medication will have minimal impact in HIV infection reduction . It is necessary for health workers to be trained and for them to be familiar with all identified themes pertaining to barriers and facilitators of PrEP adherence in order to ensure high uptake of PrEP among at-risk sub-populations like MSM and trans-women in Zimbabwe.

5.3 MSM and transwomen experiences accessing health services like PrEP

The study findings showed that positive experiences when accessing health care services was related to better PrEP uptake and adherence. Study findings revealed that health staff friendliness, reduced patient waiting times, privacy and absence of stigma were the main factors that contributed to an overall positive experience by participants when seeking services. The study findings were similar to studies conducted by Hubach *et al.* (2017), Watson *et al.* (2020), Woods *et al.* (2019) which showed that LGBT-sensitive medical care that included KP-friendly medical providers was an important facilitator to PrEP adherence among MSM and trans-individuals. Although the study contexts may have been different as these studies were conducted in the USA, the study populations were very much similar. The study findings also echo a 2021 study by Muhumuza *et al* which showed that long waiting times at clinics, attitudes of health workers were perceived by adolescent girls and young women to be barriers to accessing PrEP. Similarly, the risk for HIV acquisition in both AGYW's⁷, MSM and transwomen sub-populations is much higher than in the rest of the population (George *et al.*, 2021). This means that addressing these institutional barriers that may hinder access to PrEP as an HIV prevention intervention by all these at-risk and vulnerable populations may have a material impact in lowering HIV incidence in Zimbabwe. This may yet prove to be a critical step in ending the pandemic in the country.

Study findings also showed that MSM and transwomen also preferred designated rooms where their services could be fast-tracked and in which they felt they encountered less stigma when accessing health services. The findings showed that interventions like the ColourZ intervention at the New Start Centres where MSM and trans clients access services from designated spaces which have IEC materials like rainbow-colored posters that they can identify with is viewed very

⁷ Adolescent Girls and Young women

positively. These study findings are similar to what Jaiswal *et al* (2021) discovered in a study among young MSM in New York city where they noted the need to develop culturally sensitive, patient focused and accessible services that alleviated the concerns of young MSM and trans women. The study findings indicated that having such interventions within public sector facilities may result in increased access to services at public sector facilities by MSM and transwomen.

Health-care provider capacity as a barrier to service uptake

The study findings also showed an emphasis by respondents on the significance of health service providers capacity in addressing the HIV/SRH needs of key populations. Robert *et al* (2020) also showed similar findings in a study of the factors influencing access of HIV and sexual and reproductive health services among adolescent key populations in Kenya. Study findings also showed that some public sector providers were regarded as lacking adequate skills and knowledge about health needs of MSM and trans population. These knowledge gaps need to be addressed in order to build a robust KP program in the public sector and increase uptake HIV preventive service like PrEP.

However, addressing these factors in an environment where there is health staff attrition as the country is facing a human resources for health crisis makes this a very difficult undertaking (Zinyuke, 2021). High staff turnover may also be an impediment in the event that those trained leave the facilities resulting in a skills gap. These factors need to be addressed in public sector health facilities in order to optimize access to HIV services in the health facilities by key populations like MSM or transwomen. For this to be accomplished it is imperative to ensure that all health care providers in public sector facilities are trained and capacitated to provide KP-friendly services. What will likely be a challenge is how to ensure that all providers are trained as this will need a significant financial investment which may be unavailable. Including modules on Key-populations programming and HIV preventive interventions training like PrEP training during pre-service training of health providers like nurses and doctors may possibly remedy this for those health providers that will be trained in the future, but questions remain for those providers currently in service. Whilst training is important, by itself it does not always deliver, it is also important to monitor the quality of services provided by these trained providers. Involving KP

communities through Community Led monitoring initiatives in order to get qualitative feedback from recipients of care is important and must be coupled with the training of service providers.

Health care seeking experiences of participants revealed how paucity of knowledge on PrEP and misinformation about PrEP can stop MSM and trans individuals from accessing PrEP. The study findings echo what has been seen in other studies on PrEP adherence among other key or vulnerable populations (Busza *et al.*, 2021; Muhumuza *et al.*, 2021). Thus, dissemination of PrEP information for the MSM and trans community should include clear, tailored messaging on PrEP benefits, side effects and should counter the waves of PrEP misinformation that is found within the MSM and trans community. Interestingly positive attitudes towards novel PrEP delivery methods like long acting Cabotegravir PrEP injections and implants suggests these alternative administration and dosing methods may be very well received by MSM and trans communities and could possibly help address the challenge on poor adherence to PrEP. Given that Zimbabwe has been among the first African countries to adopt long acting Cabotegravir as a PrEP intervention it's imperative for the country to quickly roll out it out and scale up its use among at-risk populations.

Expanding the available health care services to include mental health care and address the unmet needs of the MSM community was regarded as important. Several respondents highlighted how mental health disorders could potentially obstruct them from consistently engaging with the health care system. These sentiments indicated that there is need for expansive, integrated, client centred mental and physical health services customized to meet the needs of MSM and trans individuals. Homophobia and other overlapping types of discrimination, stressful experiences like interpersonal violence are encountered frequently by MSM and trans individual and often result in high rates of mental health conditions among MSM and trans communities (Shipherd, 2018). Health services that are trauma -focused for MSM and trans people may be very helpful in improving access to and continuity on PrEP this includes mental health screening, diagnosis, linkage to psycho-social support. It should build upon current advancements in HIV prevention programs to manage trauma and its related outcomes (Sales *et al.*, 2016).

Findings also showed how sustained PrEP adherence is also dependent on the ability of health systems to deliver PrEP to at risk populations like MSM. Respondents recognized important

aspects of health care systems that acted as barriers (inaccessibility to facilities , stigma) and contrarily as facilitators (presence of PrEP adherence champions like Peer mobilisers, gender and sexuality affirming environments). Interventions like home-delivery, pharmacist-delivered PrEP, usage of community PrEP champions, PrEP buddies or support groups and telehealth may prove to be very impactful in ensuring increased PrEP adherence. (John *et al.*, 2017)

The facilitators to PrEP uptake and continuity that cropped up from the discussions are vital for generating messaging and educational initiatives. Respondents highlighted emotional relief from HIV risk reduction, health prioritization to live long lives as some important facilitators. Particularly, high HIV risk perception was noted to be a key driver of continued PrEP adherence behavior. This finding mirrors that of a 2017 Ugandan study by Haberer *et al* that indicated a significant relationship between sexual activity, HIV serodiscordant partnership and sustained PrEP use. It's important to use these insights to guide IEC development process and messaging on PrEP found within the media platforms. Some participants further indicated how health programs like the PrEP program should not be divorced from economic empowerment programs for MSM and trans individual given that they face high rates of economic vulnerability. Important lessons can be gleaned from the AGYW DREAMS⁸ program on how to have inclusive programsthat addresses this.

Study findings showed that social support like shared adherence behaviour between partners or within networks helped to curb stigma and improve adherence. Participants reflections relayed the important role HIV-positive partners and friends played in providing mutually supportive alliances around adherence to PrEP and ART. More research that focuses on aiming at seromixed communities of HIV-positive and negative MSM and trans people to support network-level adherence rather than merely coming up with interventions tailored by sero-status. This may include exploring how to integrate the U=U⁹ messaging in the ART program with messaging on PrEP (Smith *et al.*, 2021). Some study participants indicated that alcohol consumption may negatively affect PrEP adherence and may also lead to riskier sexual behaviors like condomless sex. It was reported that after an MSM had consumed alcohol they were more likely to engage in

⁸ Determined, Resilient, Empowered, AIDS-free, Mentored and Safe (DREAMS) partnership is an ambitious public- private partnership aimed at reducing rates of HIV among adolescent girls and young women (AGYW) in the highest HIV burden countries

⁹ U=U - An international campaign to raise awareness about this aspect of HIV treatment (ART).

unprotected sex and possibly withstranger. Similarly, a 2016 study by Ramsoomar-Hariparsaad discovered that heavy alcohol useled to more risky sexual behavior. This indicates that health messaging needs to tackle substance abuse like alcohol abuse and integrate this with HIV prevention messaging especially for the younger MSM.

Research findings gave some indications of inconsistent use of condoms by some MSM when concurrently using PrEP. There have been fears surrounding the possible changes in sexual behaviors among PrEP users including adoption of condomless sex and having multiple sexual partners. These fears emanate from risk compensation, a phenomenon whereby there is perceived reduction in HIV risk resulting in riskier sexual behaviour (Manguro *et al.*, 2022). A 2022 Kenyan study by Manguro and colleagues on condom use among KP PrEP users seemed to refute this assertion. So, it will be necessary to conduct more quantitative research with larger samples in Zimbabwe on condom use among PrEP clients in order to get a clearer understanding on this matter. This is particularly important given that PrEP is only protective against HIV but not against other STI's or unwanted pregnancies. In the meanwhile, it's still important to strengthen health education for MSM on HIV prevention and to raise KP communities' awareness of risky sexual behaviours and how to utilize a comprehensive health package to prevent HIV acquisition. It is also important to further examine prevalence of STI's among PrEP users and compare this with prevalence of STI's among MSM non-PrEP users. Current studies on the relationship of STI cases and PrEP use among MSM have been inconclusive hence the urgent need to have local research on the matter in Zimbabwe (Stewart *et al.*, 2022). This will need to be examined in the context of the study findings on condom use among PrEP users in order to enable Public Health practitioners to tailor the messaging on condom use in the presence of other HIV prevention interventions.

HIV self-testing has been identified to be one of those testing modalities that can enhance case finding of those HIV positive among at-risk populations like MSM and trans women (Qin *et al.*, 2022). Study findings suggested that HIV self-test kits are being utilized frequently by MSM. However, this distribution of self-test kits among MSM will need to be moderated because of the

need to optimise available HIV testing resources given shrinking donor funding for HIV testing and minimal investment in HIV prevention programs from leveraged domestic funding. Several participants highlighted that they had used multiple HIV self-test kits within the same testing period on themselves following risky sexual encounters. This is in effect a waste of self-test kits and reflects the need to strengthen the MSM community education on the usage of self-test kits, frequency of usage and how to integrate this with HIV preventive services.

Distribution of lubricants is important in HIV prevention interventions for MSM communities. The use of lubricants reduces the risk of HIV transmission when men have sex with men and the World Health Organization states that water or silicone-based lubricants are central to correct condom use during anal sex (WHO, 2018). Respondent insights on lubricant use offered a window into MSM community perspectives of the available products in the Zimbabwean context. The fact that some of the respondents expressed displeasure with the sexual experience when using lubricants is an important finding. A 2016 study on lubricant use among MSM in Tanzania showed that about two thirds of the respondents made use of lubricants during penetrative anal sex (Romijnders *et al.*, 2018). It will be important to explore the use of lubricants in Zimbabwe further and establish the prevailing sentiments about product quality, availability and use by MSM and transwomen in Zimbabwe so as to minimize their risk of getting HIV.

Limitations of the study

Often qualitative research is not aimed at being generalizable rather its often utilized to gather rich insights into the meanings of the study topic. The study does provide richer insights into the facilitators and barriers to PrEP adherence, but limitations should be considered in the interpretation of these findings. Firstly there was only one trans woman who was interviewed hence these findings may not be generalizable to the larger population of MSM and transwomen on PrEP. The sample also consisted of men who have sex with men and transgender women who are predominantly from the poorer socio-economic strata and as such, missed the urban clients from a richer background whose reasons for non-adherence may be different. Participants in the study were those individuals who somehow have continued to be engaged in the health system. Therefore, the study missed non-adherent participants who have stopped engaging with health facilities altogether. The participants were limited in terms of age given the ethical implications of

engaging younger participants. Another study limitation is that the respondents were from only two sites and did not include participants who were accessing services from other facilities whose experiences may have been different. It's important to have future robust quantitative investigation to formally test for the identified facilitators and barriers and PrEP adherence behaviour in these other facilities. Finally, whilst this study focused on adherence as self-reported by participants, it must be noted that subjective adherence reporting is limited due to overestimation of adherence either as a result of social desirability or recall bias as is common across other medical disciplines.



CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study showed that MSM and trans women are engaging with the health care system and accessing various HIV prevention services at the New Start Centres including HIV testing, PrEP, STI diagnosis and management and access to condoms and lubricants. Study findings indicated the inconsistent use of condoms by some MSM who are taking PrEP and further research is needed to establish whether there is actually a relationship between the two. The study findings also showed high levels of PrEP awareness and knowledge of both clients who had discontinued PrEP or continued on PrEP. The study also identified barriers to PrEP use and adherence as identified by participants. These can be broken into health system related factors and patient related factors. Some of the barriers identified included societal and health care system related stigma, medication side effects, reduced risk perception, forgetfulness and competing priorities. It was also noted that provider friendliness and follow up of clients also influenced whether one continued on PrEP or not. Study findings revealed that social support, health system follow up and support, usage of reminders, HIV risk perception, client centred care including telehealth, flexible access and resupply mechanisms were some of the identified facilitators to PrEP adherence. Learning from the study findings on the health seeking decision making process, participants experiences, facilitators, and barriers to PrEP for MSM and transwomen as identified by participants can help inform program improvements and adaptations to support increased uptake of PrEP

6.2 Recommendations

Based on the findings of the study, the following recommendations are made:

- The Ministry of Health and Child Care should ensure that more health workers in both public sector and private health facilities are trained and equipped to provide HIV prevention, care, and treatment services to MSM, trans- and other key populations in gender and sexuality affirming manner.
- Programmers should expand the use of various differentiated service delivery models for

PrEP to ensure services are accessed at places of greatest convenience to clients in a safe, client centred manner.

- Programmers need to raise community awareness and “reframe and normalize” PrEP through carrying awareness campaigns (radio, tv, IEC material, social media e.g., Twitter, Instagram, Facebook, Tik-Tok etc.) to reduce PrEP related stigma, PrEP medication, dosage, side effects and importance, this message should be expansive and include message on substance abuse, Intimate Partner Violence.
- Peer education should continue to be encouraged and expanded and adopt adherence support group programmes similar to the ART program to help MSM clients learn from one another about their life experiences, overcoming barriers to adherence, act as reminder clubs to help clients support each other.
 - Psychosocial support maybe be rendered virtually through platforms such as WhatsApp where groups can be set up and clients share motivational messages, experiences and questions can be addressed without need for in person meetings or visiting health facilities.



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APPENDIX 1 CONSENT FORM

MRCZ No/B/2215

Page 1 [of 5]

INFORMED CONSENT FORM



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PROJECT TITLE : *Exploring the barriers to HIV pre-exposure prophylaxis adherence for men who have sex with men and transgender women in Harare Metropolitan Province, Zimbabwe*

Principal Investigator : Takunda Sola , (M.D)

Phone number(s) : 0773 122 544

Email: adonissola@gmail.com

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What you should know about this research study:

- We give you this consent so that you may read about the purpose, risks, and benefits of this research study.
- Routine care is based upon the best-known treatment and is provided with the main goal of helping the individual patient. The main goal of research studies is to gain knowledge that may help future patients.
- We cannot promise that this research will benefit you. Just like regular care, this research can have side effects that can be serious or minor.
- You have the right to refuse to take part or agree to take part now and change your mind later.
- Whatever you decide, it will not affect your regular care.
- Please review this consent form carefully. Ask any questions before you make a decision.
- Your participation is voluntary.

PURPOSE

You are being asked to participate in a research study that seeks to explore the barriers to HIV pre-exposure prophylaxis adherence for men who have sex with men and transgender women in Harare Metropolitan Province, Zimbabwe. The purpose of the study is to find out some of the barriers that prevent adherence and continuation of HIV pre-exposure prophylaxis among MSM and Transgender Women. You were selected as part of twelve study participants in this study because your knowledge and experiences in Key Population programming is invaluable in order to understand the reasons why it is difficult for men who have sex with men and transgender women to adhere or continue taking their HIV pre-exposure prophylactic therapy

PROCEDURES AND DURATION

If you agree to participate, you will be asked to sign a consent form. Signing the consent form is an indication that you have understood what you have read or what has been read to you and you are willing to take part in the study. For your records, a copy of the participant information and consent form will be given to you. You will be asked to participate in an hour-long face-to-face interview with the researcher. This interview will be conducted at a convenient location to you. During the interview you will be asked questions about how clients that you are supporting are taking their prophylactic therapy and any challenges you have noted to be impacting MSM and Transgender Women taking their medication. Should you consent to audio recording, the interview will be recorded using a voice recorder so as to ensure that all information you provide is captured.

RISKS AND DISCOMFORTS

The aim of this study is not to cause offense, discrimination, or further stigmatization to you but to learn from your experiences. There are potential emotional risks you may encounter from participating in this research study and this may include, finding it upsetting to talk about the challenges or barriers that you have seen being encountered by clients in your care in taking HIV pre-exposure prophylaxis. I will ensure that these risks are minimized and will promptly act if you experience any discomfort, psychological or otherwise during your participation in the study. If need be, an appropriate referral will be made to an equipped professional for further assistance.

BENEFITS AND/OR COMPENSATION

We cannot and do not guarantee or promise that you will receive any benefits from this study. This research is not designed to help you personally, but the results may help me learn more about some of the challenges that prevent HIV negative men who have sex with men and transgender women from adhering and continuing taking HIV pre-exposure prophylaxis. It is hoped that this research will help identify ways to help HIV negative men who have sex with men and transgender women to adhere and continue to take HIV pre-exposure prophylaxis in the correct manner and at the right time. This will help to keep them healthy and prevent them from getting HIV. An anonymized report of the study will be shared with the clinic authorities with the aim to improve service delivery for key population clients at the facilities. You will receive a \$5 USD reimbursement to cover lunch and transport to allow you to come to the study location.

CONFIDENTIALITY

If you indicate your willingness to participate in this study by signing this document, we plan to disclose to the responsible authorities for the clinics (Population Solutions for Health) and University of the Western Cape the insights you would provide regarding the continuation and adherence of Pre-Exposure Prophylaxis. Kindly note that no information that pertains to your identity or location will not be shared without your approval. Any information that is obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission

ADDITIONAL COSTS

There are no additional costs that you are expected to incur during this study

IN THE EVENT OF INJURY/DISTRESS

Should you as a participant need any counselling services with regards to your experiences in the care and treatment of this vulnerable population such services would be provided for you.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with Population Solutions for Health as your employer and its personnel. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty.



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SIGNATURE PAGE

PROJECT TITLE: *Exploring the barriers to HIV pre-exposure prophylaxis adherence for men who have sex with men and transgender women in Harare Metropolitan Province, Zimbabwe MRCZ No/B/2215*

OFFER TO ANSWER QUESTIONS

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

AUTHORIZATION

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

Name of Research Participant (please print) _____ Date _____


Signature of Participant or legally authorized representative _____ Time _____

Relationship to the Participant _____

[The above two lines should appear on forms signed by legal representatives of the participant, for example the parents of a minor.]

Name of Staff Obtaining Consent _____ Signature _____ Date _____

Name of Witness (if required) _____ Signature _____ Date _____

YOU WILL BE OFFERED A COPY OF THIS CONSENT FORM TO KEEP

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant or research related injuries, or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the Medical Research Council of Zimbabwe (MRCZ) on telephone (04)791792 or (04)791193 and cell phone lines 0784906128. The MRCZ Offices are located at the National Institute of Health Research premises at Corner Fourth, Lombard and Masvingo Avenues in Harare.



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APPENDIX 2: SEMI-STRUCTURED INTERVIEW GUIDE ENGLISH

1. Can you tell me about yourself.

Prompts.

- Age, livelihood
- Where do you stay and how long have you been staying there?
- What have been your experiences in the place of residence?

2. Can you tell me about the clinic you go to for your HIV prevention services?

Prompts.

- How long have you been attending the clinic for services?
- How do you feel about the services?
- What services are you accessing at the facilities and what treatment are you currently on?
- Are there other health providers where you access other services?
- What are the support groups that you are a part of (if any)?

2. How long have you known about your HIV status?

Prompts.

- Where did you find out?
- What happened after?

3. What are the risks for you concerning sexual health?

4. Can you tell me about your experience of starting HIV pre-exposure prophylaxis therapy?

5. Can you tell me what you were told about the therapy?

Prompts.

- Who told you?
- What information did they give you?
- How do you feel about the information that was given to you?

6. How do you feel about this pre-exposure prophylactic treatment you have been started on?

Prompts.

- How long have you been on it?
- How do you take the treatment?



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- What helps to remember to take your treatment?
- Were you using any other methods to prevent you from getting HIV e.g., condoms?

7. Who did you inform about taking PrEP? Friends, Family, Sexual Partner?

Prompts.

- How did they feel about it?
- Were they supportive?
- Did you experience any harm from your partner, family, or friends when you started taking PrEP?

8. Can you tell me about the times when you started missing or stopped taking your PrEP medicines?

9. What do you think were the main reasons that might have made it difficult for you to take your PrEP medicines?

Prompts.

- What was going on in your life when you started missing or stopped taking your PrEP medicines?
- Health providers
- Support from family, friends, support group i.e., did they disclose to anyone, do they receive any support, reminders from any family members, friends, support group.
- Stigma from society

10. How do you feel when you miss taking your PrEP medicines?

11. What do you think could be done to support you and others in taking your PrEP medicines?

Prompts.

- From family, friends, support groups, health services.

12. During the COVID-19 lockdown period did you encounter any challenges in accessing healthservices?

Prompts

- Which Health services? PrEP medication access , how did you over these challenges?



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APPENDIX 3: SEMI-STRUCTURED INTERVIEW GUIDE-SHONA

1. Unokwanisa kundiudza pamusoro pezvako neupenyu hwako?

Prompts.

- Makore, Nzira dzekurarama nadzo
- Unogarepi uye wave nenguva yakareba sei uchigara ipapo?
- Unokwanisa here kunditsanagurira zvaunosangana nazvo paunogara ipapo?

2. Ndeipi kiriniki kana chipatara paunowana mishonga yekudzivirira utachiona hwe HIV.

Prompts.

- Wava nenguva yakareba sei uchitorera mishonga pa chipatara apa ?
- Unofungei pamusoro pebatirwo aunoita pa chipatara ichi?
- Ndezvipi zveutano zvaunobatsirika nazvo pachipatara ichi uye pane mishonga yauri kumwa here parizvino?
- Kune zvimwe zvipatara zvaunoenda here kuti ubatsirike pane zveutano?
- Pane ma support group anokubatsira pane zveutano here aunobata pamwe chete nawo?

2. Wave nenguva yakareba sei uchiziva paumire maererano ne chirwere cheshuramatongo?

Prompts.

- Wakaziva sei ?
- Chii chakaitika pawaziva nezveutano hwako , pane here imwe dzidziso yawakawana here?

3. Pane zvaunoona muupenyu hwako maererano nezvepabonde zvinogona kukanganisa utano hwako here?

4. Unokwanisa kutsanangura here zvawakasangana nazvo pawakatanga mushonga unodzivirira kubatwa ne chirwere che HIV (PrEP)

5. Unokwanisa kurondedzera here zvawakataurirwa mayererano nemushonga uyu?

Prompts.



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- Ndiani akakupa tsanangudzo pamusoro pemushonga uyu?
- Vakakupa tsanangudzo yekuti chii?
- Unofungei pamusoro petsanangudzo ywakapiwa ? Sekuona kwako yanga yakakwana here?

6. Unonzwa sei pamusoro pemushonga we PrEP wauri kumwa?

Prompts.

- Wava nenguva yakareba sei uchiumwa ?
- Unoumwa sei uye kangani?
- Ndezvipi zvaunoita kuti urangarire kutora mushonga wako?
- Pane dzimwe nzira dzawanga uchishandisa here kudzivirira kuti usatapurirwe chirwere che HIV dzinosanganisa kushandisa ma condom?

7. Pane here awakaudza kuti urikotora mushonga wePrEP? Shamwari? Hama ? Shamwari yepabonde?

Prompts.

- Vanonzwa sei pamusana pekutora mushonga we PrEP?
- Vakakupa kuridziro here?
- Pane here zvakaniganisika pakurarama kwako mushere mekunge waudza shamwari kana hama pamusoro pekutora mushonga we PrEP? zvinosanganisira kurohwa, kutukwa, kutsoropodzwa.

8. Unokwanisa kutaura pamusoro penguva yawakambokanganwa kana kuregera kutora mishonga yako here?

9. Ndezvipi zvikonzero zvaunofungidzira kuti zvakakutadzisa kuti utore mushonga wako we PrEP?

Prompts.

- Chii chaitika muupenyu hwako penguva yawakamira kutora mushonga wako we PrEP?
- Pane zvingaenderane nevekuchipatara zvingava zvakakutadzisa kutora mushonga wako we PrEP here?
- Pane rutsigiro kana kushaikwa kwerutsigiro kubva ku hama , shamwari , ma support group awakawana here?



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- Rusarura kubva kune vemunharaunda?

10. Unonzwa sei pauno regera kana kukangwanwa kutora mishonga yako

11. Semaonero ako ndeupi umwe rutsigiro rwaunofunga kuti dai wakawana zvaikubatsira kuti urambe uchitora mishonga yako ye PrEP?

Prompts.

- Kubva ku hama, shamwari , ma support group , vezveutano?

12. Panguva yekuvharwa kwe nyika nekuda kweutachiona hwe COVID-19 pane zvinhingamupinyi zvawakasangana nazvo here pakuwana rubatsiro runoenderana nezve utano?

Prompts

- Ndezvipi zveutano zvawakanganiswa Kuwana? PrEP ? Wakaita sei kuti uwane rubatsiro rwawaitarisira pautano?



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APPENDIX 4: KEY INFORMANT INTERVIEW GUIDE.

1. Describe the services that are provided in the facility.
2. Describe your role in this facility.
3. How long have you been working at this facility?
4. How is HIV testing carried out at the site?

Prompts.

- What process' do clients go through?
3. What is your involvement with HIV PrEP service delivery?
 4. What information regarding treatment is provided to men who have sex with men and transgender women at the site?
 5. Who provides this information?
 6. How do the clients react when they are told about this treatment?
 7. How do the clients feel about treatment in general?
 8. How much counselling and support is provided by the health facility?
 9. Who provides this counseling?
 10. What process do you follow before initiating men who have sex with men and transgender women on treatment?
 11. When do actually initiate someone into PrEP?
 12. What are some of the challenges you have faced in providing PrEP as an HIV preventive services.

Prompts.

- Health provider personal challenges
 - Health facility-related challenges e.g., Drug shortages.
 - Patient related challenges?
13. How do you/ health facility address these challenges?
 14. Are you aware of any challenges experienced by your patients that might have led to non-adherence?



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15. How does your facility help patients address these challenges?

16. What is your facility's view on non-adherence?

Prompts.

Do you collect data – e.g., how many, reasons for non-adherence?

- Is your facility concerned about non-adherence and what has been done to improve it?

17. During the COVID-19 lockdown , did you encounter any challenges in health servicesprovision?

Prompts.

- What sort of challenges , did they include PrEP provision?
- How did you overcome these challenges?



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APPENDIX 5: KEY INFORMANT INTERVIEW GUIDE-SHONA.

1. Nditsananguriweiwo pamusoro pe zveutano zvinobatwa pachipatara pano?
2. Basa renyu pachipatara pano nderei?
3. Mava nenguva yakareba zvakadini muchishanda pachipatara pano?
4. Pano pachipatara munovheneka utachiona hwe HIV nenzira dzakaita sei

Prompts.

- Mungandipewo tsanangudzo yekuti kana munhu achaida rubatsiro pano pachipatara zvinofamba sei?
3. Zvichienderana nekupihwa kwe mushonga udzivirira kutapurira HIV (PrEP) renyu basa rinenenge riri rechii?
 4. Ndeipi dzidziso yamunopa ku varume vanoita bonde nevamwe varume kana vakadzi ve transgender vanouya pano pachipatara vachida rubatsiro?
 5. Ndiani anopa dzidziso iyoyo ku vanhu vange vauya pano ava?
 6. Vanhu vanowanzoita sei pavanonzwa nezve treatment iyi?
 7. Pamusoro pazvo mungaita muwono wekuti vanhu vanofungei and vanonzwei pamusoro pekubatsirwa kwavo pano?
 8. Munopa rubatsiro ne counselling rwudzayi pano pachipatara
 9. Ndiani anopa dzidziso iyi ku vanhu vanouya vachida rubatsiro pano pachipatara?
 10. Ndedzipi nzira dzamunotevedzara musati maisa vanhu pachirongwa che PrEP?
 11. Munoisira munhu pachirongwa che PrEP kana zvichinge zvaita sei?
 12. Ndezvipi zvinhingamupinyi zvamuri kusangana nazvo pachirongwa che PrEP?

Prompts.

- Zvinhingamupinyi zvinoenderana naana mukoti nevamwe vashandi vepachipatara?
 - Zvinhingamupinyi zvinoenderana ne pachipatara zvakaita sekushaikwa kwe mishonga?
 - Zvinhingamupinyi zvinoenderana vanhu vanenge vachitora mushonga we PrEP?
13. Zvizvamunita kuti mukunde zvinhingamupinyi izvi?



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14. Pamaonero enyu pane zvinhu zvingakonzera kuti vanhu varipachirongwa che PrEP vasatora mushonga zvakanaka here?

15. Zvii zvamunoita kuti vanhu varipachirongwa che PrEP vakwanise kukunda zvinhingamupinyi izvi?

16. Maonero enyu pamusoro pekutadza kutora mushonga we PrEP ndeeyi?

Prompts.

Munozvamunoita kutsvakiridza kuti sei vanhu vasiri kumwa mushonga ye PrEP zvakanaka here?

- Pano pachipatara murikufungei pamusoro pekutadza kunyatsomwa mushonga we PrEP kwevanhu uye Ndezvipi zvamaita kugadzirisa nyaya iyi?

17. Panguva yekuvharwa kwe nyika nekuda kwechirwere che COVID-19 pane zvinhingamupinyizvamasangana nazvo here pakubatsira vanhu nezve utano?

Prompts.

- Ndezvipi zvinhingamupinyi zvamasangana nazvo? Zvaisanganisira kupiwa kwe mushonga wePrEP here?
- Zvii zvamaita kuti mukunde pazvinhingamupinyu izvi?





APPENDIX 6: ETHICAL CLEARANCE.

03 May 2021

Dr TA Sola
School of Public Health
Faculty of Community and Health Sciences

Ethics Reference Number: BM21/02/08

Project Title: Exploring the barriers to HIV pre-exposure prophylaxis adherence for men who have sex with men and transgender women in Harare Metropolitan Province, Zimbabwe.

Approval Period: 29 April 2021 – 29 April 2024

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above-mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report annually by 30 November for the duration of the project.

Permission to conduct the study must be submitted to BMREC for record-keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

Director: Research Development University of the Western Cape
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Republic of South Africa Tel: +27 21 959 4111

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

APPENDIX 7: MRCZ CLEARANCE.

Telephone: 08644072773/242791193
E-mail: mrcz@mrcz.org.zw
Website: <http://www.mrcz.org.zw>



Medical Research Council of Zimbabwe
Josiah Tongogara / Mazowe Street
P. O. Box CY 573
Causeway
Harare

APPROVAL

MRCZ/B/2215

15 December 2021

Dr Takunda A. Sola
280 Woodlands Road
Parktown
Waterfalls
Harare

RE: - Exploring the Barriers to HIV Pre-Exposure Prophylaxis Adherence for Men Who Have Sex with Men and Transgender Women In Harare Metropolitan Province, Zimbabwe

Thank you for the application for review of research activity that you submitted to the Medical Research Council of Zimbabwe (MRCZ). Please be advised that the Medical Research Council of Zimbabwe has **reviewed** and **approved** your application to conduct the above titled study.

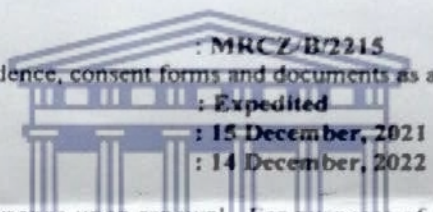
This approval is based on the review and approval of the following documents that were submitted to MRCZ for review:

1. Full protocol
2. Informed consent forms
3. Data collections tools

• **APPROVAL NUMBER**

This number should be used on all correspondence, consent forms and documents as appropriate.

- **TYPE OF MEETING**
- **APPROVAL DATE**
- **EXPIRATION DATE**



After this date, this project may only commence upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the MRCZ Offices should be submitted three months before the expiration date for continuing review.

- **SERIOUS ADVERSE EVENT REPORTING:** All serious problems having to do with subject safety must be reported to the Institutional Ethical Review Committee (IERC) as well as the MRCZ within 3 working days using standard forms obtainable from the MRCZ Offices or website.
- **MODIFICATIONS:** Prior MRCZ and IERC approval using standard forms obtainable from the MRCZ Offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- **TERMINATION OF STUDY:** On termination of a study, a report has to be submitted to the MRCZ using standard forms obtainable from the MRCZ Offices or website.
- **QUESTIONS:** Please contact the MRCZ on Telephone No. (0242) 791193/08644073772 or by e-mail on mrcz@mrcz.org.zw

Other

- Please be reminded to send in copies of your research results for our records as well as for Health Research Database.
- You're also encouraged to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study.
- In addition to this approval, all clinical trials involving drugs, devices and biologics (including other studies focusing on registered drugs) require approval of Medicines Control Authority of Zimbabwe (MCAZ) before commencement.

Yours Faithfully

MRCZ SECRETARIAT
FOR CHAIRPERSON
MEDICAL RESEARCH COUNCIL OF ZIMBABWE

