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HIV epidemic among key populations in Nigeria: results of the integrated biological and behavioural surveillance survey (IBBSS), 2020–2021

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ABSTRACT

Introduction Nigeria has the fastest-growing HIV epidemic in West and Central Africa and key populations (KPs) bear a higher burden of HIV. This integrated biological and behavioural surveillance survey was conducted among female sex workers (FSW), men who have sex with men (MSM), people who inject drugs (PWID) and transgender (TG) populations to understand the changing dynamics of HIV to improve HIV prevention efforts in Nigeria.

Methods Using a cross-sectional design, data were collected between October and November 2020 in 12 states, from randomly selected KP members using multistage probability sampling. Behavioural data were collected using a structured questionnaire followed by three rapid HIV tests. The study was approved by ethical review boards in Nigeria and Canada and all ethical considerations including maintaining the privacy and confidentiality of all study subjects were followed.

Results A total number of 17 975 KP members were interviewed, with a response rate of over 98.0%. A weighted HIV prevalence of 28.8% (95% CI 27.4% to 30.2%), 25.0% (95% CI 23.7% to 26.3%), 15.5% (95% CI 14.3% to 16.4%) and 10.9% (95% CI 9.9% to 11.8%) was found among TGs, MSMs, FSWs and PWIDs respectively. A high number of sex partners and consistent condom use were low for all types of KPs, especially with regular partners. Both MSM and TGs reported high rates of unprotected receptive anal intercourse ranging between 71.2% and 85.0%. Nearly 60.0% of PWID shared their used syringe with another PWID. Overall, 90.2% FSWs, 77.2% MSM, 81.9% TGs and 84.3% PWID were ever tested for HIV.

Conclusion This study highlights the progressing trends of HIV prevalence among all KPs in Nigeria. A focused prevention approach is needed to control the emerging epidemic among KPs who constitute the epicentre of the HIV epidemic in Nigeria.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ It is known that Key Population are disproportionately affected by HIV. The trend in HIV prevalence has fluctuated over the last IBBSS waves before the 2020 study. Prevalence of HIV amongst FSW, PWID and MSM are documented in previous study.

WHAT THIS STUDY ADDS

⇒ The 2020 IBBSS adds, for the first time, information on HIV prevalence amonst Transgender people, who were studied for the first time in Nigeria during the IBBSS 2020 edition.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE AND POLICY

⇒ Going forward, subsequent research in the Key Population programme space will account for Transgender people since they have been nationally included in the IBBSS. Evidence from the study will also shape programme design and policy interventions for Key Population in Nigeria, using the data generated from the study. Sub-national entities, e.g State and Local goverment level health administartors will also used the data at their level for informed policy and programme decisions, aimed at achieving epidemic control.

INTRODUCTION

Surveillance remains the cornerstone of the strategy to contain the HIV/AIDS epidemic globally.[1] Over the years, significant advances in HIV surveillance approaches and the use of data has improved our understanding of the epidemic globally.[2] Following global guidance, the establishment of a surveillance system to ascertain the scale and course of HIV epidemic was one of the earliest national responses in Nigeria.[3 4] It involved determining the prevalence of HIV and syphilis among various key populations (KPs) including female sex workers (FSWs), men who have sex with men (MSM), people who inject drugs (PWID), etc,[5–7] while at the same time gathering evidence on general population from standardised country-level research and population surveys.[8–10]

Nigeria has a fast-growing HIV epidemic that contributes to the highest number of new infections in West and Central Africa.[11 12] While HIV prevalence among the general population is moderately high (1.9% among women vs 0.9% among men), KPs including FSW, MSM and PWID carry a disproportionate HIV burden.[10 13] With the last HIV surveillance round conducted in 2014, there was a need to know the current HIV prevalence and progression among KPs and determine the

Table 1 Sociodemographic characteristics of all key populations in Nigeria, IBBSS, 2020–2021

Variables	FSW N=4974 % (n)	MSM N=4397 % (n)	TG N=4190 % (n)	PWID N=4414 % (n)
Age of the respondents				
Up to 24 years	31.6 (1504)	57.3 (2378)	53.3 (2534)	21.2 (1067)
25–34 years	50.8 (2557)	38.1 (1789)	39.2 (1472)	48.2 (2188)
35 years and above	17.6 (913)	4.6 (230)	7.6 (184)	30.6 (1159)
Mean+SD	28.1+6.8	24.3+5.1	25.2+5.8	31.0+8.3
Educational status				
None	4.8 (332)	0.5 (25)	0.6 (26)	5.9 (185)
Quranic	1.0 (90)	0.3 (33)	0.5 (31)	1.5 (51)
Primary	15.4 (767)	2.4 (124)	2.9 (122)	16.4 (505)
Secondary	67.8 (3284)	69.1 (2768)	59.0 (2740)	55.3 (2685)
Tertiary and above	11.0 (501)	27.7 (1447)	37.0 (1271)	20.8 (988)
Marital Status				
Currently married	2.5 (161)	5.1 (280)	7.9 (242)	17.9 (834)
Unmarried	67.1 (3252)	93.8 (4038)	90.5 (3862)	69.2 (3183)
Divorced/separated/widowed	30.4 (1561)	1.2 (79)	1.6 (86)	12.9 (397)
Employment status				
Employed	31.9 (1740)	48.5 (1772)	46.9 (1594)	41.2 (2041)
Unemployed	59.5 (2830)	24.4 (1284)	21.6 (1181)	41.7 (1488)
Student	3.5 (168)	21.4 (933)	22.6 (891)	8.5 (363)
Others	4.6 (204)	5.1 (338)	8.6 (499)	6.2 (426)
Do not know/no answerer	0.5 (32)	0.6 (70)	0.3 (25)	2.4 (96)
Income from sex work				
Mean weekly income+SD	US$67.6+124.3	US$42.7+60.1*	NA	NA
Median weekly income (IQR)	US$47.6 (23.8–71.4)	US$23.8 (14.3–47.6)*	NA	NA

*N=1219.
FSW, female sex workers; IBBSS, integrated biological and behavioural surveillance survey; MSM, men who have sex with men; PWID, people who inject drugs; TG, transgender.

availability and utilisation of mutually reinforcing interventions necessary to combat HIV.[14] Through funding support from the Global fund, the government of Nigeria (Federal Ministry of Health and the National Agency for the Control of AIDS) conducted an integrated biological and behavioural surveillance survey (IBBSS). The main goal of this study was to obtain serological and behavioural information on KPs including FSWs, MSM, PWID and transgender (TG) populations with a view to improving HIV prevention and care programmes at the state and national level. The improved understanding of the country's HIV epidemic will allow for more efficient investments in HIV response and effective planning for the provision of HIV prevention, care and treatment services.

METHODOLOGY

This study followed the global biobehavioural survey guidelines for HIV surveillance among populations at risk for HIV.[14] Data were collected between October and November 2020 from 12 states; 2 states selected from each of the six geopolitical zones in Nigeria. The selection of states was based on recent HIV prevalence[10] and the evidence of a growing HIV epidemic among KPs suggested in the previous IBBSS rounds.[6 7] HIV prevalences varied across different states and within each zone a state with high and another state with low HIV prevalence were selected. The study population comprised of FSWs, PWID, MSM and TG population, all aged 15 years and above and have been involved in sexual practices and/or were injecting drugs in the past month. Operational definitions for all KP were based on WHO and Joint United Nations Program on AIDS (UNAIDS) reference guidance.[15]

Sampling strategy and sample size

Mapping and size estimation studies conducted among KPs in the recent past[16] provided a list of hotspots which served as sampling frames to draw representative samples for each of the population. Prior to the IBBSS data collection, spot lists for each KP were updated by field teams including KP members who conducted a rapid spot validation by visiting all spots. Spots found inactive during the validation process were removed while new spots that emerged over time were added to the list. All virtual spots that is, internet web pages, geosocial network applications, WhatsApp and Facebook pages, etc, were also updated. The final validated spot was used as a sampling frame for a random selection of spots and study subjects.

Sample size was calculated to detect a 15% change in baseline risk behaviours from the 2014 IBBSS survey (condom use at last sex for FSWs, MSMs and TGs and needle sharing at last injection for PWIDs) at a 95% significance level with 80% power. A design effect between 2 and 3 was incorporated and the sample was increased by 10% to account for non-response and data errors. We calculated 372 MSM, 372 TG, 415 FSW and 368 PWID to be included within each state. A multistage probability sampling approach was used to select a representative sample of study populations. In the first stage, a fixed number of hotspots (primary sampling units—PSUs) were randomly selected after stratifying the listed spots by typology, local government area and the number of KP per spot (spot size). In the next stage, the number of study subjects to be selected from each spot was determined. Allocation of study subjects at each spot was done proportional to the spot size. The sample of MSM was proportionally distributed between physical and virtual spots within each state.

Table 2 Key HIV risk behaviours of all key populations in Nigeria, IBBSS, 2020–2021*

Variable	FSW N=4974 % (n)	MSM N=4397 % (n)	TGs N=4190 % (n)	PWID N=4414 % (n)
Sexual behaviours and practices				
Age at first sex†	17.2+2.9 (4974)	16.7+3.6 (4397)	16.3+3.4 (4190)	17.7+7.3 (4414)
Sexual partnerships				
Percent ever sold sex	100.0 (4974/4974)	28.2 (1219/4325)	54.8 (2296/4190)	NA
No of clients (last 6 months)†	299+134.2 (2868)	4.8+7.4 (1149)	6.9+9.1 (1575)	2.9+4.1 (1121)
No of casual partners (last 6 months)†	20.6+7.6 (2391)	4.0+6.1 (2075)	4.6+4.8 (2126)	2.8+3.4 (1803)
No of regular partners (last 6 months)†	2.9+3.2 (3239)	3.0+9.2 (3629)	3.4+5.1 (3243)	2.4+6.1 (2651)
Condom at last sex with a				
Client	91.0 (4463/4974)	85.2 (943/1100)	80.9 (1258/1519)	84.3 (566/715)
Casual partner	87.2 (1369/1578)	81.1 (1651/2006)	80.4 (1658/2067)	81.8 (1055/1326)
Regular partner	53.4 (1475/2717)	69.4 (2533/3515)	72.7 (2138/3155)	52.9 (1209/2483)
Consistent condom use with a				
Client	72.8 (3659/4974)	53.5 (458/1116)	59.0 (848/1543)	27.4 (195/561)
Casual partner	59.6 (1034/1578)	43.6 (798/2040)	51.4 (965/2079)	32.7 (507/1357)
Regular partner	34.1 (1005/2717)	33.9 (1154/3586)	41.5 (1135/3211)	15.9 (460/2543)
Unprotected receptive anal intercourse (URAI) last 6 months				
with a client	–	14.4 (58/4397)	22.2 (174/1020)	–
with a casual partner	–	19.3 (89/5174)	21.9 (215/1093)	–
with a regular partner	–	28.2 (257/1022)	23.7 (493/1700)	–
used a lubricant every time had anal sex	–	60.6 (1873/3338)	67.1 (1644/2892)	–
Drug use and injecting practices				
Ever used drugs	34.5 (1336/4974)	39.0 (1455/4397)	29.1 (1541/4190)	100.0 (4414/4414)
Injected drugs in last month	–	–	–	86.8 (3496/4220)
Always used sterile/new syringe (last 1 month)	–	–	–	33.3 (1488/4143)
Ever shared syringe (last 1 month)	–	–	–	59.3 (2036/3328)
Other factors			–	
Alcohol use in the last 1 month	83.9 (3798/4974)	71.3 (2532/4397)	52.7 (2343/4190)	81.5 (3192/4280)
Forced sex in the last 12 months	9.1 (464/4748)	16.4 (459/4246)	15.6 (725/3994)	7.6 (265/4035)
Harassed because am a KP member	40.4 (2025/4974)	19.8 (416/4397)	31.6 (882/4190)	50.8 (2071/4414)

*Note: The percentages presented are weighted, and therefore won't match with those calculated directly from numerators and denominators.
†Mean±SD.
FSW, female sex workers; IBBSS, integrated biological and behavioural surveillance survey; KP, key population; MSM, men who have sex with men; PWID, people who inject drugs; TG, transgender.

Training and data collection procedures

KP-specific field teams were recruited (48 field teams) through a competitive process by the state IBBSS committee. Each team comprised of a supervisor, 3 interviewers, 2 counsellors, 1 laboratory technician and social mobilisers in addition to information technology (IT) officers and a designated person who linked KPs to services. Master trainers were trained by the University of Manitoba's (UM) team who further trained a group of trainers within each state. Altogether, a total number of 516 field staff were trained in the survey protocol, data collection procedures, HIV testing and ethical issues in 12 state-level IBBSS trainings each lasting for 4 days.

Field teams visited selected spots at random times where potential respondents were identified by social mobilisers (peer members) who linked all potential subjects with the team supervisor. Team supervisors randomly selected the participants after checking for eligibility and finalised the interview schedule based on the respondent's convenience. In case of refusals, the next available and consenting community member was recruited. MSM who operate through virtual sites were also randomly selected through virtual sites by social mobilisers and the interview was conducted at a designated physical venue. Once the selected respondent reached the interview site, s/he was greeted, a study code was applied and informed consent was obtained. Interviews were conducted in English language and on completion of the interview, consenting participants provided blood samples for HIV antibody testing after pre-test counselling. Blood samples were collected by laboratory technicians and dried blood samples were developed for 2% of negative and all positive and indeterminate samples to be transported to selected laboratories for confirmation and quality assurance. HIV testing followed the National HIV testing algorithm and three rapid tests (Determine, Uni-Gold and STAT-PAK) were conducted.[17] Post-test counselling and debriefing sessions were held. All positive samples were confirmed at state reference laboratories that supported the study and participating individuals were considered positive when they were confirmed at the state laboratory. Once confirmed, HIV test results were provided to participants who were linked to HIV prevention and/or treatment care and support services, as required. All survey participants were reimbursed 1500 Naira (approx. US$4) for their time and travel costs related to the survey. All research ethical guidelines were followed. Confidentiality and privacy of study participants were ensured by not taking any personal information, not taking written consent and using a non-identifying coding system to track study data while assuring non-disclosure of participants'

Table 3 HIV/AIDS knowledge and programme services used in Nigeria, IBBSS, 2020–2021*

Variable	FSW N=4974 % (n)	MSM N=4397 % (n)	TGs N=4190 % (n)	PWID N=4414 % (n)
HIV testing				
Percent ever tested for HIV	90.2 (4360/4879)	77.2 (3241/4332)	81.9 (3040/4097)	84.3 (3202/4148)
Percent tested for HIV within the last year	84.0 (3842/4455)	72.4 (2569/3192)	73.4 (2472/3124)	42.0 (1642/3246)
Percent known PLHIV who are on ART	92.1 (187/208)	90.3 (278/293)	83.7 (176/188)	70.6 (374/46)
Pre-exposure prophylaxis (PrEP)				
Percent ever heard of PrEP	24.6 (1059/4502)	50.6 (1753/4219)	42.0 (1394/3964)	30.0 (692/3867)5
Percent ever taken PrEP	5.0 (219/1031)	13.8 (520/1727)	10.0 (414/1363)	3.4 (93/683)
Service utilisation (%)				
Ever received information/education on HIV/AIDS/STI/condoms in the past 12 months	61.7 (3071/4840)	64.9 (2603/4328)	52.6 (2111/4082)	60.6 (2329/4097)
Ever contacted by PE/ORW in the past 12 months	33.0 (1710/4783)	36.4 (1362/4287)	26.8 (925/4045)1	27.7 (946/4040)3
Ever received outreach referral to one stop shop in the past 6 months	38.7 (607/1676)	57.6 (783/1333)	69.6 (505/906)	30.4 (242/905)
Received information/service of free condoms from peer educator or outreach worker in the past 12 months	93.9 (1318/1379)	94.1 (1084/1150)	93.3 (659/744)	87.6 (668/770)
Received information/service of needle/syringe from PE/ORW in the past 12 months	9.1 (143/1379)	16.7 (154/1150)	13.8 (86/744)	34.2 (281/770)
Received referral for STI from PE/ORW in the past 12 months	35.1 (491/1379)	37.04 (406/1150)	24.2 (177/744)	16.6 (97/770)
Received referral for HTS from PE/ORW in the past 12 months	31.6 (436/1379)	37.6 (410/1150)	27.1 (217/744)	422.2 (164/770)
HIV knowledge (%)				
Know abstaining from sex protects from HIV	71.1 (3642/4723)	77.4 (3372/4099)	73.8 (2894/3846)	84.8 (3114)
Know condom use to protect themselves from HIV	88.7 (4268/4755)	88.6 (3796/4186)	85.3 (3504/3918)	93.9 (3527/3874)
Knows HIV transmits through used needles/syringes	90.7 (4307/4737)	92.2 (3880/4216)	93.6 (3784/4004)	93.4 (3582/3885)
Knows that a healthy-looking person can be infected with HIV	94.0 (4374/4733)	92.5 (3777/4144)	94.4 (3735/3995)	92.5 (3416/3885)
Knowledge about where one can receive counselling and testing for HIV and AIDS	39.0 (1827/4820)	68.1 (2455/4286)	53.8 (2249/4006)	51.2 (1823/3944)

*Note: The percentages presented are weighted, and therefore won't match with that calculated directly from numerators and denominators.
FSW, female sex workers; HTS, HIV Testing Services; IBBS, integrated biological and behavioural surveillance survey; MSM, men who have sex with men; PLHIV, people living with HIV; PWID, people who inject drugs; TG, transgender.

identities. All aspects of the study, including training, recruitment of study subjects, data collection processes, etc, were monitored for quality by monitoring teams from the National Survey Committee, comprising of representatives from the National Agency for the Control of AIDS, National AIDS, STI and Viral Hepatitis Control Program (NASCP), Global Funds to Fight AIDS, Tuberculosis and Malaria and technical team from the UM.

Data management and analysis

Behavioural data obtained from the respondents were directly entered through SurveyCTO using tablets. At the end of each interview, data were uploaded real-time into the central database and biological samples were transported to the state laboratory for further processing and storage. A Data Management Unit coordinated all data operations with privacy and confidentiality. A database manager conducted data cleaning and merged biological and behavioural data files using an encrypted unique identifier code. A weighted data analysis was done using Stata V.16.0 and weights were applied based on the size of each KP in various states.

RESULTS

With an overall response rate of 98.0 %, we interviewed 17 975 (FSW: 4974, MSM: 4397, TG: 4190, PWID: 4414) KP members across 12 states. MSM were the youngest (mean age 24.3 years.) while PWID were the oldest KP group (31.0 years.). Among all KPs, two-thirds had secondary-level education and a small proportion never attended school. A high proportion, that is, 67.1% FSWs, 93.8% MSM, 90.5% TGs and 69.2% PWID were unmarried. In terms of livelihood, approximately 31.9% of FSW, 48.5% of MSM, 46.9% of TGs and 41.2% of PWID were employed and had a job other than sex work. The median weekly income for FSW and MSM groups accruable through sex work was approximately US$47.6 and US$23.8, respectively. Of the 4414 PWID interviewed, 3889 were men, 520 were women and 5 were TG individuals (table 1).

Table 2 presents some of the key HIV risk behaviours and practices of various KPs. Nearly 28.2% of the MSM reported of selling sex. With a high number of sex partners (paid partners, casual and regular partners), consistent condom use was quite low for all KPs. Condom use was significantly low with regular partners, that is, one-third of FSWs and MSM and 41.0% of TGs, while higher with clients, that is, 72.8%, 53.5% and 59.0% for FSWs, MSM and TGs respectively. PWIDs reported the lowest consistent condom use with all types of partners. Both MSM and TGs reported high rates of unprotected receptive anal intercourse (URAI) with clients, casual and regular partners, that is, 14.4%, 19.3% and 28.2% among MSM and 22.2%, 21.9% and 23.7% for TGs respectively. A high proportion of FSWs, MSM and TGs ever used drugs, that is, 34.5%, 39.0% and 29.1% respectively. Among all PWIDs interviewed, only 33.3% always used a new syringe for injecting and 59.3% shared the syringe with another PWID. Use of alcohol was high, that is, 83.9% of FSW, 71.3% of MSM, 52.7% of TG and 81.5% of PWID reported alcohol use within the last month.

The knowledge of HIV and the proportion of KPs who accessed and used various HIV services is provided in table 3. More than three-quarters of all KPs ever tested for HIV: 90.2% FSWs, 77.2% MSM, 81.9% TGs and 84.3% PWID. Other than PWIDs (70.6%), a high proportion of all HIV+ve KPs were on ART. In terms of pre-exposure prophylaxis (PrEP) awareness,

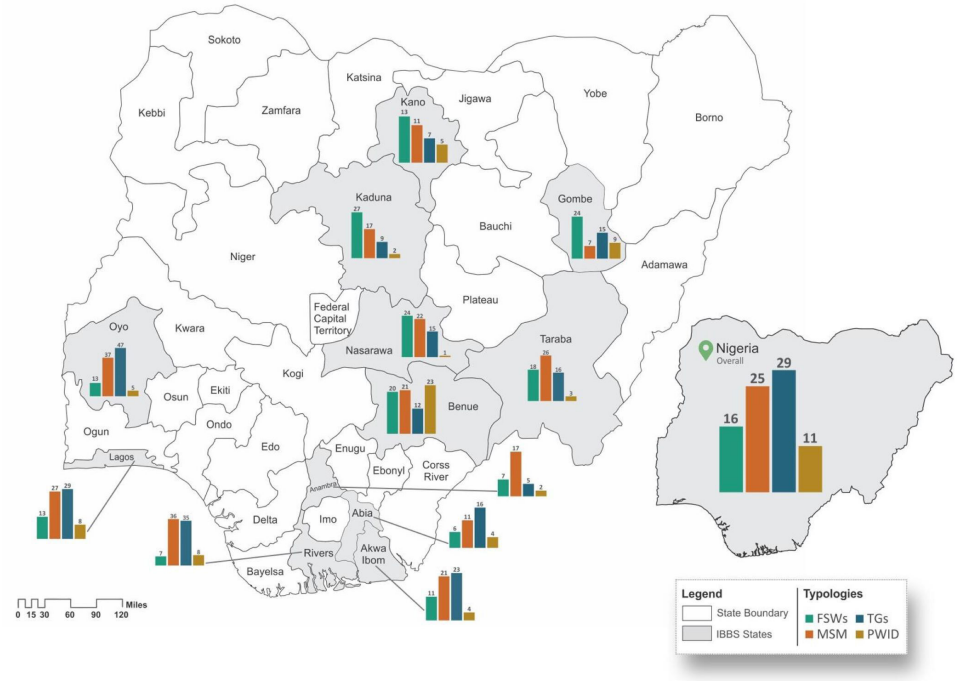

Figure 1 Shows the state specific HIV prevalence in all four key populations. FSWs, female sex workers; IBBS, integrated biological and behavioural surveillance; MSM, men who have sex with men; PWID, people who inject drugs; TGs, transgenders.

24.6% FSW, 50.6% MSM, 42% TG and 30.3% PWID knew of PrEP while 20.1% FSW,27.3% of MSM, 23.8% of TG and 11.2% of PWID had taken PrEP at least once. Evaluation of various services used showed that receiving free condoms was the most used service for all KPs followed by receiving information on HIV. A fairly high proportion of all KPs knew that HIV spreads through sex and infected needles and also had the knowledge of condom as a protective measure to HIV spread.

In terms of HIV prevalence, TG population had the highest national weighted HIV prevalence at 28.8% (95% CI 27.4% to 30.2%), among all KPs, followed by MSM, FSWs and PWID at 25.0% (95% CI 23.7% to 26.3%), 15.5% (95% CI 14.3% to 16.4%) and 10.9% (95% CI 9.9% to 11.8%) respectively. Weights were provided based on the size of each KP in various states. State-wise HIV prevalence was highest in Oyo state for both TGs and MSM at 46.5% (95% CI 41.3% to 51.7%) and 37.1% (95% CI 32.2% to 42.2%). HIV prevalence among FSWs ranged between 6.1% (95% CI 3.9% to 8.8%) in Abia and 26.5% (95% CI 22.3% to 31.0%) in Kaduna. Benue state reported the highest HIV prevalence of 23.4% (95% CI 19.1% to 28.0%) among PWID. 6 of the 12 states reported less than 5% among PWIDs. For the remaining three groups, that is, TGs, MSM and FSWs, a concentrated HIV epidemic (>5 %) was reported from all states. figures 1 and 2. State-wise HIV prevalence among KPs in Nigeria, IBBSS, 2020–2021.

DISCUSSION

The 2020–2021 IBBSS study in Nigeria has updated our knowledge on the course of the HIV epidemic in Nigeria, its associated behaviours and the prevention response for four nationally recognised KP typologies that is, FSW, MSM, TG and PWID. The information gathered from this study can be used for evidence-based intervention planning as an effort to strengthen Nigeria's drive toward achieving epidemic control by 2030.

The key highlight of this study is the progression of HIV prevalence among all four KPs included in the study. TG population, which was studied for the first time in Nigeria, had the highest national HIV prevalence at 28.8% among all KPs. MSM had the second highest HIV prevalence at 25.0 % followed by FSWs and PWID at 15.5% and 10.9%, respectively. The results of this study clearly indicate that HIV prevalence among KPs in Nigeria is significantly higher as compared with the general population.[10] HIV prevalence rates have nearly tripled in the last 5 years among PWIDs signifying the importance of the speed with which the epidemic can spread among PWID and their sexual partners.[7] The declining trend of HIV infection in PWID (5.6% in 2007 to 3.4% in 2014) as shown by previous IBBSS rounds seems to have reversed and the current HIV rates show an escalating growth. However, the progressive decline in HIV infections among FSWs from 2007 to 2014 (30.2% in 2007 to 24.3% in 2010 and 14.4% in 2014) seems to be stabilising and the epidemic trajectory among MSM also show similar trends.[5–7] The high infection rates among both MSM and TGs illustrate that while most infections are transmitted sexually, heterosexual transmission might not be the most important route of transmission in Nigeria as shown in previous rounds.[5–7] The prevalence trend among different KPs however should be studied with caution owing to the differences in how districts were selected in this IBBSS round as compared with the previous rounds.

This IBBSS has highlighted a plethora of risk behaviours and practices which tend to explain this growing HIV epidemic in Nigeria. KPs in Nigeria have a high number of sex partners including regular and casual partners as well as clients. It is interesting to note that the number of partners between the previous and the current IBBSS rounds was not significantly different. Given that data were collected when Nigeria was facing a high COVID-19 pandemic, results show that COVID-19 did not have a significant impact on sexual partnering and mixing in Nigeria. FSWs were reported to have the highest number of sexual partners among all other KPs followed by TGs. Condom use showed a distinctive pattern for all different types of KPs. Condom use (both at last sex and consistent condom use) with clients as well

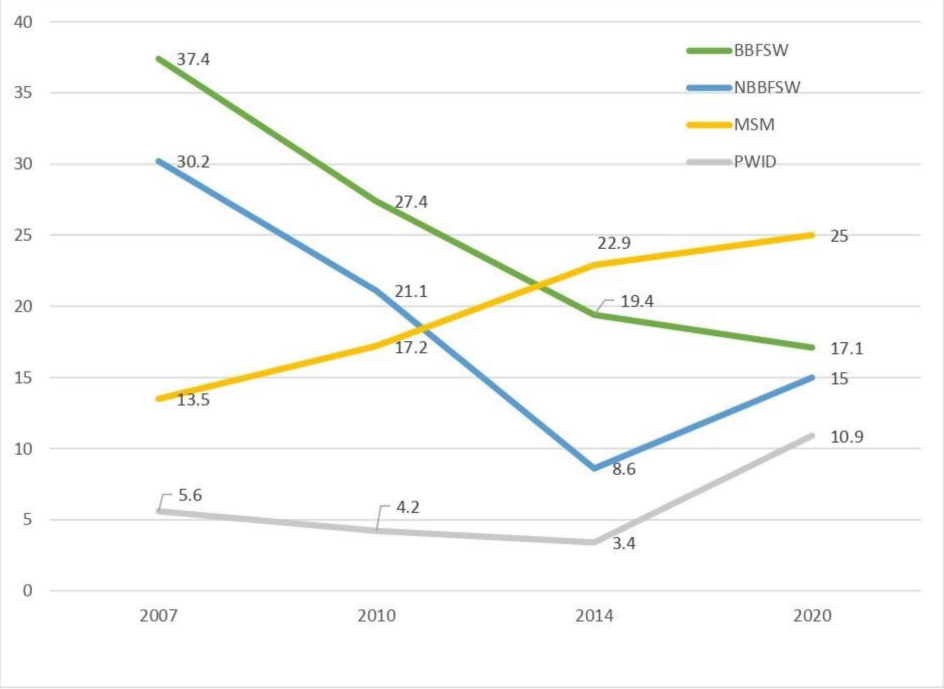

Figure 2 State-wise HIV Prevalence among KPs in Nigeria, IBBSS 2020-2021. BBFSW: Brothel Based Female Sex Worker; MSM, men who have sex with men; NBBFSW: Non-Brothel Based Female Sex Worker; PWID, people who inject drugs.

as casual partners was high among all four KPs typologies but significantly lower with regular partners. Condom use compared with previous IBBS rounds has improved for clients and casual partners, however, does not show an improvement with regular partners.[6 7] This is likely to be a result of a low perception of risk in sexual relationships with regular partners and the mutual level of trust in regular and consistent sexual relationships; a factor that has been consistently reported in previous research.[18 19] The proportion of MSM and TGs engaging in URAI was high which might explain the higher prevalence of HIV among MSM and TG populations as the probability of HIV transmission through URAI is substantially high.[20] Over the years, efforts at containing the virus have been concentrated mainly around FSWs, however, with these emerging trends other groups such as TGs and MSM need focus as well. For example, 80% of the PWIDs reported having injected drugs in the last month and only 29.6% used new/sterile syringes; a possible explanation for why there seems to be a resurgence in HIV prevalence in this group. The Federal Ministry of Health established the National programme on drug demand and harm reduction in May 2019. The ministry also commissioned a needle and syringe programme (NSP) pilot project in the states of Abia, Gombe and Oyo to provide needle and syringe exchange through fixed sites and outreach services to 2739 male and female PWID. The country can leverage on both the IBBSS results and the recently conducted assessment of the NSP pilot which has suggested a scaling up of harm reduction interventions for PWID.[21]

In terms of access and utilisation of HIV-related services by KPs, various challenges were noted. In assessing progress towards the 95-95-95 cascade, there appears to be a big challenge in HIV diagnosis with the number of HIV-positive people who know their status. This finding is in line with the gap highlighted by the Global AIDS monitoring report 2020 which shows that Nigeria falls relatively short of meeting the 95-95-95 target, that is, 67.0% of people living with HIV know their status of whom 63.0% are on treatment and 74.6% are virally suppressed.[22 23] The uptake of PrEP by all KPs also is low and the utilisation of prevention services other than receiving free condoms are also under-used. Nigeria, based on existing legal frameworks, operates a hostile culture that breeds stigma and discrimination for all KP groups[24] and discourages engagement with the HIV continuum among KPs.[25] Nigeria needs to follow the guidelines proposed by the new UNAIDS Global AIDS Strategy (2021–2026) to reduce the inequalities that drive the AIDS epidemic and put KPs at the centre to improve the uptake of services by KPs to stay on track to end AIDS.[26 27]

The 2020 IBBSS has numerous strengths. This is the first IBBSS in Nigeria that applied a robust sampling frame using hotspot lists to gather a representative sample of the population and fully deployed real-time data collection and management procedures. In line with global indicators, the 2020 IBBSS tracked certain globally recognised indicators that align with UNAIDS and WHO standards. A few study limitations also need to be mentioned. Data were collected during the time when Nigeria was challenged by the COVID-19 epidemic, so some of the KPs who were not active during COVID-19 period could have been missed out. The use of a hotspot-based sampling approach does not ensure the participation of some typology of KPs who could have been missed, however, mapping studies in Nigeria have shown that most web or network-based KPs also visit physical hotspots[16] which gives us confidence that we have not missed a huge segment of this population.

CONCLUSIONS

In conclusion, the HIV epidemic is growing among all four KPs in Nigeria and drastic measures are needed if the country is to make appreciable strides toward the fight against HIV. A significant rise in HIV prevalence and poor service coverage shows that prevention efforts in Nigeria are not on track. The presence of a multitude of high-risk behaviours calls for a vigilant and focused approach toward primary prevention for all KPs. There

is a need for all hands to be on deck if the country's 0% incidence target by 2030 among KPs is to be realised which requires a stronger commitment and leadership by the government and all national response stakeholders.

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