


Assessing awareness and utilisation of pre-exposure prophylaxis for HIV prevention among women who inject drugs in Lagos, Nigeria: a cross-sectional study

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ABSTRACT

Introduction Women who inject drugs (WWID) in Nigeria are more likely to be living with HIV than their male counterparts and could benefit from pre-exposure prophylaxis (PrEP). Our study therefore sought to determine the awareness and use of PrEP among WWID in Lagos, Nigeria.

Methods The study was descriptive cross-sectional in design and involved 422 participants recruited by using the snowballing technique. Interviewer-administered questionnaires were used to collect data which were analysed using Epi Info software and presented as frequency tables. χ^2 test was used to analyse the categorical data and investigate relationships, associations, and independence between categorical variables with the level of significance set at $p < 0.05$.

Results There were 422 respondents with 60.2% of them between 18 and 30 years of age with the majority (90.1%) identifying as females while 6.9% identified as transgender. Half of the respondents (50.2%) were unemployed, 56.6% were single while 7.8% were aware of PrEP with only 1.9% reporting that they had ever used it. Factors significantly associated with awareness of PrEP were age ($p < 0.038$), period of residence ($p < 0.001$) and the level of education ($p < 0.001$). Increased awareness of PrEP was associated with residence within the local government area for 1 year or more (adjusted OR (AOR) 0.20, 95% CI 0.08 to 0.49) and completion of at least secondary school education (AOR 7.63, 95% CI 2.59 to 22.45).

Conclusions This study sheds light on the crucial issue of awareness and utilisation of PrEP for HIV prevention among WWID in Lagos, Nigeria. The findings highlight the need for tailored interventions bearing in mind the determinants of PrEP use within this specific demographic group. Addressing these correlates of PrEP use will be pivotal in developing effective strategies to reduce HIV transmission and improve the overall health outcomes in this vulnerable population.

INTRODUCTION

Most cases of HIV infection in Nigeria occur via heterosexual means with the epidemic more pronounced among females.^{1–3} Nine

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Despite overwhelming evidence about the efficacy of pre-exposure prophylaxis (PrEP) in preventing HIV, there is much reluctance to initiate it among people who inject drugs (PWID). Although there are mixed reports about the level of awareness and willingness to use PrEP in international studies, the level of awareness and uptake of PrEP among women who inject drugs (WWID) has been reported to be lower than the general Nigerian population.

WHAT THIS STUDY ADDS

⇒ This study showed that although the awareness of PrEP was generally low, WWID who had less than secondary school education and were older than 30 years had a higher level of awareness about PrEP with the major source of information being health-care workers. In addition, our study found a high willingness to take PrEP among WWID.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Our study provides some insight into practice and could influence public policy in African countries on efficacious strategies to reduce HIV incidence among PWID in general and WWID in particular. It also presents an opportunity for further research because it provides a framework in which factors related to awareness and use of PrEPs in this population can be examined.

per cent of new HIV infections in Nigeria every year occur among people who inject drugs (PWID) with several recent HIV outbreaks attributed to injection drug use.⁴ PWID face a dual risk for HIV infection from injection and risky sexual behaviour, including transactional and forced sex.^{5,6} Higher prevalence of sexually transmitted infections (STIs) including HIV among PWID presents a major

public health challenge because of the possibility of sexual networking.⁷⁻¹⁶

Data from the Integrated Biological Behavioral Surveillance Survey conducted in Nigeria in 2014 and 2015 reported that HIV prevalence among PWID was 13.9% among females and 3.0% among males.¹⁷ The Nigeria Drug Use Survey Report 2019 conducted by the United Nations Office on Drugs and Crime in Nigeria reported greater involvement of females in injection drug use. With one in four PWID in Nigeria now believed to be female, it suggested promotion of advocacy on the benefits of new HIV prevention options within existing HIV programmes with a focus on women who inject drugs (WWID).¹⁸

Pre-exposure prophylaxis (PrEP) is a biomedical intervention combining medication and has been shown from previous studies to be effective in HIV prevention.¹⁹⁻²¹ An observation in the Bangkok Tenofovir study showed that PrEP increased protection against HIV in a randomised trial among PWID.²² In addition, awareness of PrEP has been found to be generally low in most at-risk populations (MARPs) with even lower rates recorded among PWID.²³⁻²⁶ PrEP use among PWID has also been found to be poor in studies conducted in the USA.^{27 28}

Despite the disproportionately high HIV infection rates among WWID in Nigeria, very little has been done to take advantage of the opportunity presented by PrEP to address these high infection rates. There have been a few initiatives to incorporate PrEP into routine health services for serodiscordant couples and determine the best methods of making the method accessible to HIV-negative men and women in Nigeria. Although the scope of coverage of such initiatives has been limited, there are plans in the pipeline for scaling up these initiatives with leadership from governmental agencies.^{27 28} Successful implementation of PrEP programmes in WWID could lead to reduced infection rates among MARPs and the population in general. Our study therefore sought to determine the awareness and uptake of and the willingness of WWID to use PrEP in the future.

MATERIALS AND METHODS

Study setting

Lagos State is categorised into 5 administrative divisions namely, Epe, Ikorodu, Badagry, Lagos and Ikeja and 20 local government areas (LGAs).²⁹ Two LGAs namely Eti-Osa and Lagos Island LGA were used as a convenience sample. A previous study which used the snowballing technique had reported a high concentration of intravenous drug users (IDUs) in these two LGAs.³⁰ The snowballing technique has also been used in a previous study among IDUs in Osogbo, Nigeria.³¹

Study design

This was a descriptive cross-sectional study using the snowballing technique to recruit participants. The multi-stage sampling technique was used in the recruitment.

First, six shooting galleries identified in the two LGAs were selected via the simple random sampling method. Shooting galleries are well-known locations where IDUs feel comfortable to inject themselves either by renting or borrowing items such as needles and syringes. These galleries were visited in the company of our previous contacts in the community between June and September 2019. After this, the snowballing sampling technique was adopted to recruit study participants in each gallery. This involved identifying and recruiting initial participants, who then referred or introduced the researchers to other potential participants. This process continued till the required number of participants for the study was attained. Before data collection in each gallery, permission was sought from the leaders to get maximum cooperation from potential participants.

Study participants

The study was conducted among people who met our inclusion criteria.

Inclusion criteria for participants:

1. Residence in either of the two LGAs at least 3 months prior to the commencement of the survey.
2. Age equal to or greater than 18 years.
3. Negative HIV test using the UNIGOLD test kit.³²

A decision was made about HIV testing because PWID, who were our target audience, are generally known to be at increased risk of HIV infection.^{5 6} We therefore thought that participants should benefit from the opportunity presented by the study to know their HIV status. In conducting the test, we followed the protocol as stated in the National Guidelines for HIV Prevention, Treatment and Care. The UNIGOLD HIV test kit was used for rapid diagnostic testing and detection of HIV antibodies in the blood of respondents. The kit was manufactured by Trinity Biotech of Ireland. A medical assistant was designated to manage kits, maintain test/control logs and check expiration dates on kits. After check-in and vital signs, the participants were offered a rapid HIV test by the assistant in the privacy of the exam room, and written consent was obtained. A blood sample was then obtained by finger stick and the Uni-Gold rapid HIV test was performed. The test kit was kept in the exam room for 10 min afterwards to obtain results. Negative test results were handed over to participants by the tester. In addition, an information sheet that addressed HIV risk reduction and explained the negative result was given to them. The assistant then ordered the Western blot (WB) test for reactive tests which were performed on the same day on site and arranged a follow-up appointment to deliver the results. If the WB result was indeterminate, the test was repeated and if the second WB test was negative, the patient was asked to return in 3 months for repeat testing. The participants were also informed that antibodies to HIV may not be detected early in infection, and that if there was concern about an infection within the previous 3 months, the test should be repeated in another 3 months' time. Participants with positive rapid

HIV and positive confirmatory WB tests were referred to designated HIV comprehensive referral centres for counselling and case management.

Data sources and measurement

A structured interviewer-administered questionnaire comprising five sections in English language was used. The English language was used because it is the official language in Nigeria and is generally well understood. Participants who responded 'don't know' to any question were assumed to have given a negative response in the analysis.

Study size

The minimum sample size for this study was calculated using Cochran's formula:

$$n = \frac{Z^2 pq}{d^2}$$

Where:

n=estimated sample size

Z=the standard deviate was set at 1.96, which corresponds to 95% CI

p=proportion to affect 50% of population=0.5

q=1-p

d=margin of error 5% = (0.05)

n = (1.96×1.96) (0.5) (1-0.5) / (0.05×0.05)

final sample size (nf)=383.16

An additional 10% to cater for non-response was added to the calculated minimum sample size.

(383.16×0.1) = 38.32

The minimum sample size is 383.16+38.32 = 421.58. This value was approximately 422.

Quantitative variables

The questionnaire was adapted from a previous study³¹ and comprised of five sections (see online supplemental appendix).

Section A: Sociodemographic characteristics which included age, gender identification, length of residence in the LGA, marital status, level of education and employment status.

Section B: Awareness of PrEP and source of awareness of PrEP.

Section C: Use of PrEP.

Section D: Willingness to Use PrEP.

Section E: Factors associated with willingness to use PrEP.

Training of research assistants

Two research assistants were recruited and trained on the data collection process, field protocols and research ethics. The training was for 4 hours daily over a 2-day period. The research assistants had completed at least secondary school education and were proficient in English language.

Pretesting of research instrument

A pretest was conducted in Mushin LGA among 40 respondents to improve the quality of the questionnaires

by addressing missing questions and unexpected reactions from the respondents.

Patient and public involvement statement

Participants and the public were involved in the design, conduct and dissemination plans of this study. The participants were recruited by researchers who liaised with a non-governmental organisation (NGO) that had worked for many years with population as part of the snowball technique. The rationale for the study was explained to identified leaders in the shooting galleries who were consulted in the planning and structuring of the research project with their input from them on how best to approach study participants and frame sensitive questions so as not to discourage potential participants.

Statistical methods

This involved collecting, organising and cleaning data to ensure accuracy and completeness. The data were entered from the paper questionnaires with coding done by the researchers. Data cleaning was done by the researchers and stored in a digital repository before the analysis was conducted. All analyses were conducted using Epi Info.³³ Descriptive statistics (eg, frequencies and percentages) were used to summarise the results. Categorical variables such as age, gender, marital status and education level were presented as frequency tables. The χ^2 test was used to test association and the level of significance was set at $p < 0.05$. The multiple logistic regression models were used to determine variables independently associated with PrEP knowledge and willingness to take PrEP.

RESULTS

As shown in [table 1](#), the greatest proportion of participants (60.2%) were between 18 and 30 years of age while 5.0% were older than 50 years. Most respondents had completed secondary school education (236 (55.9%)) while 212 respondents (50.2%) were unemployed.

Only 33 (7.8%) of respondents admitted who were aware of PrEP as shown in [table 2](#). A little above one-third of respondents, 13 (39.4%), reported that they first became aware of PrEP services by virtue of information they got from a healthcare provider and two respondents (6.1%) reported that their awareness was from the media.

In [table 3](#), the age of respondents was associated with awareness of PrEP and the difference was statistically significant ($p = 0.038$) with 13.1% of persons between 31 and 40 years of age indicating that they were aware of PrEP. The level of education was also associated with awareness of PrEP with 11.9% of respondents who had secondary education affirming that they were aware of PrEP, the difference observed was also statistically significant ($p < 0.001$).

As shown in [table 4](#), the level of educational attainment was associated with uptake of PrEP with 3.0% of respondents who attended secondary school claiming to have used PrEP with the difference observed being statistically significant ($p = 0.025$).

Table 1 Sociodemographic characteristics of the respondents

S/N	Variable	Frequency (N=422)	Percentage
1	Age (years)		
	18–30	254	60.2
	31–40	99	23.4
	41–50	48	11.4
	>50	21	5.0
2	Gender identity		
	Female	393	93.1
	Transgender	29	6.9
3	Period of residence (years)		
	<1	212	50.2
	≥1	210	49.8
4	Marital status		
	Single	239	56.6
	Married	58	13.7
	Divorced	15	3.6
	Cohabiting	110	26.1
5	Highest level of education		
	No formal education	43	10.2
	Primary	136	32.2
	Secondary	236	55.9
	Tertiary	7	1.7
6	Employment status		
	Paid employment	7	1.7
	Self-employed	193	45.7
	Student	10	2.4
	Unemployed	212	50.2

Table 2 Awareness and source of awareness of PrEP

Variable	Frequency	Percentage
Awareness of PrEP	33	7.8
Not aware of PrEP	389	92.2
Variable	Frequency (N=33)	Percentage
If yes, where did you first hear about it?		
Healthcare provider	13	39.4
Friend/acquaintance	12	36.3
Counselling centre	6	18.2
Magazine, journal or blog	2	6.1
PrEP, pre-exposure prophylaxis.		

Table 5 outlines the multivariate regression with unadjusted and adjusted models of the factors associated with awareness of PrEP. Respondents above 30 years of age had low awareness of PrEP (adjusted OR (AOR) 1.49, 95% CI 0.71 to 3.17) in comparison with those aged 18–30 years. Participants who had resided in the LGA for a year or more also had low awareness of PrEP (AOR 0.20, 95% CI 0.08 to 0.49). In addition, respondents who had secondary school and above had high knowledge of PrEP (AOR 7.63, 95% CI, 2.59 to 22.45) compared with those who had less than secondary school education.

DISCUSSION

These findings indicate that participants had a low level of awareness of PrEP (7.8%). The low awareness of PrEP among this group of WWID is consistent with other studies among men who have sex with men (MSM) in the Americas.^{34 35} However, this contrasts with a recent study that found a high PrEP knowledge (64%) among MSM in Kenya.³⁶ The low level of awareness of PrEP may be attributed to the dearth of initiatives designed to increase PrEP knowledge in this group. Other reasons such as HIV-associated stigma, inadequate knowledge of healthcare providers and limited access to healthcare services may have contributed to the lack of awareness and understanding of PrEP among the participants. Some of these factors have been identified as barriers to PrEP knowledge in previous studies.^{35 36} The low PrEP awareness may also reflect PrEP marketing strategies which have traditionally targeted other MARP, especially MSM, leading to misperceptions about the appropriateness of PrEP for WWID.³⁷

This study also found that healthcare providers (39.4%) and friends/acquaintances (36.3%) were the key sources of awareness about PrEP. The observation is in tandem with results from studies conducted in the USA, Thailand and Nigeria where health workers were found to have high knowledge of PrEP^{38–40} and other studies conducted in the USA where peer education was found to be a useful tool in increasing awareness of PrEP among PWID.⁴¹ The observation that healthcare workers were a key source of awareness of PrEP information among participants could be important in designing interventions to increase PrEP awareness among WWID in Nigeria in the future. These interventions could make use of available social networks to set up drug harm reduction programmes such as needle and syringe exchange programmes and medication-assisted treatment programmes which have been found to be effective means of spreading messages about PrEP in the USA.⁴¹ There could also be provision of PrEP services to PWID in Nigeria through peer-led approaches that address structural barriers in the PWID community.

We also observed that age was linked with awareness of PrEP in this population with better awareness of PrEP among respondents older than 30 years. This observation agrees with studies conducted among MSM in Ghana

Table 3 Association between awareness of PrEP and sociodemographic characteristics

S/N	Variable	No	Yes	Total	χ^2	P value
1	Age (years)				8.099	0.038*F
	18–30	238 (93.7)	16 (6.3)	254 (100)		
	31–40	86 (86.9)	13 (13.1)	99 (100)		
	41–50	47 (97.9)	1 (2.1)	48 (100)		
	>50	18 (85.7)	3 (14.3)	21 (100)		
2	Gender identity				0.037	1.000
	Female	362 (92.1)	31 (7.9)	393 (100)		
	Transgender	27 (93.1)	2 (6.9)	29 (100)		
3	Period of residence in LGA (years)				12.064	<0.001
	<1	205 (96.7)	7 (3.3)	212 (100)		
	≥1	184 (87.6)	26 (12.4)	210 (100)		
4	Marital status				4.770	0.189
	Single	219 (91.6)	20 (8.4)	239 (100)		
	Married	56 (96.6)	2 (3.4)	58 (100)		
	Divorced	12 (80.0)	3 (20.0)	15 (100)		
	Cohabiting	102 (92.7)	8 (7.3)	110 (100)		
5	Highest level of education				13.900	<0.001
	No formal	43 (100.0)	0 (0)	43 (100)		
	Primary	132 (97.1)	4 (2.9)	136 (100)		
	Secondary	208 (88.1)	28 (11.9)	236 (100)		
6	Employment status				1.513	0.132
	Paid employment	7 (100)	0 (0)	7 (100)		
	Self-employed	177 (91.7)	16 (8.3)	193 (100)		
	Student	10(100)	0 (0)	10 (100)		
	Unemployed	195 (92.0)	17 (8.0)	212 (100)		

*F–Fishers exact test.

LGA, local government area; PrEP, pre-exposure prophylaxis.

and Malaysia but is in contrast with one conducted in Uganda where increased age was not found to be associated with better awareness of PrEP.^{42–44} Our findings also agree with results from a study conducted in India which showed that despite the availability of PrEP through the private sector since year 2016, PrEP had only been recently added as part of a public sector National AIDS Control Programme with less than 10% PrEP awareness reported in key populations.⁴⁵ Factors such as exposure to online sources of information about PrEP and exposure to HIV prevention educational interventions targeted at younger persons in Nigeria may have contributed to this observation among participants.

Another key finding from our study was that secondary school educational status of respondents was an important predictor of awareness and willingness to use PrEP. This agrees with the outcome of a study where educational status of participants influenced both the awareness and willingness to use PrEP.³⁴ This observation may be related to the use of English language as the means of communication in many HIV-prevention programmes in Nigeria

thereby conferring some advantage on participants with higher educational attainment and greater proficiency in the language.

This study also showed a high willingness to take PrEP (84.8%) among participants which agrees with reports of high willingness to use PrEP among PWID in other countries despite low levels of knowledge.^{45–47} It also agrees with a previous study in which WWID who had engaged in transactional sex, had STIs and shared injection needles had higher odds of being willing to take PrEP because they believed that they could be at greater HIV risk.⁴⁶ It is noteworthy that although our study did not observe a statistically significant difference in PrEP uptake among the employed in comparison with unemployed participants, previous studies in Nigeria have shown that the cost of PrEP could be a barrier to its uptake among MSM.^{41 42} In addition, a multicountry study among MSM in India, Myanmar, Vietnam and Malaysia indicated that over half of PWID and MSM reported willingness to use PrEP, with a higher percentage of MSM than PWID expressing willingness to use. The low level of awareness but higher

Table 4 Association between uptake of PrEP and sociodemographic characteristics

S/N	Variable	No	Yes	Total	χ^2	P value
1	Age (years)				3.922	0.386
	18–30	250 (98.4)	4 (1.6)	254 (100)		
	31–40	95 (96.0)	4 (4.0)	99 (100)		
	41–50	48 (100)	0 (0.0)	48 (100)		
	>50	21 (100)	0 (0.0)	21 (100)		
2	Gender identity				0.602	1.000
	Female	385 (98.0)	8 (2.0)	393 (100)		
	Transgender	29(100)	0 (0.0)	29 (100)		
3	Period of residence in LGA (years)				0.491	0.724
	<1	207 (97.6)	5 (2.4)	212 (100)		
	≥1	207 (98.6)	3 (1.4)	210 (100)		
4	Marital status				0.352	1.000
	Single	234 (97.9)	5 (2.1)	239 (100)		
	Married	57 (98.3)	1 (1.7)	58 (100)		
	Divorced	15(100)	0 (0.0)	15 (100)		
	Cohabiting	108 (98.2)	2 (1.8)	110 (100)		
5	Highest level of education				10.691	0.025*F
	No formal	43 (100)	0 (0)	43 (100)		
	Primary	136 (100)	0 (0)	136 (100)		
	Secondary	229 (97.0)	7 (3.0)	236 (100)		
	Student	10 (100)	0 (0)	10 (100)		
	Unemployed	208 (98.1)	4 (1.9)	212 (100)		

*F–Fishers exact test.

LGA, local government area; PrEP, pre-exposure prophylaxis.

willingness to use PrEP among participants in this survey also agrees with our results.⁴⁸

It is important to consider the context in comparing some of our findings with others. For example, currently, PrEP medication is dispensed in interventions as part of the Nigerian HIV Prevention Plan in six outreach centres and three field hospitals managed by health development

partners and the local NGO, Heartland Alliance in Lagos State. The medication is supplied free of charge to participants recruited as part of this programme and dispensed by designated individuals in quantities expected to be sufficient until the participant’s next visit, which is usually 90 days. They are also required to retrieve and come along with used drug bottles at each visit which allows reconciliation and

Table 5 Crude and adjusted logistic regression analysis of the association between awareness of prep and sociodemographic characteristics (N=422)

Variable	Unadjusted analysis			Adjusted analysis		
	OR	95% CI	P value	OR	95% CI	P value
Age (years)						
18–30 years (reference)	1.00			1.00		
Above 30 years	1.79	0.61 to 3.13	0.32	1.49	0.71 to 3.17	0.29
Period of residence in LGA (years)						
<1 (reference)	1.00					
≥1	0.41	0.03 to 0.85	0.01	0.20	0.08 to 0.49	<0.001
Education						
Less than secondary school (reference)	1.00					
Secondary school and above	8.32	2.15 to 16.27	0.02	7.63	2.59 to 22.45	<0.001

updating of records. Although PrEP medications are also available at some cost in private and public hospital pharmacies, providers are reluctant to share information or offer it to their clients due to the associated stigma. However, Thailand, a country with an identical history of the HIV epidemic has a longer history of PrEP use among high-risk populations with a rollout in the year 2014 compared with Nigeria which commenced much later. In addition, PrEP services in Thailand are designed to reduce stigma and discrimination to the barest minimum with the service being entirely free of charge under the universal health coverage which commenced in 2021.^{49 50} In contrast, although PrEP administration for HIV prevention in the USA commenced in the year 2012, there are some disparities related to its use especially among MSM of colour.⁵¹ In addition, PrEP use in the USA is largely user-driven which sometimes affects the willingness of PWID to initiate therapy because of variations in perceived HIV risk.^{52 53} These social and individual factors limit the extent to which our findings in Nigeria can be compared with what is obtained in other countries. The Nigerian context might affect any useful comparison of our findings with studies in the USA and Thailand because under the Same-Sex Marriage Prohibition Act, provision of services to MSM is a criminal offence in Nigeria with health workers at risk of jail time without the option of fines.⁵⁴ This legal barrier makes it nearly impossible to correctly estimate provision of services to MSM in the country. The differences in PrEP services available to WWID in the Nigerian context may also prevent any useful interpretation of our observations because although they are subject to discrimination; the extent of the prejudice is determined by social factors and comorbidities which may limit their ability to access PrEP services.^{47 55} However, we recommend that in order to maximise the possibility of PrEP uptake among WWID in Nigeria, there is a need to decentralise its administration to all the 24 LGAs in Lagos State so that other barriers to healthcare such as fear of incarceration of their children by authorities⁴⁷ and the cost of transportation to centralised drug disbursement sites can be reduced in this population.⁵⁶

Finally, this study revealed that 1.9% of WWID reported ever taking PrEP. This contrasts with results from a study conducted in Philadelphia, USA, where the intention to use PrEP of 88% among WWID correlated with 78% acceptance of prescription.⁵⁷ The low uptake of PrEP in our study can be attributed to a variety of factors, including limited awareness and stigma surrounding HIV infection in Nigeria. Addressing these challenges by implementing evidence-based intervention strategies such as health education, capacity building and counselling which have been found to be useful in similar settings could therefore be crucial in promoting wider adoption of PrEP for HIV prevention among PWID in the country.^{58–60}

Limitations of the study

Our results should be viewed considering some limitations. First, it is difficult to access WWID in population-based studies due to legal and stigma issues in Nigeria. Therefore, our estimates may not be generalisable. In

addition, since our study was cross-sectional in nature, the associations are not necessarily temporal or indicative of a causal effect. Moreover, our variables were based on self-reporting by WWID and may therefore have been subjected to socially desirable responses or recall bias. Finally, requiring that potential participants undertake an HIV test may have been a barrier to some participants especially those who did not want to be tested. The participant population may have comprised mostly of persons who thought they were at lower risk of HIV infection or were comfortable enough to know their status. To mitigate this limitation, we had discussions with the community contacts, shooting gallery leaders and potential participants to educate them about the potential benefit of post-test counselling and treatment.

Conclusions

Our study concludes that some specific groups/demographics of WWID would benefit more from additional interventions to promote PrEP. Provision of such as persons who have less than secondary school education and are older than 30 years with health education and information on the effectiveness of PrEP and providing easy access to services could lead to higher PrEP uptake. Furthermore, we recommend that our observations should be integrated into routine health services as an avenue of improving PrEP awareness among WWID in addition to general dissemination of other risk reduction information among PWID in Nigeria.

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Contributors OO is the guarantor and accepts full responsibility for the contents. OO and ONE conceived the idea. ONE led the conduct of the interviews. OO, MO, OFB and OYO contributed to data analysis. OO took the lead in the write-up process while ONE, OFB, MO and OYO provided critical feedback in writing the manuscript.

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