Original Article

Geographical Disparities of People who Inject Drugs and Associated Needle Sharing in the Selected States in Nigeria: A Call for Urgent Intervention Programmes

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ABSTRACT

Background: This study aimed to determine the distribution and needle sharing among people who inject drugs (PWIDs) in four Nigerian prioritised states.

Methodology: This cross-sectional study was conducted in Abuja, Nasarawa, Anambra and Gombe. The hotspots of PWIDs were identified through informant interviews in hotels, clubhouses, and bars and eight focus group discussion was conducted among the PWIDs in each state to determine reasons for injecting drugs and syringe sharing. Data obtained were analysed using IBM-SPSS version 25 (IBM Corp, Armonk, NY) and Microsoft Excel 2019.

Results: Most PWIDs were found in Gombe (40.5%) and Nasarawa (39.8%) states. They were mainly found in streets/public places (47.6%), bar/nightclubs (12.5%), trailer parks (4.8%) and brothels (3.8%). In Anambra and Federal Capital Territory (FCT), most hotspots had between 1 and 10 PWIDs (54.8% and 53.1%, respectively). About 53.5% of Gombe hotspots had 11–20 PWIDs. In Nasarawa state, most hotspots had 1–10 or 11-20 PWIDs.

Conclusion: It is recommended that the government and other stakeholders develop and support intervention programmes to increase human immunodeficiency virus risk awareness among PWIDs further and alleviate the suffering of the people due to insurgency.

Key words: Drug abuse, drug injection, human immunodeficiency virus, people who inject drugs, syringe

How to cite this article: Ali OJ, Felix SO, Sheila O, Monday O, Awelewa O. Geographical disparities of people who inject drugs and associated needle sharing in the selected states in Nigeria: A call for urgent intervention programmes. Niger J Health Sci 2022;22:11-6.

INTRODUCTION

Drug injection has long been established as a risk factor for several legal, social and health-related consequences, including human immunodeficiency virus (HIV) and hepatitis C virus (HCV) infection, high-risk sexual behaviour, incarceration and homelessness.[1,2] Over 15.6 million people are projected to inject drugs, of which 8.2 million (52.3%) are at risk of contracting HCV and 2.8 million (17.8%) are already HIV positive.[3,4] On average, one in every ten HIV-positive individuals becomes infected via syringe or needle sharing.[5] People who inject drugs (PWIDs) are at an increased risk of getting blood-borne infections, with needle-sharing likely to be the primary transmission mode. The percentage of PWID who share needles varies between 16% and 76% in various countries and is as high as 37% in some.[6,7] Thus, increased needle or equipment sharing may increase the prevalence of blood-borne diseases such as HIV and hepatitis B and C virus infections.[5,8]

Although heroin is the most often injected substance, other substances such as amphetamines, buprenorphine, benzodiazepines, barbiturates, cocaine and methamphetamine are also injected and any water-soluble drugs.[9] Treatment of PWID may be affected by social and political impediments, as well as a lack of funding for public health approaches to treatment.[9] In recent years, illegal drug production and injectable drug use have become international.[3] Injecting drug

Submitted: 18-Feb-2022 **Revised:** 19-May-2022
Accepted: 14-Dec-2022 **Published:** 01-Feb-2023

Access this article online

Quick Response Code:

Website: www.chs-journal.com

DOI: 10.4103/njhs.njhs_7_22

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use (IDU) has spread to formerly asymptomatic countries.[9,10] HIV prevalence is often much higher in PWID than in the general adult population, with PWIDs having a 28-fold higher prevalence, ranging from 1.3 to more than 2000-fold higher HIV prevalence in 74 countries that reported such numbers UNAIDS.[11] In Eastern Europe and central Asia, where the number of newly infected people is increasing, national HIV epidemics are typically fuelled by contaminated injecting equipment and subsequent transmission to drug users' sexual partners.[12]

The burden of drug usage is rising in Nigeria and has developed into a public health issue. Nigeria, Africa's most populous country, has developed a reputation as a hub for drug trafficking and consumption, particularly among the youth.[13] In 2018, the United Nations Office on Drugs and Crime conducted a study titled 'Drug use in Nigeria'. The study was the country's first large-scale, comprehensive national drug use survey. It was reported that one in every seven people (aged 15–64 years) had used a drug in the preceding year.[14] In addition, one in every five individuals who took a drug in the previous year suffers from a substance abuse disorder.[15] Numerous criminal offences, including theft, burglary, sex work and shoplifting, have been perpetrated due to drug misuse.[15] Furthermore, people may inject drugs to battle against depression and as a coping mechanism, particularly in northern Nigeria, where the level of insurgency has halted many lives.[16]

PWID contributes considerably to the prevalence of HIV in other high-risk categories in Nigeria.[11,12] Sharing needles and syringes raise the risk of HIV transmission for PWID. While programmatic interventions have been used to achieve PWID through the minimum prevention package intervention (MPPI), the benefit of these interventions cannot be fully realised without information about current estimates of PWID to inform resource allocation.[17] In addition, MPPI is insufficient without Needle and Syringe Exchange Programs for PWID. Therefore, the study seeks to map PWID hotspots and collect updated data on their activities and current estimations in the Federal Capital Territory, Nasarawa, Anambra and Gombe. In addition, the study seeks to estimate the size of PWIDs that may be reached at hotspots and to collect information about these hotspots' characteristics. Furthermore, the study gathered information on the types of risk behaviours contributing to HIV and other infection transmissions among PWIDs from an epidemiological standpoint (person, place and time).

The study focused on determining the hotspots of PWIDs to provide policymakers and intervention programmes with their locations to assess the prevalence of risky behaviour among them and provide the needed support.

METHODOLOGY

Ethical approval

The interviewers explained to both the informant and the PWIDs that their participation in the study was entirely voluntary. The study did not pose any risk to them. The data collected would be kept strictly confidential and used for research purposes only.

Study design

This cross-sectional study assessed the geographical disparities of PWIDs and associated risky behaviours in selected states in Nigeria, including the FCT, Nasarawa, Anambra and Gombe state. Males and females who inject various drugs into their muscles or veins for the goal of intoxication are classified as PWID. A person is considered a current IDU if they have used injectable drugs within the last 12 months of the interview date and are at least 18-year-old. Individuals who inject drugs as part of their medical treatment are not considered PWID.

Study area

The study was conducted in four states, including two north-central (Abuja and Nasarawa) states and two northeastern states (Anambra and Gombe). These states were selected for the study because they are among the top prioritised states for PWID in Nigeria.[18]

Study population

The study population was PWID in Abuja, Nasarawa, Anambra and Gombe. Only the people who have injected drugs in the last 12 months made up the study population. PWIDs as a part of medical treatment were not categorised as PWID.

Sampling techniques

The study was carried out in two phases; the first phase involved identifying spots or places frequented visited by PWID in their locality and the estimated numbers of PWID in those spots through interviews with informants found at various public places, including bars, hotels and clubs. The second phase involved identification and estimation through interviews with PWID identified at each of the identified hotspots. The data collection teams were accompanied by PWID peer educators who helped identify PWID respondents. The study also made use of a Chi-square statistical test.

Data collection

Data was collected through focus group discussion (FGD) with the PWIDs in each of the four states. Eight focused group discussions were conducted in each state after dividing each into North, South, East and West (two for each zone). Open-ended questions were asked to understand the reasons for needle sharing, access to health services and possible risky sexual activities occurring at that hotspot and other nearby hotspots. The participants responded to questions in no particular order and consisted of about 10–20 PWID for each FGD. The study was conducted between May and July 2019.

Inclusion and exclusion criteria

Only people who are 18 or older and people who have injected drugs in the last 12 months were included in this study. People younger than 18 and have not injected any drugs in the previous 12 months were excluded from this study.

RESULTS

Table I shows the total number of PWID in each state with the total estimated number of hotspots. Anambra had the least number of PWID with 326 (6.2%), while Gombe and Nasarawa states had the highest with 2164 (40.5%) and 2130 (39.8%), respectively. Gombe and Nsarawa also had the highest hotspots with 36.4% and 33.2%, respectively, followed by FCT (20.4%) and Anambra (10%). Nasarawa had an average of 20 PWIDs per hotspot, followed by Gombe with 19, while Anambra had an average of ten PWIDs per hotspot.

Table II shows the distribution of types of spots and their characteristics in each state surveyed. Overall, PWIDs were significantly found in streets/public places (47.6%), with 71% of all PWIDs in Gombe, 51.6% in Anambra and 31.3% in FCT. Another hotspot is bar/nightclubs, with 12.5% in all states. Other spots are Brothel (3.8%), home-based (9.3%), Hotels (1.9%) and Trailer parks (4.8%). The shooting gallery (82.6%) mainly was the characteristics of the spots

As shown in Table III, a Chi-square statistical test was used, y there was a significant difference in PWIDs distribution in each state surveyed ($P < 0.001$). In Anambra and FCT, most hotspots had between 1 and 10 PWIDs (54.8% and 53.1%, respectively). About 53.5% of Gombe hotspots had 11–20 PWIDs. In Nasarawa state, while some hotspots had 1–10 or 11–20 PWIDs, a substantial proportion of the hotspots had as high as 21–30 (23.1%) and almost one-fifth had more than 30 PWIDs (19.2%).

Interview finding

The responses obtained from PWIDs across all the states were similar, though insecurity in the Northern States, such as Gombe and Nasarawa, was the reason for the high number of PWIDs in the states. Based on the focused group discussions, it was gathered that migratory activities towards Gombe due to the insurgency in the North-eastern zone might have been the primary reason for the high number of PWIDs. Furthermore, all PWIDs in Gombe state said they inject drugs.

The study found that needle sharing was widespread across all states, and several reasons were given for sharing needles among themselves. Some of the reasons include (i) trust, (ii) inadequate knowledge of the risks involved, (iii) lack of money to purchase individual syringes, (iv) injecting drugs as a coping

Table I: Distribution of people who inject drugs by state and hotspot

State	Number of PWID (%)	Number of hotspots (%)	Average PWIDs found at each hotspots, *n* (%)
Anambra	326 (6.2)	31 (10.0)	10 (16.7)
Gombe	2164 (40.5)	114 (36.4)	19 (31.7)
FCT	719 (13.5)	64 (20.4)	11 (18.3)
Nasarawa	2130 (39.8)	104 (33.2)	20 (33.3)
Total	5339 (100)	313 (100)	60 (100)

PWID: People who inject drugs, FCT: Federal capital territory

Table II: Distribution of hotspots in each survey states

Parameters	Anambra (*n*=31), *n* (%)	FCT (*n*=64), *n* (%)	Gombe (*n*=114), *n* (%)	Nasarawa (*n*=104), *n* (%)	Total (*n*=313), *n* (%)	*P*
Type of spot						
Brothel	0	6 (9.4)	1 (0.9)	5 (4.8)	12 (3.8)	<0.001*
Street/public places	16 (51.6)	20 (31.3)	82 (71.9)	31 (29.8)	149 (47.6)	
Home-based	4 (12.9)	7 (10.9)	7 (6.1)	11 (10.6)	29 (9.3)	
Bar/night club/casino	2 (6.5)	10 (15.6)	19 (16.7)	8 (7.7)	39 (12.5)	
Hotel/lodge	1 (3.2)	1 (1.6)	0	5 (4.8)	6 (1.9)	
Trailer parks	5 (16.1)	1 (1.6)	0	9 (8.7)	15 (4.8)	
Others	3 (9.7)	18 (28.1)	1 (0.9)	33 (31.7)	55 (17.6)	
Characteristics of spot						
Drugs and sex work site	4 (12.9)	14 (21.9)	17 (14.9)	18 (17.6)	53 (17.0)	0.743
Hotel and lodge	0	0	1 (0.9)	0	1 (0.3)	
Shooting gallery	27 (87.1)	50 (78.1)	96 (84.2)	84 (82.4)	257 (82.6)	

*P<0.05 significance. FCT: Federal capital territory

Table III: Distribution of people who inject drugs according to states

Parameters	Anambra (*n*=31), *n* (%)	FCT (*n*=64), *n* (%)	Gombe (*n*=114), *n* (%)	Nasarawa (*n*=104), *n* (%)	Total (*n*=313), *n* (%)	*P*
Number of PWID						
1-10	17 (54.8)	34 (53.1)	32 (28.1)	30 (28.8)	113 (36.1)	<0.001*
11-20	13 (41.9)	25 (39.1)	61 (53.5)	30 (28.8)	129 (41.2)	
21-30	1 (3.2)	4 (6.3)	4 (3.5)	24 (23.1)	33 (10.5)	
>30	0	1 (1.6)	17 (14.9)	20 (19.2)	38 (12.1)	

*P<0.05 significance. PWID: People who inject drugs, FCT: Federal capital territory

strategy, (v) group dynamics and (vi) the activities of Patent Medicine Vendors (PMVs).

Most respondents reported that they shared needles because of little knowledge of the risks of needle sharing. Most respondents in Gombe and Nasarawa reported injecting drugs as a coping strategy after losing their businesses or source of livelihood due to the insurgency. This might partially explain why Gombe and Nasarawa's estimates were higher than other states. The respondents across the states mentioned 'trust' as a basis for sharing needles with a fellow IDU and being unable to purchase syringes. It was further gathered that few intervention programmes were held in the hotspots and with the IDUs visited. This partially explains the high rate of IDU and self-reported needle and syringe sharing occurring in most hotspots.

Another reason for needle sharing among the PWIDs across the states was little knowledge of the risks of needle sharing. Most of them usually purchased large syringes specifically for sharing. According to the respondent, '*since drug purchase is usually in the form of collective contribution, large syringes (10 ml) will aid in sharing the drug equally amongst them as they might agree on shooting 2 mls each*'. This perpetuates needle sharing, notwithstanding the amount of unused large syringes. They further stated that '*needle sharing is less common when they buy and use smaller syringes; because it allows only a smaller amount to be drawn and there might not be any need for sharing*'. Sharing needles also occurs due to group dynamics; each IDU has a group of fellow IDUs he interacts with. They reported that '*sharing helps foster trust between them, and they might be reluctant to share needles with someone who just joined the group*'.

In FCT, most respondents mentioned having substantial knowledge of the risks of needle sharing because of being involved in one or more HIV prevention programmes for Most-at-Risk-Populations. Yet, needle sharing still occurs in most of the hotspots. Some of the respondents did not purchase personal sterile needles because of stigmatisation. They reported mostly buying needles and syringes from PMVs and felt perceived stigma from these patent medicine stores each time they purchased needles. The salespeople are primarily aware of what they intend to use them for. Hence, this discourages them from buying needles, and they resort to sharing. Furthermore, they expressed disappointment at some PMVs who refused to sell needles and syringes to them under the guise that they had run out of stock merely as a ploy to prevent them from getting it.

DISCUSSION

The study showed that Gombe had the highest number of PWID and hotspots, followed by Nasarawa, FCT and Anambra being the least. These are all states in the northern regions of Nigeria (northeast and north-central), which report a high level of insurgency and insecurity. Dunn[16] reported how the insurgency in the northeast of Nigeria had affected the resident's livelihood, access to healthcare services and social activities, which may explain why Gombe, in particular, recorded a higher drug injection rate. The restrictions caused by this conflict may have mentally affected the residents, leading to depression and drug injection as a coping mechanism. The United Nations[19] related the burden of drug abuse to organised crime, corruption and terrorism/insurgency. Streets and public places were the significant hotspots in Anambra and Gombe states, which may show that they are more likely to be reckless and homeless. Marshall *et al*.[20] discussed how public injecting had been linked to an increased risk of physical attack, robbery, or police intervention, all of which contribute to hasty injection and dangerous and unsanitary injection practices. In addition, they explained that people who inject in public are more likely to be homeless, participate in high-intensity drug use and polydrug use, have a history of overdose and engage in HIV risk behaviours such as syringe sharing and high-risk sexual activity.[20] Furthermore, the social network characteristics of PWID in public show that public injecting can increase connections between members of diverse social networks, normalise high-risk injection behaviour and contribute to blood-borne disease transmission.[21]

Anambra and FCT reported a significant rate of 1–10 PWIDs, while Gombe mainly had 11–20 PWIDs in each spot. The study also reported that PWIDs shared needles and syringes, dangerous practice. Sharing needles and syringes among PWIDs may expose them to HIV and other illnesses, particularly if they are unaware of the HIV status of the people they are sharing. However, there are possible reasons why PWIDs share needles and syringes, which may include poverty, trust, lack of knowledge of the associated risks, stigmatisation and lack of intervention programmes.

Poverty

Most PWID are addicts, and some have become poor from the excessive and obsessive purchase and consumption of drugs. Moreover, social and economic disadvantage is highly connected with drug use disorder (constant drug use impairs people's health, employment, school, or home life).[12] The majority of the study participant said they lacked the funds to purchase personal needles and syringes, while those who could afford it might decide to share to save the money to buy more drugs. Faghir-Gangi *et al*.[8] explained how PWID are more focused on getting the drugs than the needles or syringes they use in injecting. They further explained how PWID finds the money to purchase these drugs and uses the next available syringe to inject them without worrying about the type of infection they might be exposed to.[8] Poverty may lead people to seek out less expensive methods of drug use, such as sharing needles with others. Moreover, most PWID is drug addicts with a short life expectancy, which precludes them from self-care.[12] Faghir-Gangi *et al*.[8] quoted an expert who has spent years studying drug users: 'They are so enmeshed in their problems that they are completely unaware of HIV. 'They truly do not anticipate living very long, and I have overheard them say numerous times, 'Who will be around in 10 years'!

Trust

The trust of partners and friends may influence the decision of PWID to share needles and syringes, even though they are unaware of the infection they might be exposed to. As long as they have a relationship with the person they inject drugs with, they feel comfortable. Some people may associate needle sharing with their connection with another injectable drug user; because they frequently use the term "community" to describe their hotspots, they consider themselves as "community members," and sharing is part of membership to the community.[22] A study in Yunnan, China, reported how PWID shared needles with their partners and how a small quantity of PWID shared needles with partners known to be HIV seropositive.[23] This finding also demonstrates that PWIDs are solely concerned with obtaining satisfaction from drugs and unconcerned about the consequences. Furthermore, needle sharing occurs as a function of group dynamics.[11] Each injection drug user interacts with a group of fellow PWIDs; they claim that sharing helps build trust and may be hesitant to share needles with someone who recently joined the group. [11,23]

Lack of knowledge of the associated risks

The little or complete lack of knowledge of the risk associated with sharing needles and syringes may also be fuelling the engagement in risky behaviours among PWID. Faghir-Gangi *et al*.[8] reported how PWID engage in different risky behaviours due to ignorance of the infections they might be exposed to. The study documented some injecting the intoxicated blood into their system to get satisfaction and how new injectors are more likely to share needles because of their infrequent visits to the drop-in-centres and their lack of acquaintance with PWID who have contracted HIV through needle sharing.[8] In addition, it has been reported that PWID may purchase large syringes; drug purchases are typically made collectively, enabling them to share the drug equally and exposing them to infection.[12] This finding demonstrates that they are more concerned with obtaining satisfaction than their protection. Injecting drugs is also common among students and other young people due to a lack of knowledge. Jatau *et al*.[13] reported how young people are the most valuable asset for sustainable social development in any society, but most of this population lacks awareness of substance addiction which would empower them to escape drug abuse. The study further revealed that approximately 60% of students were never exposed to drug abuse education, while 73% of teachers reported that they did not teach their students about drug abuse education.[13] This lack of knowledge of the associated risky behaviours exposes them to even more harm.

Stigmatisation

Stigmatisation of PWID may also enhance risky behaviours among them, especially from healthcare workers, pharmacists or other personnel who purchase needles and syringes. In a systematic study conducted in Nigeria, it was discovered that PWID primarily purchased needles and syringes from PMVs and experienced perceived stigma from these PMVs each time they went to buy needles, as the salespeople were generally aware of their intended use.[13] Hence, this discouraged them from purchasing needles, and then they resorted to sharing. In addition, they expressed disappointment with some PMVs who refused to sell them needles and syringes on the pretext of being out of stock, merely to keep them from obtaining them.[12] Faghir-Gangi *et al*.[8] also described how some people fear sullying their name and reputation because almost no one knows they inject drugs. Thus, they avoid going to drop-in centres to obtain sterile syringes and needles to avoid being seen entering such a facility. According to a study conducted in the United States, most pharmacists would rather sell sterile syringes to those in need of medical assistance than those who inject drugs.[24] A qualitative study also noted how pharmacies' refusal to offer sterile syringes to PWID results from their stigma and is a significant barrier for PWID in obtaining sterilised syringes and needles.[25]

Lack of intervention programmes

Most of the reasons stated above for engaging in risky behaviours by PWIDs can be traced back to the lack of intervention programmes. The lack of awareness, trust and stigmatisation shows the need for intervention programmes to help enlighten PWIDs and people who provide them with needles and syringes. Jatau *et al*.[13] reported how lack of knowledge on health risks enhanced risky behaviours among PWIDs, especially among new injectors. Chen *et al*.[23] reported how PWIDs see themselves as community members and feel safe sharing needles with many people. Faghir-Gangi *et al*.[8] also stated how pharmacists and other PMVs refuse PWIDs from purchasing syringes and needles and how they are often discriminated. These show the need for intervention programmes to help educate PWIDs, particularly new injectors, about the risks they are exposed to, like HIV and other infections. Furthermore, intervention programmes are needed to enlighten those who provide sterile needles and syringes for sale on the negative impacts of stigmatisation. It was reported that there were little to no intervention programmes held in the hotspots in Gombe and with the injection drug users visited.[22] This result may partially explain the high rate of IDU and self-reported needle and syringe sharing in most Gombe parts. The impacts of HIV prevention programmes in Nasarawa recorded a substantial knowledge of the risks of needle sharing among most at-risk populations.[22] This finding may also show how effective intervention programmes can be in these hotspots.

Thus, interventions to reduce risky behaviours among PWIDs and the influence on their health require the knowledge of their geographical locations (hotspots) to enlighten them on risk factors connected with drug addiction.

Limitation

The hotspots of PWID were challenging to access, as most of them were mostly night clubs that imposed strict rules such as entering naked or strictly by invitations. Furthermore, most were sceptical about granting interviews. Thus, the study mainly focused on their geographical disparities and the reasons for needle-sharing behaviours. However, the study

is adequately relevant because it provided policymakers, non-governmental organisations and future researchers with the locations and reasons for needle sharing among PWIDs for support and additional studies.

CONCLUSION

The study reported that the significant rate of PWIDs in the northeast of Nigeria may be due to insurgency and insecurity, particularly in Gombe. The study found that reasons such as poverty, trust, stigmatisation, lack of knowledge of the risks they may be exposed to and lack of intervention programmes enhanced the engagement in risky behaviours by PWIDs. Most of the problems the study found could be curbed through intervention programmes. Therefore, it is recommended that the government develop and support ongoing intervention programmes to increase awareness among PWID and other healthcare personnel who make provisions for sterile needles and syringes.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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