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Barriers and Facilitators in Accessing HIV Prevention Services for Men Having Sex with Men (MSM): A Comprehensive Analysis

Sanni OF[1ID], Abang R[2ID], Emmanuel G[2ID], Kalaiwo A[3ID], Motilewa O[4ID], Amechi P[2ID], Umoh P[2ID], Ochonye BB[2ID]

[1]Research and Development Department, Heartland Alliance, Abuja, Nigeria
[2]Heartland Alliance, Abuja, Nigeria
[3]USAID, Abuja, Nigeria
[4]Department of Community Medicine, University of Uyo Teaching Hospital, Uyo, Nigeria

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Abstract
Objectives: This study explores MSM's perspective on HIV prevention needs, barriers, facilitators, and retention strategies in prevention programs.
Method: In-depth interviews, key informant interviews, focus group discussions, and structured questionnaires were used to interview urban and rural Nigerian men having sex with men (MSM) aged 18 and older. Candidates were recruited using snowball referrals. Data analysis used IBM-SPSS 28.
Result: Urban residents (67.6%) had more secondary education than rural residents (53.7%) in the 299 MSM research. Drug use was 84.2% in urban and 61.3% in rural MSM. The majority of rural MSM (90.1%) had multiple sexual partners, unlike urban residents (70.1%). Compared to rural people (8.0%), urban MSM reported greater sexual abuse rates (22.0%). Over 80% of MSM used condoms, attended HIV meetings, visited STI clinics, and used lubricant. However, less than 80% would attend a peer-led clinic or have peers assist with drug adherence. MSM attending private healthcare facilities stated that distance to service delivery points was a major barrier (60.6%). However, those attending public health facilities cited lack of information (67.0%), unpleasant facilities (76.1%), stigma (81.8%), and incapacity to handle police harassment (74.4%) as key hurdles to treatment. MSM views on HIV preventive programs are examined in this qualitative study. Despite economic limits, respondents preferred private hospitals due to confidentiality, stigmatisation, and discrimination difficulties at public hospitals, which hinder treatment acceptance.
Conclusion: MSM in urban and rural settings have different HIV risk behaviours and access issues, requiring specific interventions.

Keywords: HIV, Intervention, Barrier, Access, Prevention, Facilities

Plain English Summary

This study examines the challenges and needs of men who have sex with men (MSM) in Nigeria regarding HIV prevention and healthcare access. Using interviews, group discussions, and surveys, researchers gathered insights from 299 MSM, aged 18 and older, living in both urban and rural areas. Findings reveal that urban MSM are more likely to have higher education and experience sexual abuse, while rural MSM report higher rates of multiple sexual partnerships. While most MSM use condoms and attend HIV clinics,

Correspondence:
Sanni, Felix O
Research and Development Department, Heartland Alliance,
Abuja, Nigeria
+2348060085465, sfelix@heartlandalliancenigeria.org

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many face barriers like stigma, poor facilities, and police harassment, particularly in public healthcare settings. Despite financial challenges, MSM prefers private healthcare for its confidentiality, as public clinics are often associated with discrimination. These findings highlight the need for targeted interventions that address the unique risks and barriers faced by urban and rural MSM in HIV prevention.

Introduction

Effective interventions are urgently required to address the increasing HIV infections among men who have sex with men (MSM) (1). Despite ongoing educational efforts and existing prevention programs, MSM accounts for over half of all new HIV infections in the United States, with approximately 40,000 cases annually (2). Research indicates that a significant proportion of HIV-positive MSM continue to engage in risky sexual behaviours (3, 4). The reasons for this persisting risk-taking behaviour are complex, with multiple factors at play, including reluctance to change sexual behaviours, emotional distress, substance use, and more.

Nigeria bears the second-highest burden of HIV globally, following South Africa, representing 9.0% of the total global infection load. Key populations, including MSM, female sex workers (FSW), and people who inject drugs (PWID), significantly contribute to the HIV prevalence in Nigeria (5, 6). Despite constituting only 3.4% of the Nigerian population, these key populations are responsible for a staggering 40.0% of the country's new HIV infections (7, 8, 9). Notably, HIV prevalence among MSM in Nigeria is alarmingly high, reaching as high as 17.5% (10, 11, 12). Various factors contribute to the vulnerability of FSW, PWID, and MSM to HIV infection, such as a high number of sexual partners, concurrent sexual partnerships, inconsistent condom use, alcohol and drug abuse, the high prevalence of recurrent sexually transmitted infections (STIs), limited access to STI treatment services, and inadequate access to HIV prevention, treatment, and care services (13, 14). Additionally, negative social attitudes, religious intolerance, and harassment by law enforcement agents exacerbate the situation. To enhance access to HIV prevention services for key populations in Nigeria, the national HIV prevention response program introduced the Minimum Prevention Package of Intervention (MPPI) (6, 15, 16). This comprehensive package aims to provide MSM and other key populations with essential services, including behaviour change communication through a minimum of three educational sessions, access to condoms and lubricants, quarterly HIV testing, STI management, and structural programs designed to reduce stigma and encourage lasting behaviour change. A significant percentage of MSM (6.6%) have a history of forced sexual initiation, and a substantial number (23.6%) use and abuse psychoactive drugs (17). Research consistently shows adverse physical and mental health outcomes among individuals with a history of forced sexual initiation, including an increased risk of HIV infection due to compromised immune function, engagement in high-risk behaviours, and substance abuse as a coping mechanism (18, 19). Post-traumatic stress disorders are prevalent among this population, further affecting their ability to negotiate HIV preventive behaviours. Hence, offering mental health services for MSM in Nigeria is a crucial structural intervention.

Structural interventions are also needed to address barriers to services. Unfavourable legal environments, such as Nigeria's Same-Sex Prohibition Act (20), discourage MSM from accessing HIV prevention services (21). This has driven many MSM underground, severely limiting their access to both HIV prevention and treatment services. While MSM should receive HIV prevention services from multiple delivery points, efforts have been made to provide friendly services to key populations in selected public and private hospitals across Nigeria (22). Additionally, drop-in centres have been established to facilitate access to HIV prevention services, including HIV testing and STI management. Despite these initiatives, a formal evaluation of the community's perspective on challenges in accessing HIV prevention services and how to improve service access has been lacking. This study aims to fill this gap by providing insights into MSM's perspectives on their HIV prevention service needs, perceived obstacles and facilitators, factors promoting service uptake, and a program model for retaining MSM in HIV prevention programs.

Materials and methods

Study design

The study used a mixed-method approach. Data was collected using in-depth interviews (IDI) and key informant interviews (KII) with MSM key opinion leaders, focus group discussions (FGD) and an interviewer-administered structured questionnaire for MSM.

Study/ area population

The study included MSM from urban and rural areas of Nigeria, aged 18 or older, who self-

identified as MSM. Participants fell into three categories: those who had accessed HIV prevention services (to provide insights on MPPI service delivery), those who had never received formal HIV prevention services (to explore barriers to access), and peer educators in HIV prevention programs for MSM. MSM was excluded from protocol development or deemed unable to provide informed consent.

Participants were recruited from Rivers and Kaduna States due to ongoing donor-funded programs supporting key populations' access to HIV prevention services, enhancing geographical diversity. The study comprised ten FGDs (five in each state), one with undisclosed sexual orientation, and six KIIs (three in each state). Thirty IDIs were conducted with key opinion leaders. For the quantitative part, 300 MSM were sampled: 50 from rural Kaduna, 100 from urban Kaduna, 50 from the riverine bonny area, and 100 from Port Harcourt city in Rivers.

Recruitment and Study Procedure

A list of potential participants was generated through study contacts using a snowball approach to collecting referrals. Initial study contacts were identified from civil society organisations working with MSM in the target states. Seeds for the snowball were identified from various hotspots in the target states and from different age groups to prevent the recruitment of respondents from a single cluster.

A structured questionnaire was administered to 300 study participants. An interviewer-administered questionnaire was used to ensure consistency in questions. Trained research assistants with experience in conducting studies and who were community members administered the study questionnaire. Interviews were conducted in a private room in the offices of the NGOs that provided contacts. All participants were provided with written information about the study. Data was submitted daily to the State supervisor, who checked for completeness of the questionnaires.

Study instrument

The study gathered data on respondents' perception of the need for HIV prevention services, barriers to accessing such services in public, private, and peer-led health facilities, and their willingness and perception of available services addressing structural needs. Demographic information (age, education level, substance use history, sexual history, and behaviour) was also collected. The study tool was originally used in a prior study involving MSM, female sex workers, and people who inject drugs across four Nigerian states (23). The instrument was developed in English, with key phrases translated into local languages, serving as references for interviewers in the field, a successful approach employed in previous sexual and reproductive health studies in Nigeria.

Data analysis

Extracted data were analysed using IBM-SPSS version 28. Decision rules were constructed to address response inconsistencies on sexual activity. Participants who reported age at first sex or couldn't recall it were categorised as 'sexually active'. Sexual abuse was defined as those engaging in sex before age 13. Forced sexual initiation history was identified from age 13, as in a prior study. Those with early sexual debut engaged in sex before age 15. Non-responders were excluded.

Conducting descriptive and bivariate analyses involved determining respondents' willingness to access HIV prevention services and their perceptions of barriers, including structural interventions. The prevalence of sexual HIV risk behaviours (inconsistent condom use, multiple partners, transactional sex) was also assessed. Associations were explored between sexual risk behaviours, education, and willingness to access HIV prevention services. Where appropriate, significance was tested using Pearson's chi-square and Fischer's Exact test.

Results

Quantitative result

Table 1 below shows the socio-demographic profile of MSM residents in urban and rural areas. The majority of respondents (67.6%) living in urban areas had secondary education, compared to 53.7% of those living in rural areas who had only primary education ($P<0.001$). Also, a significant proportion (84.2%) of participants living in the rural area said they had not used drugs before, compared to 61.3% of those living in the urban area ($P<0.05$). However, there was no significant difference in the socio-demographic profile of residence gender, age, history of sexual intercourse, and injecting of drugs among the urban and rural duelers.

Table 1: Profile of respondents by area of residence (N=299)

Variables	Rural (n=95)	Urban (n=204)	X^2	p-value	Total
Educational Level					
None	5 (5.3%)	4 (2.0%)	34.77	**<0.001**	9 (3.0%)
Primary	51(53.7%)	47 (23.0%)			98 (32.8%)
Secondary	37(39.0%)	138(67.6%)			175(58.5%)
Tertiary	0 (0.0%)	13 (6.4%)			13 (4.3%)
No Response (8 -1.3%)	0 (0.0%)	2 (1.0%)			4 (1.4%)
Age range					
18-24yrs	27(28.4%)	73 (34.8%)	2.70	0.44	100(33.4%)
25-34yrs	43(45.3%)	74 (36.3%)			117(39.1%)
35-45yrs	18(18.9%)	44 (21.5%)			62 (20.7%)
46+	7 (7.4%)	13 (6.4%)			20 (6.7%)
Ever used drugs					
Yes	10(10.5%)	47 (23.0%)	9.13	**0.003**	57 (19.1%)
No	80(84.2%)	125(61.3%)			205(68.6%)
No response	5(5.3%)	32 (15.7%)			37 (12.3%)
Ever injected drugs					
Yes	2 (20.0%)	8 (17.0%)	0.05	1.00	10 (17.5%)
No	8 (80.0%)	39 (83.0%)			47 (82.5%)
History of sexual intercourse					
Yes					
No	91(95.8%)	201(98.5%)	1.35	0.56	292(97.7%)
No response	0 (0.0%)	3 (1.5%)			3 (1.0%)
	4 (4.2%)	0 (0.0%)			4 (1.3%)

Figure 1 shows the HIV sexual risk profile of MSM by residential area. A significant proportion (90.15) of MSM respondents living the rural areas have more than one sexual partner when compared to 70.1% of those living in rural communities. A higher percentage (82.4%) from the rural community used condoms at last sex compared to 68.7% from the urban area. More than a quarter (31.3%) from the urban area were involved in transactional sex, in contrast to 23.1% from the rural area. Also, 30.8% of MSM respondents living the rural areas had early sexual debut compared to 19.8% from the urban community. Lastly, less than a quarter (22.0%) of MSM participants in the rural area had experienced sexual abuse, compared to just 8.0% from the urban area who had also experienced sexual abuse.

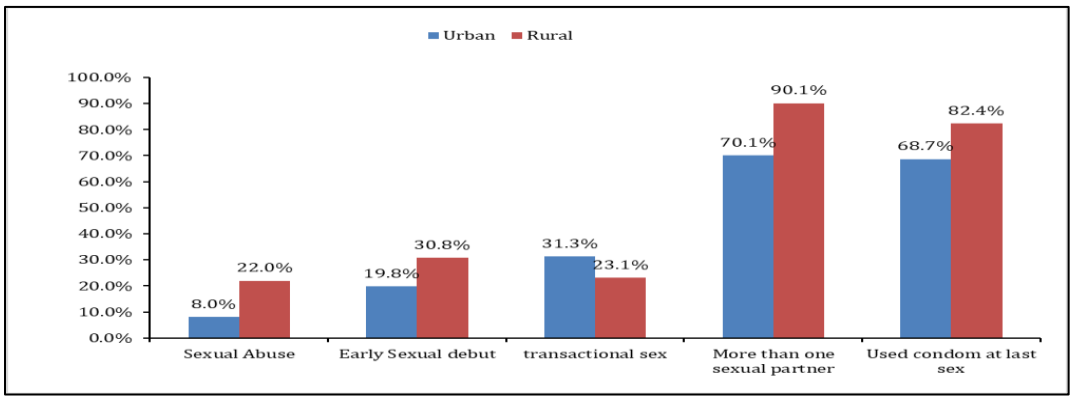

Figure 1: HIV sexual risk profile of MSM by residential area

As shown in Table 2, the majority of respondents (56.2%) between the age of 18 and above living in the urban area have attained the age of sexual debut, compared to 39.6% of those between the age of 14 -17 living in the rural area (P<0.001). Most of the respondent (33.3%) living in the urban area reported being in love as their reason for first sexual intercourse, while 25.3% of those living in the rural area attributed force as their reason for first sexual intercourse. Also, more than a quarter

of the respondents in the rural area (34.1%) had anal form of sexual intercourse in the last three (3) months; likewise, those in the urban area (24.4%) who had Anal, Vagina and Oral forms of sexual intercourse (P<0.005). A higher proportion of respondents (63.7%) in the urban area irregularly used condoms in the last three (3) months compared to the rural dwellers (49.4%) (P<0.005). A significant percentage (82.4%) of rural quillers used condoms at the last sexual act, in contrast to 68.7% of those living the urban areas (P<0.001). Similarly, 85.7% of participants in the rural area used a condom during the last anal intercourse, compared to (68.7%) of those living in the urban area who also used a condom during the last anal intercourse (P<0.005). Furthermore, a significant proportion of respondents (90.1%) in the rural area have had more than one sexual partner in the last 3 months, in contrast to 70.1% in the urban area (P<0.001). Almost half (48.4%) of respondents living the rural areas have two (2) sexual risk behaviours, compared to 34.3% of those with two (2) sexual risk behaviours in the urban area (P<0.005).

Table 2: Sexual health profile of sexually active respondents by area of resident (N=292)

Variables	Rural (91)	Urban (201)	X^2	p-value	Total
Age of sexual debut					
Below 13 years	20 (22.0%)	16 (8.0%)	27.32	**<0.001**	36 (9.4%)
14 – 17 years	36 (39.6%)	40 (19.9%)			76 (24.4%)
18 years and above	27 (29.6%)	113 (56.2%)			140(46.8%)
No response	8 (8.8%)	32 (15.9%)			40 (19.4%)
Reason for first sexual intercourse					
In love	21(23.1%)	67(33.3%)	21.80	**<0.001**	88 (29.4%)
Having fun	18(19.8%)	66(32.8%)			84 (28.1%)
Peer pressure	15(16.5%)	30(14.9%)			45 (15.1%)
To obtain money	11(12.1%)	12 (6.0%)			23 (7.7%)
Forced	23(25.3%)	17 (8.5%)			40 (13.4%)
Others	0 (0.0%)	1 (0.5%)			1 (0.3%)
No response	3 (3.3%)	8 (4.0%)			11 (3.9%)
Sexually active in the last three (3) months					
Yes	88(96.7%)	186(92.5%)	1.25	0.41	274(93.8%)
No	3 (3.3%)	13 (1.5%)			16 (5.5%)
No Response	0 (0.0%)	2 (1.0%)			2 (0.7%)
Forms of sexual intercourse in the last three (3) months					
Vagina	1 (1.1%)	8 (4.0%)	14.83	**0.02**	9(3.1%)
Anal	31(34.1%)	49 (24.4%)			80(27.4%)
Oral	1 (1.1%)	4(4.0%)			5 (1.7%)
Vagina and Anal	26(28.6%)	40 (19.9%)			66(22.6%)
Vagina and Oral	1 (1.1%)	6 (3.0%)			7 (2.4%)
Anal and Oral	7 (7.7%)	45 (22.4%)			52(17.8%)
Anal, Vagina and Oral	24(26.3%)	49 (24.4%)			73(25.0%)
Consistent use of condom in last three (3) months					
Always	44(48.4%)	71 (35.3%)	4.85	**0.03**	115(39.4%)
Irregularly	45(49.4%)	128(63.7%)			173(59.2%)
No response	2 (2.2%)	2 (1.0%)			4(1.4%)
Used condom at last sexual act					
Yes	75(82.4%)	138(68.7%)	12.09	**0.001**	213(72.9%)
No	8 (8.8%)	56 (27.8%)			64 (21.9%)
No Response	8 (8.8%)	7 (3.5%)			15 (5.1%)
Use a condom during the last anal intercourse					
Yes	78(85.7%)	138(68.7%)	4.53	**0.03**	216(74.0%)
No	11(12.1%)	42 (20.9%)			53 (18.2%)
No Response	2(2.2%)	21 (10.4%)			23 (7.9%)

Number of sexual partners in last three (3) months					
One	4 (4.4%)	34 (16.9%)	10.21	**0.001**	38 (13.0%)
More than one	82(90.1%)	141(70.1%)			223(76.4%)
No Response	5 (5.5%)	26 (13.0%)			31 (10.6%)
***Engagement in transactional sex**					
Paid for sex					
Received gift for sex	20(22.0%)	50 (24.9%)	2.09	0.15	70 (24.0%)
Paid and or received	18(19.8%)	38 (18.9%)			56 (19.2%)
No transactional sex	21(23.1%)	63 (31.3%)			35 (11.7%)
	70(76.9%)	138(68.7%)			208(69.6%)
Number of respondents with HIV sexual risk behaviour					
0	5 (5.5%)	14 (7.0%)	13.27	**0.004**	19 (6.5%)
1	34(37.4%)	69 (34.3%)			103(35.3%)
2	44(48.4%)	66 (32.8%)			110(37.7%)
3	8 (8.7%)	52 (25.9%)			60 (20.5%)

*=multiple responses possible.

Table 3 highlights the proportion of respondents willing to access HIV prevention services. More than eighty per cent of respondents (98.3%) were very willing to follow a plan to help address HIV risk, 96.6% were willing to use condoms, 95.9% were willing to use lubricants, 93.2% were willing to attend regular meetings on HIV issues, 91.6% were willing to visit a clinic for STI checkup, 89.6% were willing to allow questions on sexual risk behaviours, and 82.8% were willing to have peers assist in getting voluntary HCT. However, less than eighty per cent (79.8%) were willing to go to a peer-led clinic to get HIV-related services, 77.8% were willing to have peers serve as drug adherence supporters if HIV-positive 75.1% were willing to attend peer-led clinics, 62.3% were willing to have peers facilitate access to services in public hospitals and 61.3% in private hospitals if encounter difficulties.

Table 3: Willingness to receive HIV Prevention Services (N=297)

	How willing are you to:	Very Willing	Neutral	Not Willing
Q101	Attend regular meetings organised to discuss HIV-related issues.	277 (93.2%)	15 (5.1%)	5 (1.7%)
Q102	Allow people to ask you questions about your risk behaviour.	266 (89.6%)	22 (7.4%)	9 (3.0%)
Q103	Follow a plan to help you address your HIV risk.	292 (98.3%)	1 (0.3%)	4 (1.4%)
Q104	Receive and use condoms?	287 (96.6%)	6 (2.0%)	4 (1.4%)
Q105	Receive and use lubricant?	285 (95.9%)	7 (2.4%)	5 (1.7%)
Q106	Visit clinics for STI checkups?	272 (91.6%)	13 (4.4%)	12 (4.0%)
Q107	Go to a public clinic to get HIV-related services?	154 (51.9%)	56 (18.9%)	87 (29.2%)
Q108	Go to a private clinic to get HIV-related services?	181 (61.0%)	39 (13.1%)	77 (25.9%)
Q109	Go to a peer-led clinic to get HIV-related services.	237 (79.8%)	48 (16.2%)	12 (4.0%)
Q110	Attend public clinics if accompanied by peers?	152 (51.2%)	42 (14.1%)	103 (34.7%)
Q111	Attend private clinics if accompanied by peers?	163 (54.9%)	40 (13.5%)	94 (31.6%)
Q112	Attend peer-led clinics if accompanied by peers.	223 (75.1%)	29 (9.8%)	45 (15.1%)
Q113	Have peers facilitate access to services in public hospitals if you encounter difficulties?	185 (62.3%)	62 (20.9%)	50 (16.8%)
Q114	Have peers facilitate access to services in private hospitals if you encounter difficulties?	182 (61.3%)	43 (14.5%)	72 (24.2%)
Q115	Have peers assist in getting voluntary HCT?	246 (82.8%)	25 (8.4%)	26 (8.8%)
Q116	Have peers serve as drug adherence supporters if HIV positive?	231 (77.8%)	30 (10.1%)	36 (12.1%)

Table 4 highlights the factors that may make services provided by organisations not accessible to MSM. More than half of respondents (60.6%) from private organisations noted the distance of service delivery points to home as a factor that may prevent MSM from accessing services (P<0.005). The majority of respondents from public organisations perceived a lack of knowledge about HIV (67.0%), lack of friendly facilities (76.1%), Inadequate information specific to MSM (74.4%), Stigmatisation by providers (81.8%), and Inability to address police harassment (74.4%) as a factor preventing MSM from accessing services (P<0.001). Also, most of the respondents (71.7%) from public organisations noted the Inability to provide comprehensive services in the same place (one-stop-shop) as a factor preventing MSM from accessing services (P<0.001).

Table 4: Factors that May Make Services Provided by Organisations Not Accessible to MSM (N=297)

	Factors	Public (301)	Private (302)	Peer (303)	X^2	P-values
A	Availability of free services	70 (23.6%)	91 (34.1%)	71 (23.9%)	4.91	0.09
B	The distance of service delivery points to the home	169 (56.9%)	180 (60.6%)	140 (47.1%)	11.66	**0.003**
C	Lack of knowledge about HIV by provider	199 (67.0%)	157 (52.9%)	160 (53.9%)	15.24	**<0.001**
D	Lack of friendly facilities	226 (76.1%)	222 (74.7%)	186 (62.6%)	16.06	**<0.001**
E	Inadequate information specific to MSM	221 (74.4%)	211 (71.0%)	167 (56.2%)	24.40	**<0.001**
F	Inability to provide HIV counselling services	200 (67.3%)	197 (66.3%)	175 (58.9%)	5.49	0.06
G	Stigmatisation by providers	243 (81.8%)	220 (74.1%)	205 (69.0%)	13.28	**0.001**
H	Availability of service providers to manage stigma-related crisis	173 (58.2%)	175 (58.9%)	157 (52.9%)	2.68	0.26
I	Inability to address police harassment	221 (74.4%)	213 (71.7%)	189 (63.6%)	8.95	**0.01**
J	Inability to provide comprehensive services in the same place (one-stop-shop)	173 (58.2%)	213 (71.7%)	175 (58.9%)	14.75	**0.001**

Table 5 shows the differences in the number of persons willing to use HIV prevention services and their perception of the availability of services. The results show that a significant proportion of respondents (84.8%) were willing to participate in economic empowerment/income-generating activities to address transactional sex; however, they have a low perception rate (26.1%) regarding the availability of the services (P<0.001). Also, a very high percentage of participants (86.8%) were willing to receive legal services to address discrimination based on their sexual orientation; however, only 21.0% believed the service was available (P<0.001). The majority (84.8%) were willing to receive social justice for discrimination based on their sexual orientation, but just 33.0% believed the services were available (P<0.001). Additionally, a substantial proportion (94.2%) were willing to receive training on fundamental human rights and paralegal services, compared to only 27.6% who perceived the services were available (P<0.001). The majority (87.6%) were willing to access other health services health health-promoting services, but less than half (46.3%) believed the services were available (P<0.001).
Furthermore, a high percentage (79.1%) were willing are you to participate in an HIV Positive Peer Support program; however, 60.8% believed the services were available (P<0.001). Compared to 83.8% of respondents who received support services for ART adherence, only 65.3% believed in the availability of the services (P<0.001). Lastly, in contrast to the 80.0% of those who were willing to be accompanied in referral for ART services, only 60.2% perceived the services are available (P<0.001).

Table 5: Differences in Number of Persons Willing to Use HIV Prevention Services and Perception on Availability of Services (N=297)

	Factors	Willing (401 -1&2)	Available (402 -1&2)	X^2	P-values
A	How willing are you to participate in economic empowerment/income-generating activities to address transactional sex?	251 (84.8%)	77 (26.1%)	206.99	**<0.001**
B	How willing are you to receive legal services to address discrimination based on your sexual orientation?	258 (86.8%)	62 (21.0%)	261.29	**<0.001**
C	How willing are you to receive social justice for discrimination based on your sexual orientation?	252 (84.8%)	98 (33.0%)	165.76	**<0.001**
D	How willing are you to receive training on fundamental human rights and paralegal services?	280 (94.2%)	82 (27.6%)	278.75	**<0.001**
E	How willing are you to access other health-promoting services, e.g., mental health and psychosocial services?	260 (87.6%)	136 (46.3%)	117.28	**<0.001**
F	How willing are you to participate in an HIV Positive Peer Support program?	235 (79.1%)	180 (60.8%)	24.38	**<0.001**
G	How willing are you to receive support services for adherence to ART?	248 (83.8%)	194 (65.3%)	26.04	**<0.001**
H	How willing are you to be accompanied in referral for ART services?	238 (80.7%)	177 (60.2%)	29.99	**<0.001**

Table 6 shows the association between sexual risk behaviour and interest in structural intervention programs. Significantly more MSM with HIV sexual risk behaviours (98.2%) were willing to receive training on fundamental human rights and paralegal services (P<0.001). Also, a significant proportion (90.6%) of respondents with HIV sexual risk behaviours were willing to access other health services health promoting services, e.g. mental health psychosocial services (P<0.001). A substantial proportion of respondents (80.6%) with sexual risk behaviours were willing to participate in an HIV-positive peer support program (P<0.005).

Table 6: Association between HIV sexual risk behaviour and willingness to access structural interventions

S/N	Variables	Respondents with at least one HIV sexual risk behaviour (N=297)		X^2	P value
		Yes (278)	No (19)		
Q401a	How willing are you to participate in economic empowerment/income-generating activities to address transactional sex?	237 (85.3%)	14 (73.7%)	1.82	0.18
Q401b	How willing are you to receive legal services to address discrimination based on your sexual orientation?	241 (86.7%)	17 (89.5%)	0.12	1.00
Q401c	How willing are you to receive social justice for discrimination based on your sexual orientation?	235 (84.5%)	17 (89.5%)	0.34	0.75
Q401d	How willing are you to receive training on fundamental human rights and paralegal services?	273 (98.2%)	7 (36.8%)	124.08	**<0.001**
Q401e	How willing are you to access other health-promoting services, e.g., mental health and psychosocial services?	252 (90.6%)	8 (42.1%)	34.43	**<0.001**
Q401f	How willing are you to participate in an HIV-positive peer support program?	224 (80.6%)	11(57.9%)	5.54	**0.02**

Q401g	How willing are you to receive support services for adherence to ART?	234 (84.2%)	14 (73.7%)	1.42	0.23
Q401h	How willing are you to be accompanied in referral for ART services?	224 (80.6%)	14 (73.7%)	0.53	0.47

Qualitative section

Focus group discussion

Participants in the focus group discussions highlighted why it is essential for MSM to have access to HIV prevention services.

Respondent 1: We are humans, too, and whatever should be done for heterosexuals should also be done for others. There is a higher level of risk for MSM, and we need access to these services more than heterosexuals.

Respondent 2: Due to the anal contact, there is blood and fluid contact during sexual intercourse. Because of this, accessing HIV services is important.

Respondent: Considering how often the MSM community crave sex and practices wild sexual habits, there is every need for MSM to access HIV services.

Participants at the FGD, IDI and KII identified the ability to guarantee confidential HIV testing as a factor that can increase service uptake. The large patient load at the public hospitals discourages its use by MSM. While using private hospitals can mitigate this challenge, the high cost of accessing care at private hospitals limits its use.

The payment for HIV routine tests after being referred to any hospital that renders such services is a challenge to me because so many of my friends that I referred to the community centre and told they would have free medical services always come back complaining that they were referred to another hospital for routine test and were heavily taxed. So, if the community centre can have comprehensive services, it will help us more.

Perceived obstacles to the uptake of HIV prevention services within facilities

Participants in the focus group discussion believed that HIV testing at facilities where their confidentiality could be guaranteed was of great need. Also, a few participants said the provision of home testing kits would further strengthen confidentiality, thereby preventing stigmatisation from the non-MSM communities within which they live.

Respondent: on your own, you can conduct your test if you are well trained. This is better and more confidential than going out. …FGD KD 003

Also, discussants identified concerns about stigmatisation and discrimination as a reason for not accessing HIV prevention services from large public hospitals. These hospitals also do not have an integrated approach to the management of people living with HIV, thereby further fostering discrimination and lack of confidentiality by the systems. Participants also opined that the large patient load at the public hospitals and a hasty review of patients at such facilities discouraged MSM from accessing care at the public hospitals, resulting in a preference for private hospitals. However, the cost of accessing care at the private hospitals was often a deterrent to MSM despite their preference for the private hospitals.

Respondent 1: Sometimes when you go to the hospital, you will be asked a series of sexual history questions, and because of the fear of stigmatisation, I hide my identity and act as a heterosexual. ... Z0000004 FGD

Respondent 1: The structure of the hospital, as they have a specific department for HIV services, allows for discrimination and lack of confidentiality.

Respondent 2: The process you go through in government hospitals is a lot that you get tired of what you came there to do

Respondent 3: While in the public centre, they are always in a hurry and do not follow up as in the community centres.

Respondent 4: There is a huge crowd in public hospitals, and MSM feel ashamed … Z0000003 FGD

Respondent: Some people do not want to associate with crowds that accompany the government centres because of the nature of the environment. Therefore, they prefer to go to a private hospital with less crowd. A solution is providing more centres….FGD for hiding members

Respondent: The payment for an HIV routine test after being referred from the HRM community to any Hospital that renders such services is a challenge to me because so many of my friends that I referred to the community centre and told they would have free medical services always come back complaining that they were referred to another hospital for routine test and were heavily taxed; so, if the community centre can have comprehensive services it will help us more. Case Study 06

Approaches to improve MSM uptake of MPPI

Discussants at the focus group discussion sessions acknowledged that the MPPI model was a comprehensive and holistic model that addressed behavioural and biomedical approaches for HIV prevention through the promotion of condom and lubricant access and usage, among others. However, they suggested that service providers must be properly trained to deliver the services adequately to the served population. The MPPI package needs to be complimented with the training of community members to acquire skills for income generation to enable them to be self-reliant, as many MSM are unemployed. More community members must also be aware of MPPI service delivery points and how to access them.

Respondent: Most of the MSM don't have anything to do apart from the commercial sex. There should be a provision for a skills acquisition centre...KII KOL KD 04

Respondent: MPPI is all-encompassing, and I have had a course to be in situations where the person providing MPPI was not trained adequately. To correct this, we would need to properly build the capacity of our healthcare service providers and peers. We also need to put a conducive environment on the ground so they can access services properly. ...KII 5

Respondent: Yes, there are many [MPPI service delivery points]. But many people have yet to know about these places, so they need to be informed. ……. FGD for hiding members

Successful Program Models for Retaining MSM in HIV Prevention

Discussants at the Focus Group Discussion sessions identified that networking and implementing programs that will be of interest to the MSM community will help ensure their continued participation in HIV prevention programs. Also, they identified the appropriate use and dissemination of information, education and communication (IEC) materials, as well as group discussions, as effective tools for ensuring the MSM are retained in HIV prevention programs. Discussants identified how best to reach out to community members. Programs implemented through peer-led facilities are often preferred and encourage MSM participation and continued usage of HIV services being offered to the community. These facilities are more hospitable and handle information more confidentially, fostering continuous use of the services.

Respondent: There are hot spots and networks. It is to discover the networks and engage the key influencers and engage them; if you carry out programs they are interested in, it is easy to engage them. ...KII KD 002

Respondent: More peer-led facilities should be established…. Case Study 01

Respondent: The Hospitality I receive each time I visit the community centre is commendable. The Peer Education system is one of the programs I enjoyed most, and the Issue of confidentiality is nothing for me because the peer educators have earned my trust…Case Study 04

Some respondents suggested the use of mobile HIV counselling and testing services as well as close follow-up of community members through support groups to ensure continued uptake of HIV prevention services by MSM. The uptake and use of condoms and lubricants in HIV prevention is high, but the continued supply of these commodities needs to be assured.

Respondent: I will suggest mobile HCT [to ensure continuous access to services], especially for those who still have a phobia of the community centre. Also, Home Based Care will go a long way for the MSMLWHIV and will serve as support for follow-up……. Case Study 05

Respondent: Almost all MSM are now using condoms and lubricants, so the distribution of this should be continued…KII KOL 08

Discussion

Accessing HIV prevention services for men who have sex with men is influenced by various barriers and facilitators. Barriers include limited knowledge and awareness of prevention strategies, aggregated costs associated with care, lack of access to providers, complex clinical protocols, and social stigma (24, 25, 26, 27). On the other hand, facilitators include vaccine confidence, perceived severity of diseases, bundling vaccination into routine healthcare, and utilising pharmacies as vaccination sites (28). To overcome these barriers, potential strategies include expanded outreach efforts, a patient-centred decision aid, easy access to LGBT-friendly providers, and governmental subsidies for prevention services.

The study's socio-demographic analysis found that 98.6% of participants were males, with only 0.7% identifying as transgender individuals. Urban and rural MSM shared similarities in gender, history of sexual intercourse, and injecting drug use. However, two significant variables emerged. Firstly, a notable difference in educational attainment was observed, with a higher number of urban MSM holding tertiary education. This suggests that education levels could impact awareness and health-seeking behaviours,

potentially affecting access to HIV prevention services (29). Secondly, the study revealed a significant variation in the use of psychoactive drugs, with higher prevalence in urban areas, indicating substance use as a potential healthcare access barrier.

The findings revealed that rural MSM had an earlier sexual debut with a higher incidence of early sexual abuse, underscoring their unique vulnerabilities. Tailored interventions should address these early experiences and promote safer sex practices. The reasons for initiating sexual intercourse differed between urban and rural MSM, with more rural MSM reporting initiation due to force, while urban MSM initiated for love or enjoyment. These variations highlight the need for culturally sensitive interventions to address distinct challenges in both settings.

Rural MSM exhibited a higher rate of consistent condom use, suggesting its role as an HIV prevention facilitator. Encouraging and maintaining such protective behaviours is vital. In terms of the HIV sexual risk profile, a higher percentage of urban MSM exhibited multiple risk behaviours, especially among those using psychoactive substances. Addressing substance abuse in urban areas is crucial, in addition to other risk reduction strategies (30). Interestingly, no significant associations were found between education levels or alcohol consumption and HIV risk behaviours, indicating that these factors may not be as influential in determining MSM's risk profiles.

Furthermore, the study revealed that a high percentage of MSM were willing to receive HIV prevention services, including behaviour change communication, condoms and lubricants, and STI checkups. However, the willingness to access these services differed between public and private clinics, with lower percentages willing to access services in public clinics (50.3%) and private clinics (61.1%). On the other hand, a significant majority (79.7%) expressed their willingness to access services in peer-led clinics, and most (83.1%) were open to having peers assist in obtaining voluntary HCT services. The findings underscore the importance of creating supportive and non-stigmatising environments for MSM. The low willingness to access services in public and private clinics can be attributed to concerns about stigma, lack of confidentiality, and high costs associated with private healthcare. This implies that healthcare providers and policymakers need to prioritise the creation of welcoming and confidential healthcare settings for MSM. Additionally, addressing the cost barriers for private clinics can increase access.

The study identified several significant barriers to accessing HIV prevention services in public and private clinics compared to peer-led health services. These barriers include the distance of service delivery points from home, lack of provider knowledge about HIV, unfriendly facilities, inadequate information about MSM, stigma from providers, inability to address police harassment, and the inability to provide comprehensive services in one place. These findings highlight the urgent need for targeted interventions to address these barriers. Confidentiality, in particular, is a critical concern, as many MSM feel the need to hide their identity due to the fear of stigmatisation. Public hospitals' large patient loads, quick patient turnover, and lack of integrated approaches also deter MSM from accessing care. These findings highlight that healthcare facilities must be restructured to ensure confidentiality and reduce discrimination. Policymakers should work to provide comprehensive services in one location, and efforts should be made to educate healthcare providers about the specific healthcare needs of MSM.

The study found that many respondents were willing to access programs that provide structural support to enhance behavioural changes, including income-generating activities, legal services, mental health and psychosocial support, positive peer support programs, and adherence to antiretroviral therapy. However, very few MSM reported that these services were available. This highlights a significant gap between the willingness of MSM to access support services and the actual availability of these services. The implication is that there is a need for increased availability and accessibility of these structural support programs to serve the needs of the MSM community better. MSM with HIV sexual risk behaviours, in particular, expressed a strong interest in services related to mental health, human rights training, and HIV-positive support groups.

Participants in the study acknowledged the importance of the MPPI (comprehensive prevention model) but stressed the need for proper training of service providers to deliver these services effectively. They also emphasised the importance of skill acquisition programs, especially for unemployed MSM, and increasing awareness of MPPI service delivery points. The findings suggest that a multi-faceted approach is required to improve MSM uptake of MPPI. This includes comprehensive training for healthcare providers, establishing skills acquisition centres, and enhanced community awareness about available services. The study indicated that networking,

implementing programs of interest to the MSM community, and the use of information, education, and communication materials, along with group discussions, can effectively retain MSM in HIV prevention programs. Peer-led facilities were preferred due to their welcoming and confidential atmosphere. This implies that strategies such as mobile HIV counselling and testing services, support groups, and continuous supply of condoms and lubricants should be employed to ensure the ongoing engagement of MSM in HIV prevention programs. Focusing on community engagement and using trusted peer educators can also enhance program success.

Limitations and strengths of the study
A key strength of this study lies in its recruitment strategies. The utilisation of seed for recruitment, coupled with the broad age range of the seed, facilitated the inclusion of a diverse group of MSM participants. Consequently, the findings possess more general applicability and offer valuable insights for generating new hypotheses in future research on HIV prevention among MSM in Nigeria.

Conclusion
The study highlights the critical factors affecting access to HIV prevention services for Men Having Sex with Men (MSM). While many MSM express willingness to access services, disparities exist based on the type of clinic. Public and private clinics face challenges related to stigma, confidentiality, and costs, hindering access. In contrast, peer-led clinics are preferred for their welcoming and non-stigmatising environments. Healthcare providers and policymakers should prioritise confidential and supportive settings while addressing cost barriers. Barriers in public and private clinics include distance, provider knowledge gaps, facility unfriendliness, and stigma, emphasising the need for targeted interventions. There's also a gap in accessing structural support programs. Proper training for service providers, skill acquisition programs, community awareness, and peer-led initiatives can enhance access. Addressing these barriers and leveraging facilitators is essential for effective HIV prevention efforts among MSM.

List of Abbreviations
MSM: Men Having Sex with Men
HIV: Human Immunodeficiency Virus
IDI: In-depth interviews
KII: Key informant interviews
FGD: Focus group discussions
MPPI: Minimum Prevention Package of Intervention

Declarations
Ethical approval and consent to participate
Ethics approval was received from the Jos University Teaching Hospital Health Research Ethics Committee (JUTH/DCS/ADM/127/XIX/6261). Written consent was obtained from all study participants. Participants in the FGD received a transport reimbursement of approximately N1000.

Consent for publication
All authors gave consent for publication of the work under the Creative Commons Attribution-Non-Commercial 4.0 license.

Availability of data and materials
All essential data supporting the findings of this case are available within the article. Additional data are available upon request from the corresponding author.

Competing interests
The authors declare that there is no conflict of interest.

Funding
Nil.

Authors' contributions
SOF: Lead investigator; conceptualized the study, oversaw data collection and analysis, and wrote the manuscript's first draft. Played a primary role in coordinating the research team and ensuring the study's completion. AR: Contributed to the design of the study, supervised data collection in rural settings, and provided substantial input during data analysis and manuscript revisions. EG: Conducted interviews and focus group discussions, assisted in transcribing qualitative data, and contributed to the thematic analysis of findings. KA: Responsible for survey design and quantitative data analysis using IBM SPSS 28, including generating tables and figures for the manuscript. MO: Played a key role in recruiting participants through snowball sampling and ensuring ethical considerations were maintained during data collection. AP: Conducted literature reviews and provided critical feedback on the manuscript's introduction and discussion sections, ensuring alignment with current research. UP: Managed logistics and coordination of fieldwork, including urban and rural site visits, and contributed to the interpretation of results.

OBB: Senior advisor and mentor; guided the study's conceptual framework, provided oversight for methodological rigour, and critically reviewed the final manuscript for intellectual content and clarity.

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