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1

RESEARCH ARTICLE **OPEN ACCESS**

Adherence Barriers to Antiretroviral Therapy in Men Who Have Sex with Men in O.R Tambo District, Eastern Cape

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Abstract:

Background: Many barriers prevent Men Who Have Sex with Men (MSM) from complying with Antiretroviral Therapy (ART), including stigma and discrimination by healthcare workers at the clinic and in the community. There has yet to be much research into MSM's experience with stigma. The study aims to identify critical barriers to ART adherence faced by MSM in Mthatha and investigate how these barriers compromise ART adherence using qualitative research as an investigative tool.

Methods: A qualitative research study that utilized the snowball approach to conduct face-to-face interviews among MSM who live with HIV and are non-adherent to ART.

Results: The data analysis of this study produced six themes that include the following: unstable living arrangements, family rejection, health provider's attitude, non-disclosure of HIV status to a sexual partner, treatment support, substance abuse, and stigma.

Conclusion: The participants in this study highlighted barriers and challenges to ART compliance, such as unstable living arrangements, family rejection, health providers' attitudes, non-disclosure of HIV status to a sexual partner, treatment support, substance abuse, and stigma. This project synthesized knowledge based on participants' responses and their suggestions on improving adherence to ART in MSM in the O.R. Tambo District.

Keywords: Barriers, Non-compliant, ART, Men who have sex with Men, GBMSM, LGBTQI, PLH, Health care providers.

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1. INTRODUCTION

HIV remains a global pandemic and a public health crisis, and MSM are 26 times more likely to acquire HIV compared to the general population [1]. The issues of HIV among MSM or Lesbian, Gay, Bisexual, Transgender, Intersex, Queer, and Other (LGBTIQ+) communities are much broader than just biological issues. While HIV remains a significant problem among these population groups, broader systemic and societal issues contribute toward this problem, and this is evident in our findings. The main form of Human Immunodeficiency Virus/Acqui-

red Immunodeficiency Syndrome (HIV/AIDS) transmission occurs through unprotected sexual relations, whether through anal, vaginal, or oral cavities, making it a sexually transmitted infection [2].

The sub-Saharan Africa (SSA) region remains the epicenter of the global pandemic, accounting for about two-thirds of people living with HIV (PLH) [3].

Gay, bisexual, and other men who have sex with men (GBMSM) experience a lot of stigmatization and discrimination in society as well as the healthcare system [4]. Same-sex sexual activity is often criminalized in countries in sub-Saharan Africa, impeding access to quality care for sexual health, HIV prevention, and treatment [5]. According to Daniels *et al.* [6], although there is a HIV prevalence for men who have sex with men and transgender women in South Africa, there is limited understanding of the social determinants that influence antiretroviral treatment (ART) adherence. Antiretroviral therapy is a term used to describe the treatment of HIV, which is holistic in that it not only involves taking ART drugs but also understanding HIV/AIDS and ART, preparing for and adhering to a course of ART.

More importantly, poor adherence to ART, according to Legesse and Reta [7], can lead to preventable HIV-related deaths and increase the risk of emerging-drug-resistant HIV strains. Non-adherence to ART is a significant threat to the South African healthcare system since it has the most extensive treatment program globally, with 5.4 million people already on ART [8]. However, the Sixth South African National HIV Prevalence, Incidence, and Behaviour Survey (SABSSM VI) highlights substantial progress concerning ART among people aged 15 years and older, indicating that 90% were aware of their status, 91% of those aware of their status were on ART, and 94% of those on ART were virally suppressed [9]. According to Dibble *et al.* [10], men who have sex with men and transgender women are subjected to high levels of HIV-related stigma and often criminalized, affecting access to quality care for sexual health, HIV prevention, and treatment.

According to Dennermalm *et al*. [11], the MSM group is often associated with several risk behaviors, including alcohol consumption, smoking, anal sex, temporary sex partners, and drug use. These risk behaviors affect MSM adherence to ART therapy, while alcohol consumption increases the incidence of hepatotoxicity. According to Lyons *et al*. [12], MSM and transgender women who are open about or have disclosed their sexual behavior appear to be the most affected by stigma. Sexual stigma experienced by MSM also limits them from maintaining stable partners, so they tend to have non-permanent partners; thus, the spreading of HIV is high [12, 13].

MSM receive stigma, discrimination, judgment, and unfair treatment by health workers in several health services. This negative experience prevents them from getting quality health services and influences their decision whether to continue the therapy [14]. This is even more apparent for South African men who have sex with men (MSM), who have historically been ignored for directed service provision despite being a key population at high risk for HIV acquisition and transmission [15-17].

This study explored the challenges which are associated with non-compliance to Antiretroviral therapy treatment by HIV-positive men who have sex with men in Mthatha. If the challenges are known, strategies for improving non-compliance will be implemented accordingly. The findings of the study will be used to develop innovative approaches to ensure that the defaulter rate is decreased and patients lost to follow-up and improve the general outcomes of HIV-positive patients. Findings generated from this study will assist the King Sabata Dalindyebo (District Municipality) (KSD) of Mthatha in reviewing their HIV/AIDS case-holding policy and influence healthcare workers to display positive therapeutic behaviors such as adherence counseling, support, and care for patients on ART.

Policies and guidelines regarding the prevention and control of HIV at the district and provincial levels will be updated based on the findings and recommendations of this study. The financial burden on the government will be reduced so that the available funds can be used to help the communities with basic needs and reduce poverty. The study aimed to identify critical barriers to ART adherence faced by MSM in Mthatha using qualitative research methods by placing the participants through a snowball approach.

2. METHODS

2.1. Research Design

A qualitative, exploratory, and descriptive design was used to determine the challenges that MSM face when adhering to ART, with the study taking place within the KSD District. Purposive sampling sampling was used to recruit MSM participants when they came to the clinic to pick up their monthly ART treatment. Guided by the principle of data saturation or when no new information emerged from the data collection, the final sample size of 12 participants was achieved. The interviews were conducted in isiXhosa and participants between the ages of 18 - 40 were eligible to participate in the study.

2.2. Study Settings

The study took place in the Mthatha area of the KSD District. Mthatha is the main town of KSD Local Municipality, which falls within the O.R Tambo District Municipality of the Eastern Cape Province. Mthatha's health care system operates under the KSD District. The study's focal point was to investigate the non-compliance to ART in men who have sex with men.

2.3. Study Population and Sampling Process

The study consisted of Gay, Bisexual, MSM, and transgender women who reside in the KSD district who are HIV positive and non-adherent to ART. The sample for the study consisted of 12 participants.

2.4. Definition of Non-adherence to ART

Non-adherence to antiretroviral therapy (ART) in this study was defined using a combination of self-reported behavior and clinical indicators. Participants were categorized as non-adherent if they met any of the following criteria:

2.4.1. Self-reported Non-adherence

Participants reported missing two or more doses of their ART regimen within the past week or discontinuing ART altogether.

2.4.2. Missed Clinic Appointments

Participants did not attend scheduled ART follow-up appointments at the healthcare facility for a duration exceeding one month.

2.4.3. Clinical Indicators

Participants exhibited detectable viral loads or declining CD4 counts, as reported by healthcare providers, indicating irregular ART adherence.

2.5. Sampling

This study used the non-probability purposive sampling method, also known as judgmental or selective sampling. We consciously chose certain participants (men who have had sex with men) for the study. Saturation was reached on the 12th participant, which occurs when no new information is discovered.

2.6. Recruitment Strategy for Persons not Going to the Clinic

Participants who were not actively attending clinics were recruited using a snowball sampling approach. Initial participants were identified through community-based organizations and key informants within the MSM community. These participants referred others who met the study's inclusion criteria but had disengaged from clinic-based healthcare. Community-based organizations played a critical role in reaching these individuals, leveraging trusted networks while maintaining confidentiality to mitigate stigma-related barriers to participation.

2.7. Data Collection

The researcher used qualitative research methods to gather information about the perception and barriers experienced by MSM who are living with HIV and who are not adhering to ART who are not adhering to ART.

Semi-structured open-ended interview guide and written informed consent were provided to the participants. Participants were made aware of the right to confidentiality and may leave the interview at any time if they are uncomfortable. The average length of the interviews was 30-40 minutes.

2.7.1. Inclusion and Exclusion Criteria

Inclusion criteria are characteristics a participant must possess to be part of the sample. The inclusion criterion for this study was adult (18 years and above) men who have sex with men (MSM) who reside in the O.R Tambo district and who are living with HIV and on ART and not adhering to the treatment. All MSM who are living with HIV but not on ART, below the age of 18, and not residing in the OR Tambo district were excluded from the study.

2.8. Pilot Study

A pilot study assessed whether the interview guide elicited appropriate responses from the participants and if they understood the questions well. It also assisted in practicing interviewing skills, interviewing MSM, and gaining more knowledge and insight into ART non-compliance.

It is gathering the necessary information to address a research problem and answer the research question. The success of the study depends on the data collection. Without high-quality data collection techniques, the accuracy of the research conclusions can quickly be challenged [18].

In-depth interviews were conducted to collect data from the men who have sex with men using an interview guide. An appointment to visit was arranged before the interview dates. The researcher visited the participants on different dates, so they were interviewed in a relaxed environment and at a convenient time.

The guiding questions were asked and followed by probing questions for clarity and understanding. A recorder was used to collect data. Permission to use the recorder was granted from all the participants before conducting the interviews.

2.9. Data Analysis Process

Data analysis is the process of categorizing, ordering, manipulating, and summarizing data meaningfully. Data from an audiotape and field notes were transcribed, analyzed, and translated verbatim. We used open coding, which groups similar codes to generate themes used as headings in the findings. The coding process generated themes, categories, and sub-categories (include Creswell 2022).

3. RESULTS

3.1. Description of Participants

The analysis included 12 MSM who were non-compliant with ART. Most of the respondents were tertiary students aged 22 to 26.

3.2. Emerged Themes

The analysis of the study produced six main themes that include the following: Unstable living conditions, Family rejection, health provider’s attitude, non-disclosure of HIV status to a sexual partner, substance use, and stigma.

3.3. Unstable Living Arrangements

Participants highlighted that lack of privacy at tertiary institutions, such as sharing a room with two other people, emerged as both a day-to-day barrier to non-adherence to ART and an underlying factor for treatment interruption.

One participant mentioned that:

"I cannot take my ART as I want to due to lack of privacy since I share a room with two other guys and I am ready to disclose my status because I fear being discriminated against on campus since I had my own experience of discrimination when I came out of the closet as a gay MSM I know the pain and sorrow associated with discrimination."[Participant 2 Gay tertiary student aged 24].

3.4. Family Rejection

Discrimination had been experienced by some of the participants in the form of rejection by their family members, friends, and community members, who would also pass insults and threats. They cited that family members hurt their feelings by not accepting that they are MSM, and being HIV positive adds up to more discrimination and family rejection, leading to low self-esteem and non-adherence or compliance to ART.

Family rejection and the consequent risk of homelessness are the leading causes of HIV-positive MSM not adhering to their ART [19].

For example, a 24-year-old male participant said"

My family did not understand this thing of me sleeping with men as men. They felt as if I was demon-possessed when we went to church. I would also face a great deal of discrimination from my extended family, such as cousins and aunts saying I needed prayers to overcome this demon and it's because of this lifestyle that I am HIV positive."[Participant 4 MSM Tertiary student aged 24].

"When I told my family I was gay and HIV positive, my relatives showed a lot of judgment towards me. Some would not want to use the blanket I was sleeping on, nor would they want me to cook. It made me feel depressed, experienced low self-esteem, and even had suicidal thoughts."[participant 9 unemployed aged 28].

3.5. Health Providers Attitude

Some participants indicated that they no longer go to the clinic because they fear that healthcare providers will discriminate against them. One participant mentioned that:

"In clinics, I personally get naughty comments from female nurses saying I am too handsome to be wasting my time sleeping with men, and those comments made me stop going to the clinic to collect my ART."[Participant 5 Gay MSM unemployed aged 26].

Another participant indicated that they completely stopped going to the clinic because of the inappropriate comments made by the nurses, and this was the main issue that contributed toward them not adhering to ART"[Participant 8 Transgender woman Tuberculosis and HIV Co-infection (TBHIV) worker aged 24].

Participants reported that they are fearful of disclosing their sexual orientation to healthcare providers in order to avoid stigmatization and discrimination from them.

3.6. Non-disclosure of HIV Status to Sexual Partner

MSM are more likely to have sexual relationships with older men with money who would provide them with financial support and money night lifestyle entertainment, and they would not use condoms if the partner with money does not want to use a condom and is fearful of disclosing their HIV status to partner because they fear being rejected and partner violence.

HIV-positive status non-disclosure to sexual partners remains a challenge for HIV prevention and control. It leads to poor adherence to ART and a high risk of transmission [20].

"I feared to disclose my HIV status to my partner because he was the one who provided me with financial support at Tertiary, and I knew if I told him my status, he would leave me, so when I was with him, I would skip taking my ART treatment. "[Participant 10 unemployed aged 27].

3.7. Treatment Support

Treatment support for HIV-positive MSM is very important for both newly diagnosed and those already on ART. For those who are newly diagnosed, it is important that patients know the treatment side effects and how to handle them, and the benefits of adhering to ART give them hope and guidance through the whole process of accepting their HIV status and adhering successfully to ART. Lack of treatment support acts as a barrier to ART adherence in MSM as adhering to ART is not easy as these patients have to adopt a new lifestyle of taking their ART every day, practicing a healthy balanced lifestyle that includes eating a healthy balanced diet with vegetables and fruits, and exercising regularly.

One participant mentioned that he never received counseling and was put into an ART treatment plan while they were still trying to process their emotions, and this contributed to them not adhering to ART.

"When I started studying at KSD Technical and Vocational Education and Training(*TVET) College, I tested positive for HIV at Civic Centre Clinic. I never received any counseling, nor was I told about the treatment side effects, and I did not take my pills regularly; I had that one pill called Reydin, which would make me dizzy, experience nausea and even vomiting, and the TB pills prescribed would make me feel dizzy in class since I took them on an empty stomach.[Participant 1 Tertiary student aged 24].*

3.8. Substance Use

Participants mentioned that as young people, they have a very active social life that includes drinking alcohol, and sometimes, during and after a weekend, they do not take their medication, and this makes them not adhere to ART.

"I do not take my ARTs on the weekends because I am a person who loves to go out to party, drink alcohol, and socialize with friends from Friday to Sunday sometimes I don't take treatment even on Monday due to the hangover I have, "[Participant 7 sales assistant at Markham's aged 26].

3.9. Stigma

Stigma has often been defined based on the classic work of Goffman as the social devaluation of a person based on a "significantly discrediting" attribute, while discrimination has been defined as behavior resulting from prejudice. Both stigma and discrimination are common in relation to both HIV and same-sex relationships.

One participant mentioned that he experienced stigma from his neighbor and her son, who would pass on naughty comments or gossip about him.

"My neighbor and she have stigmatized me a lot. They would make naughty comments about me or gossip about my lifestyle to the community. I don't feel safe in my community as I face a great deal of stigma even when going to the shop. The comments made by the boys at the shop are homophobic."[Participant 6 gay MSM aged 23 tertiary students at Walter Sisulu University*(WSU)]*

Some participants mentioned that being seen at a health care clinic in line for ART's collection causes them to feel uneasy, ashamed, and fearful to be seen by someone they know.

Some participants mentioned that they prefer to use Clinics far away from their homes to avoid encounters with people they know and stigmatization in their township.

'' I prefer using a clinic far from where I might bump into someone I know. I fear being seen in the clinic queue for ART collection as that might make me vulnerable to stigma and discrimination and have an impact on my social life in the community." [first-year student at WSU aged 19].

4. DISCUSSION

This qualitative study explored the factors that contribute to non-adherence to ART among a group of MSM in the O.R. Tambo district, Eastern Cape. The study generated several themes that act as barriers to ART adherence in MSM, including unstable living arrange- ments, family rejection, health providers' attitudes, non-disclosure of HIV status to sexual partners, lack of treatment support, substance use, and stigma.

Unstable living arrangements, particularly for tertiary students who share rooms with others, emerged as a significant barrier to ART adherence. Participants attributed irregular treatment adherence to the lack of privacy in these living situations, which prevents them from keeping their HIV status confidential and avoiding social stigma and discrimination.

Family rejection upon disclosure of HIV status and sexual orientation was another major theme. Participants reported experiencing stigma, anxiety, depression, and low self-worth due to family rejection, which contributed to non-adherence to ART. This finding supports previous research by Lariate *et al*. [19], which identified family rejection and the consequent risk of homelessness as leading causes of non-adherence to ART among HIV-positive MSM. The effects of perceived family prejudice towards same-sex behavior on MSM remain underexplored, as noted by Lynn Barbe *et al*. [21], particularly in the Eastern Cape, where cultural and societal norms play a significant role in stigmatizing and discriminating against MSM.

Participants also reported selective healthcare provider choices due to negative attitudes towards MSM, consistent with findings from Susan *et al.* [5] and Mwaniki *et al*. [22]. Some participants experienced tensions with providers they found rigid or stigmatizing, leading them to fall out of care when their preferred provider became unavailable. Most MSM felt uncomfort- able discussing sexual risk behavior with providers and preferred interactions focused on adherence and other aspects of healthcare. Religious beliefs and a lack of understanding of the LGBTQI community among older healthcare providers were identified as contributing factors to discrimination and stigma in healthcare settings.

Non-disclosure of HIV status to sexual partners was another barrier to ART adherence. Participants reported not adhering to ART when with their partners or stopping adherence altogether due to fear of disclosing their HIV-positive status. This finding aligns with previous studies showing that HIV serostatus disclosure is related to good ART adherence [23] and that disclosure is a selective and planned behavior balancing risks and benefits [24]. The challenge of concealing both sexual orientation and HIV status may have significant physical and mental health implications for $LGBTQI^{+}$ individuals.

Substance use, particularly alcohol consumption, was identified as a risk factor for non-adherence to ART among MSM. Participants mentioned that most of their gay friends consume alcohol and are outgoing, leading to non-adherence due to hangover effects and forgetfulness. This finding is consistent with previous research showing that alcohol and substance misuse are common barriers to ART adherence by Katherine *et al*. [25] and that MSM may use substances to cope with experiences of shame, stigma, and depression [25].

Stigma related to both sexual orientation and HIV status was a pervasive theme. Participants reported concerns that being openly HIV-positive made them targets of discrimination and isolated them from community support. The belief that others would judge an HIV-positive status as punishment for immoral or incorrect behavior, particularly homosexual behavior, was a persistent fear. These negative judgments were associated with religious beliefs and community norms against homosexuality. Participants expressed concerns that disclosing an HIV-positive status would raise questions about safety within the community, as many had already faced significant stigma and discrimination upon revealing their sexual orientation. This finding aligns with previous research showing that African MSM experience high levels of stigma due to sexual orientation, social isolation, and discrimination due to HIV status by Ogunbajo *et al.* [26].

The study highlights the need for support groups catering to the LGBTQI community, particularly for HIV-positive MSM, to provide a space for discussing problems, receiving psychological help, and raising awareness about the negative effects of alcohol abuse on ART adherence. Additionally, the findings emphasize the importance of community awareness campaigns about homosexuality to

increase understanding among older people, especially healthcare workers, and to challenge societal norms that perpetuate discrimination and stigma against the LGBTQI community.

5. LIMITATIONS

This study faced several limitations related to the limited research on MSM, particularly in the O.R. Tambo district. The lack of information and previous studies on MSM in this area can be attributed to the disregard for MSM research on an academic level due to religious, social, and ethical values that consider MSM an undesirable practice. This scarcity of research makes it challenging to compare and validate findings of this study.

Societal norms and cultural values also limit the service provision of Non-Governmental Organizations (NGOs), such as Sexual Health Education (SHE), in rural areas of the O.R Tambo District. These organizations often struggle to obtain permission to conduct awareness and community mobilization campaigns for the LGBTQI community, as many village chiefs and board members are deeply religious and strongly oppose MSM practices. This opposition leads to many MSM in these villages fearing disclosure of their sexual orientation and HIV status, which can hinder their access to necessary support and services.

Another limitation is the limited budget of the Department of Health, which cannot entirely provide separate services for the LGBTQI group, as they are considered a minority in the O.R. Tambo district. This financial constraint may lead to inadequate resources and support for MSM in the area.

The association of gay men with risky sexual behaviors, such as unprotected sex, multiple sexual partners, and prostitution, can make it challenging for society to accept them, particularly in religious settings like churches. This perception may also lead to healthcare providers viewing MSM as a burden, as they are more likely to make multiple clinic visits for Sexually Transmitted Infection (STI) treatment due to unprotected sex. These negative perceptions and stereotypes can further contribute to the stigmatization and discrimination faced by MSM.

As argued by Daniels *et al.* [6], despite MSM and transgender women being key populations with high HIV prevalence, there is a limited understanding of the social determinants that influence antiretroviral treatment (ART) adherence. This lack of understanding has resulted in insufficient efforts to help HIV-positive MSM successfully adhere to ART. Participants in the study highly recommended the need for mental health promotion among MSM and educating society about the LGBTQI community to address these limitations and improve the overall well-being and treatment adherence of MSM in the O.R. Tambo district.

CONCLUSION

This study aimed to identify the obstacles to ART compliance among men who have sex with men (MSM) in the O.R. Tambo district. The findings revealed that MSM, transgender women, and bisexual men face numerous societal, cultural, and healthcare service provision challenges that hinder their adherence to ART. These challenges include lack of privacy, discrimination in both the community and healthcare facilities, stigma from healthcare providers and family members, fear of disclosing HIV status and sexual orientation, unpro- fessionalism among healthcare workers, and alcohol abuse as a coping mechanism for depression and judgment from family.

Based on the participants' responses and suggestions, this research project has generated several recommendations to promote and improve adherence to ART among MSM in the O.R Tambo district:

Awareness campaigns Health education and awareness campaigns are crucial for informing, developing skills, and changing attitudes. Community members and MSM in the O.R. Tambo district need health education that primarily focuses on HIV management and prevention, acceptance of the LGBTQI community, the importance of ART compliance, and the consequences of non-compliance. These campaigns can help people gain a better understanding of the MSM, gay, and transgender community, learn to live with one another, accept each other's differences, and address the issue of ART non-compliance by understanding the factors that contribute to it.

Follow-up on MSM who are non-compliant with ART Regular follow-up should be conducted for MSM who have suddenly stopped taking their ART treatment at clinics. This can be achieved by allocating caregivers from LGBTQI NGOs and community healthcare workers to visit families and check if the patient is taking ARTs regularly as prescribed. They can also provide counseling to the family, encouraging them to support and love their MSM family member without judgment, as being gay is not a choice, and some individuals are born with an attraction to men or with less masculinity and more femininity. This approach would reduce judgment from family and non-compliance due to lack of support or follow-up.

Provision of financial aid or bursaries for food at tertiary institutions The findings suggest a critical need for adequate access to funding for tertiary students, as they cannot take their ARTs on an empty stomach due to treatment side effects such as nausea, dizziness, and vomiting. The National Student Financial Aid Scheme (NSFAS) should be available to all students, and the Department of Education should develop additional student financial aid schemes to combat hunger at tertiary institutions. Addressing hunger among students can also reduce the likelihood of MSM engaging in relationships with older men for financial support, which can lead to unprotected sex and increased vulnerability to contracting HIV and STDs.

Funding and recognition for the LGBTQI community Participants emphasized the need for more NGOs that provide services for the LGBTQI community like S.H.E. Most participants stated that they would feel safer and more accepted if they could access ART medication from NGOs that cater to the needs of the LGBTQI community.

FUTURE RESEARCH

This study has identified several critical barriers to antiretroviral therapy (ART) adherence among men who have sex with men (MSM) in the O.R. Tambo District,

including stigma, family rejection, healthcare provider discrimination, and substance use. While these findings provide valuable insights, they also highlight areas that require further exploration to enhance ART adherence and improve health outcomes for MSM.

Future research should focus on designing and evaluating targeted interventions to address the barriers identified in this study. For instance, community-based programs aimed at fostering family acceptance and reducing stigma could be developed and assessed for their effectiveness in improving ART adherence. Additionally, training programs for healthcare providers on LGBTQI$^+$-inclusive practices may help mitigate the discrimination faced by MSM in healthcare settings.

Given the localized nature of this study, future research could investigate whether these findings are consistent across different geographic and cultural contexts. Comparative studies between urban and rural settings, as well as among different regions, could uncover unique challenges and shared barriers faced by MSM in various environments.

Expanding the scope of research to include other vulnerable subgroups within the LGBTQI$^+$ community, such as transgender individuals or young MSM, is another important area for future investigation. These groups may face unique challenges that require tailored approaches to improve their ART adherence.

Lastly, policy-oriented research could explore the impact of legal and policy frameworks on ART access and adherence among MSM. Understanding how decriminalizing same-sex relationships and strengthening anti-discrimination laws influence ART uptake and adherence can provide evidence for advocacy and policy reform.

AUTHORS' CONTRIBUTION

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to itssubmission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

LIST OF ABBREVIATIONS

AIDS	=	Acquired Immunodeficiency Syndrome
ART	=	Antiretroviral Therapy
GBMSM	=	Gay Bisexual, and Other Men Who Have Sex with Men
HIV	=	Human Immunodeficiency Virus
HIV/AIDS	=	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
KSD	=	King Sabata Dalindyebo (District Municipality)
LGBTIQ+	=	Lesbian Gay, Bisexual, Transgender, Intersex, Queer, and Others
MSM	=	Men Who Have Sex with Men
NGO	=	Non-Governmental Organization
NSFAS	=	National Student Financial Aid Scheme
PLH	=	People Living with HIV
SABSSM	=	South African National HIV Prevalence Incidence, and Behaviour Survey
SHE	=	Sexual Health Education
STI	=	Sexually Transmitted Infection
STROBE	=	Strengthening the Reporting of Observational Studies in Epidemiology
TB	=	Tuberculosis
TBHIV	=	Tuberculosis and HIV Co-infection
TVET	=	Technical and Vocational Education and Training
WHO	=	World Health Organization
WSU	=	Walter Sisulu University

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical clearance to conduct the study was obtained from Walter Sisulu University's Faculty of Health Sciences (Ref No: 006/2023), the Human Research Ethics Committee, and the Eastern Cape Health Research Committee (Ref No: EC202305_018) South Africa. O.R. District permission to conduct research study was authorized by the district managers.

HUMAN AND ANIMAL RIGHTS

All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from each participant.

STANDARDS OF REPORTING

COREQ guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The authors confirm that the data supporting this study's findings are available within the article and its supplementary materials. The data that support this study's findings are also available from the corresponding author, [O.O], on reasonable request.

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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