WAJM

WEST AFRICAN JOURNAL OF MEDICINE

ORIGINALITY AND EXCELLENCE IN MEDICINE AND SURGERY

WEST AFRICAN JOURNAL OF MEDICINE

TABLE OF CONTENTS

Drugs of Abuse among In-Patients Receiving Treatment for Substance Use Disorders in a Tertiary Health Care Center in South-South Nigeria: An Exploratory Qualitative Study

Drogues d'Abus chez les Patients Hospitalisés Recevant un Traitement pour Toxicomanie Troubles dans un Centre de Soins de Santé Tertiaires dans le Sud-Sud du Nigéria: un Étude Qualitative Exploratoire

[1]C. J. Okafor, [2]*E. A. Essien, [2]B. E. Edet, [2]A. C. Okoro, [1]O. Udofia

ABSTRACT

INTRODUCTION: Recently, there has been an increase in the abuse of relatively newer substances sometimes in unusual combinations. Some of these drugs and their street names are unfamiliar to researchers and clinicians, hindering their identification. Our objective was to investigate current trends in drug abuse, focusing on eliciting drugs of use and their street names in Calabar, Nigeria.

METHODS: Using a qualitative design, we conducted focus group discussions among 15 male in-patients of the drug treatment ward of the Federal Neuropsychiatric Hospital, Calabar. Data was collected as audio recordings and handwritten notes and was analyzed using the Nvivo software.

RESULTS: Prescription drugs like flunitrazepam (street name *Blueboy*, *Sweetnol*), trihexyphenidyl, codeine and tramadol were commonly abused. Illicit substances included cannabis of various potencies (each having unique street names), vulcanizing gum (street name *Solution*), cocaine and heroin (street name *Thailand*). Some unusual substances such as soakaway fumes, formaldehyde or gammalin (lindane) mixed with cannabis were described. Few supposedly non-psychoactive substances were reportedly potent when consumed alone (e.g., leaves of the papaya plant) or in mixtures, such as menthol candy dissolved in soft drinks. Other prescription drugs such as *Benadol* or *D4*, unfamiliar to the researchers, were volunteered.

CONCLUSION: Newer substances of abuse in their various combinations are abused by Nigerian youth. More studies are needed to elucidate further the chemical composition of these drugs/mixtures and their mechanism of action. **WAJM 2022; 39(2): 147–153.**

Keywords: Psychoactive drugs, qualitative study, abuse, in-patient.

RÉSUMÉ

INTRODUCTION: Récemment, il y a eu une augmentation de l'abus de substances relativement nouvelles parfois dans des Combinaisons. Certaines de ces drogues et leurs noms de rue sont peu familiers aux chercheurs et aux cliniciens, ce qui entrave leur identification. Notre objectif était d'étudier les tendances actuelles dans l'abus de drogues, en mettant l'accent sur l'obtention de drogues de consommation et leur noms de rues à Calabar, Nigeria.

MÉTHODES: À l'aide d'une conception qualitative, nous avons mené des discussions de groupe entre 15 patients masculins hospitalisés du médicament service de traitement de l'Hôpital fédéral neuropsychiatrique, Calabar. Les données ont été recueillies sous forme d'enregistrements audio et d'écriture manuscrite, et a été analysé à l'aide du logiciel Nvivo.

RÉSULTATS: Médicaments sur ordonnance comme le flunitrazépam (nom de la rue Blueboy, Sweetnol), trihexyphénidyle, codéine et tramadol ont été couramment maltraités. Les substances illicites comprenaient le cannabis de différentes puissances (chacune ayant des noms de rue uniques), gomme vulcanisante (nom de rue Solution), cocaïne et héroïne (nom de la rue Thaïlande). Certaines substances inhabituelles telles quefumées trempées, formaldéhyde ou gammaline (lindane) mélangés avec du cannabis ont été décrits. Peu de substances prétendument non psychoactives étaient apparemment puissantes lorsque consommés seuls (par exemple, feuilles de la papaye) ou en mélanges, tels que les bonbons au menthol dissous dans les boissons gazeuses. Autres médicaments d'ordonnance tels que Benadol ou D4, inconnus de l'chercheurs, ont été volontaires.

CONCLUSION: Nouvelles substances d'abus dans leurs divers combinaisons sont abusées par les jeunes Nigérians. D'autres études sont nécessaires pour élucider davantage la composition chimique de ces médicaments/mélanges et leur mécanisme d'action. **WAJM 2022; 39(2): 147–153.**

Mots-clés: Drogues psychoactives, étude qualitative, abus, hospitalisé.

[1]Department of Psychiatry, University of Calabar, Nigeria. [2]Department of Clinical Services, Federal Neuropsychiatric Hospital, Calabar, Nigeria. [2]Department of Clinical Services, Federal Neuropsychiatric Hospital, Calabar, Nigeria.
Correspondence: **Dr. Emmanuel Aniekan Essien,** Federal Neuropsychiatric Hospital, Calabar, Nigeria. Telephone Number: 08065135801. Email: mannyessien@yahoo.com

INTRODUCTION

The use of psychoactive substances is a global health challenge with wide-ranging social, political and economic implications. According to the World Drug Report, the prevalence of any psychoactive substance use was 5.5% in 2017, representing 271 million persons between 15 and 64 years.[1] It ranks above diabetes and transport injuries as the 14th most important contributor to disease burden.[2] Substance use in Nigeria has been increasing in recent times, both in use and the variety available for abuse. The national prevalence of any psychoactive drug use in 2018 increased by more than double in 2016, from 5.6% to 14.4%.[3] Most affected are the youth, with a peak between 25 and 39 years, meaning its highest impact is on the most productive workforce.[3]

Globally, a set of so-called designer drugs are emerging, collectively referred to as Novel *psychoactive substances (NPS)*.[4] Although some are newly discovered or synthesized, others have been in existence for decades; the term *Novel* implies that they have only recently become substances of abuse.[4] Lately, there are reports of obtaining feelings of euphoria in Nigeria through unusual means such as fumes from burning tyres, dry papaya leaves, burnt bitumen, and mixing methylated spirit with coca-cola soft drinks.[5] For many of these, the biopsychological mechanism of action is yet to be elucidated. The emergence of NPS seems to be outpacing knowledge concerning their clinical manifestations, assessment, complications and management.[6]

Based on the foregoing, it is epidemiologically and clinically appropriate to regularly investigate the drug use pattern in the population, especially among the youth who have the highest risk. One difficulty, however, is that the communication between the clinician and the patient concerning drug use can be discordant. Drugs, especially those that are novel and possibly unfamiliar, are usually known by their street names among users. Knowing only generic names, researchers risk missing vital information, either because their checklist of drugs is incomplete due to the emergence of NPS or they lack the appropriate terminology for enquiries about substances. This qualitative study investigates the recent trends in drug use among patients of the Federal Neuropsychiatric Hospital, Calabar.

SUBJECTS, MATERIALS AND METHODS

Approach and Research Paradigm

We adopted a descriptive qualitative design with a naturalistic approach. Qualitative approaches have been instrumental in studying substance use.[7] According to Sandelowski, "research questions in qualitative description are aimed at obtaining manifest surface-level descriptions of a broad range of issues or events surrounding a health topic".[8] It is also naturalistic in that it focuses on elaborating upon the natural state of phenomena and generating knowledge that could be useful for future interventions.[9,10] Descriptive qualitative designs are mostly atheoretical with pragmatism as its research paradigm.[10] They aim to describe the subject of interest with a low level of inference, primarily using the respondents' language.[11]

Researcher Characteristics and Reflexivity

Reflexivity is the "awareness of the researcher's influence on the people regarding the topic being studied while simultaneously recognizing how the experience affects the researcher".[12] All the researchers are psychiatrists providing care for the in-patients recruited for this study. Since our study design requires a low level of inference, the effect of researcher bias is kept to a minimum. However, patients could withhold information on some of their experiences to be favourably perceived by their doctors.

Context

Calabar is the capital of Cross River State in South-South Nigeria. It is a metropolitan city administratively divided into Calabar South and Calabar Municipality. It is home to the Federal Neuropsychiatric Hospital, the first mental health facility in the country, established in 1903. With a capacity of over 100 beds spread across seven wards, the facility provides in-patient and outpatient services to persons from Cross River State and other surrounding states in the region. The hospital has a drug ward to treat and rehabilitate male patients who abuse psychoactive substances. Currently, there is no female drug ward. The facility was chosen because the target population is a subset of its patients.

Sampling Strategy

Patients on admission in the ward were considered appropriate as they would know the subject based on their contact with the drug subculture. Purposive sampling was adopted to recruit participants. In two focus group discussions, 15 patients participated in the study: the first group comprised eight patients, and the second, seven patients. After the second focus group discussion, it was deemed that data saturation was reached.

Ethical Consideration

Ethical approval for the study was obtained from the research and ethics committee of the Federal Neuropsychiatric Hospital, Calabar. The patients in the ward were approached, and the objectives were explained to them. Those who gave their written informed consent were recruited. They were informed that participation was completely voluntary, and that involvement or refusal would not influence their admission, treatment, or discharge. They were assured that all information provided would be handled with confidentiality.

Data Collection Method

The discussion was done in English and was hosted by three study researchers (CO, EE and AO) who have received training in qualitative research methods. The sessions started with the establishment of rapport. Next, the patients were given more information about the study and told that the discussion would cover their general knowledge and not necessarily drugs they had used themselves. The discussion was held within the ward and was audio-recorded with written notes also taken.

Study Measures

Probe questions concerning drug use behaviour were used to drive the group discussions. All were open-ended, and participants were encouraged to discuss freely. When new or interesting perspectives arose, the researchers probed further to elicit additional information. The probe questions were as follows: What are the various drugs of abuse that you know? Are there any newer or unusual substances of abuse that you know? What are the local names of these drugs? Are these drugs combined? How many kinds of combinations do you know? Each focus group discussion lasted two hours.

Data Processing and Analysis

The data were analyzed using qualitative content analysis. After data collection, the audio recording was transcribed verbatim. The transcript was closely compared with the written notes to ensure fidelity and completeness of data. Line-by-line coding was done using Nvivo to identify salient themes and key opinions. The major themes were subsequently presented, supported by discussion quotations to preserve subtextual information. Some explanatory notes in italics were used either within or beside the quotes to clarify terms where necessary.

Techniques to Enhance Trustworthiness

The discussants were in treatment for substance use disorder, typically for a long duration that could last several weeks to months. Also, they had been part of the drug subculture for a sufficient time and thus could provide useful information. Efforts were made to put the patients at ease, and they were encouraged to speak honestly about the subject and that no information given would be used in any way against them. To improve generalizability, they were encouraged to talk about substances they had used themselves and those used in their circles. Finally, the contact time with the discussants was adequately prolonged to ensure rapport, gain trust and give room for sufficient topic exploration.

RESULTS

Table 1 shows the socio-demographic characteristics of the respondents. The mean sample age was 33 years (SD=6.8). All but one were unmarried, only a third were currently unemployed, and most had attained at least a secondary school education. The group discussion and the major themes are discussed below.

Table 1: Socio-demographic Characteristics of Discussants

Variable	Descriptive
Age	
Mean ± SD	33 ± 6.8
Minimum	23
Maximum	51
Marital Status	
Single	14 (93.3%)
Married	1 (6.7%)
Occupation	
Employed	5 (33.3%)
Unemployed	6 (40.0%)
Students	4 (26.7%)
Religion	
Christian	14 (93.3%)
Islam	1 (6.7%)
Education	
Primary	3 (20.0%)
Secondary	8 (53.3%)
Tertiary	4 (26.7%)

Drugs of Abuse

The discussants provided information on various substances of abuse and their street names. Prescription drugs commonly abused in Nigeria, such as flunitrazepam (street names: *Blueboy*, *Sweetnol*), codeine, and tramadol, were volunteered during the session. Trihexyphenidyl (commonly known as Artane), which is prescribed for patients on antipsychotics to control extra-pyramidal side effects, was also named a substance of abuse.

"Artane is reigning. It is reigning seriously."

(In local parlance, when one says something is reigning, this means it is the current trend).

"When you leave the hospital with your Artane prescription and use it to get high, people who abuse drugs will think you are taking something stronger than whatever they are taking. They would ask for some and also feel high after taking it. People outside the hospital get to know about Artane from people who are discharged from the hospital".

The discussion on Artane suggested that it was becoming quite popular locally.

Most respondents began their use of psychoactive substances with tobacco, alcohol or cannabis. Comparatively, more time was spent discussing cannabis, highlighting its prominence in the drug subculture. Various forms of cannabis with different street names were identified.

"Arizona is just a nickname. It is also a type of weed *(cannabis)*. After ordinary weed *(common variety with low potency),* the next is SK, followed by Arizona, Loud, and then Colorado, which is the strongest".

SK (short form for *Skunk*), *Arizona*, and *Loud* were stronger types (possibly different cultivated breeds) of cannabis. In contrast, *Colorado* was described as "*not grown but synthesized in a lab*". *Loud*, clarified as the "purple strain" of marijuana, was described as an expensive species with *"a good smell which gives a good high"*. Some prefer it because it does not leave a smell on one's breath and clothes.

A discussant spoke about *Bamlike* (pronounced Bamleekay).

"There is Bamlike. It is weed, but it is strong weed. Bamlike is a general language for strong stuff but is applied to a very strong weed."

The term *Bamlike* seemed to be a street name broadly used to describe more potent cannabis or describe potent substances in general.

Inhalants also featured in the conversation. *Solution* (vulcanizing gum) was abused by inhalation and said to be *"very toxic"*. Inhalation of soakaway and petrol fumes were also means of getting intoxicated.

"Some go to pit toilet to sniff it. I even know someone that stays in the toilet for a long time…to him that makes him high, and when he comes out, he shouts at people anyhow."

A fruit that closely resembles the eggplant (i.e., the garden egg) was also described as a drug of abuse.

"It is called Witch's garden egg. It is just like the garden egg. If you pluck it and eat it, no matter the quantity, it will make you very high".

Few group members were aware of the plant, suggesting it was not popular among local drug users.

The leaf of the papaya plant was also discussed as a substance of abuse; it is dried, grounded, and smoked. The inhalation of the fumes causes euphoria, and it is sometimes mixed with cannabis to potentiate the effect.

Discussants were also aware of crack cocaine:

"Crack is impure cocaine or cocaine mixed with Baking Soda. It is in the form of stones. It can be crushed or put in a plastic bottle with water, heated and inhaled."

One participant spoke of a drug called "*Benadol*" unfamiliar to the researchers.

"There is also Benadol. It is like pills, like antidepressant pills. Both are bought from the pharmacy."

Also identified was *D4*:

"We have D4. It is a white tablet or pill. It makes you high very well too. It is gotten from drug shop, but it is hard to find. One is like 200 naira." *(Equivalent to about $0.50)*

Participants also discussed the psychoactive effect of lizard dung:

"I have also heard of lizard dung, but it is not common down in the south." Table 2 shows other common street names volunteered during the sessions.

Drug Combinations

Drug combinations for abuse were also discussed. The following emerged:

Table 2: Some Identified Drugs and their Street Names

Drug	Street Name
Rohypnol	Blueboy; Sweetnol
Vulcanizer's gum	Solution
Cannabis	Cornerside dope (commonly available, weakest potency, cheapest) Others: Gbanam; Indo, SK; Arizona; Loud; Colorado
Heroin	Thailand
Cocaine	Crack
Unrefined tobacco	Captain Black

Emzolyn syrup in coca-cola:

"A young guy can get a bottle of coca-cola and mix with 4 or 5 bottles of Emzolyn and take it."

Captain Black:

"There is the one that is called Captain Black. You buy it from those people that sell weed and mix it with cannabis to mask the smell of the weed."

Formaldehyde or Gammalin and weed:

"…they use gammalin or formalin to compress cannabis, this makes it more toxic, and youths prefer it to ordinary weed."

Lacasera and Tom-Tom sweets:

"Lacasera and Tom-Tom. There is also Tom-Tom and Sprite. For example, you can open 20 Tom-Tom and put them inside Sprite. You allow it to melt off and dissolve. Taking it makes someone high." *(Lacasera is a soft drink and Tom-Tom is a menthol candy, both commonly sold in Nigeria)*

Jedi choco:

"Jedi choco – you mix it with weed. That one gets you high. So, a normal street guy may allow it to dry by spreading it in the sun and then mix it with dope."

Other combinations are summarised in Table 3.

Drug Administration

Methods of administration were also explored:
Solution:

'Solution is vulcanizer's gum. They put it into an empty container, and then they will inhale it. It is very toxic.'

Table 3: Some Common Combinations and their Street Names

Drug Combinations
Tramadol + Cannabis
Heroin + cannabis
Diazepam + Codeine + Rohypnol
Alcohol + cannabis Street name: Parasenic; Combined; monkey tail; Shekpe
Coca-cola + Emzolyn syrup
Leaves (commonly tobacco) mixed with cannabis Street name: Jedi Jedi, Jedi choco
Lacasera + Rohypnol
Codeine + Alcohol

Soakaway fumes:

'They go to the mouth of the pipe from a soakaway hole, then they use a white handkerchief, place above it, then they inhale or drag'.

"Witch's garden egg":

'It grows like a garden egg. If you pluck it and eat, no, matter the quantity, it can make someone very high. They ferment the garden egg with water or alcohol for one or two days and take it. It is a weed that grows on its own; you cannot get it in the market."

Tramadol

"They inject tramadol, the watery one." "This one is only gotten from the hospital."

Thailand (heroin)

"Thailand is the street name for heroin. This one you wrap the dope, then you put or spread the Thailand which is like a white powder on the dope, you then smoke it."

Codeine and Rohypnol

"You can also put Rephnol *(Rohypnol)* into Lacasera. It changes the colour to blue. Also, codeine."

DISCUSSION

This study aimed to examine the pattern of drug abuse, focusing on the variety of drugs available and their street names. The increase of drug abuse in Nigeria and the emergence of newer substances and mixtures warrants renewed attempts to study drug use patterns and behaviours.

A qualitative approach was adopted because of its flexibility over the restrictions of quantitative studies. Qualitative methods go beyond existing frameworks, making new data possible. They allow for a more nuanced understanding of patients' experiences and leave room for the emergence of culturally salient and other pertinent perspectives.[13] This study permitted an unhindered probe of drug use behaviours.

We found several substances of abuse, some of which have been available for decades in Nigeria, like cannabis or cocaine, and others that recently gained popularity like codeine and tramadol.

Street names vital for subsequent research and clinical assessments were also identified.

Worth special consideration is the abuse of trihexyphenidyl (brand names Artane, Benzhexol) which has been previously reported among Nigerians.[14,15] It is an anticholinergic that is routinely prescribed to control the extrapyramidal effects of antipsychotics. Trihexy-phenidyl is known to have a euphoric effect and thus abuse potential.[16] In a Nigerian psychiatric hospital, it comprised as high as 25% of total prescriptions and is prescribed in almost 90% of patients with schizophrenia.[17–19] This is relatively high compared to 25.9% and 30% of patients with schizophrenia placed on Artane in a Chinese and European study, respectively.[20,21] Its high prescription in Nigeria probably reflects the wide use of first-generation antipsychotics, which are affordable but have more extrapyramidal side effects. Given its high level of prescription to patients on antipsychotics, easy availability, and addiction potential, safeguards are needed to protect the psychiatric patient and the population from its abuse.

Consistent with previous research, the discussants identified alcohol, tobacco, and cannabis as gateway drugs.[22] According to the "Gateway hypothesis", drug use commonly starts with more socially acceptable and easily accessible drugs.[23] Alcohol has been consumed in the West African subregion since the precolonial era. It is an essential part of traditional rites in many Nigerian cultures, and it is even considered a health tonic in some communities.[24,25] The sale, purchase and use of alcohol is legal in Nigeria and has few restrictions.[26] Tobacco, which is grounded and inhaled as "snuff", is also culturally acceptable.[27] Cigarettes, on the other hand, attract relatively more social censure but are also legal and easily accessible.[26,27] The legality, easy availability and social tolerance of alcohol and tobacco use might be reasons why they are gateway drugs in Nigeria.[26]

Cannabis is one of Nigeria's most used substances, and our data suggests that it is readily available.[3] Tetra-hydrocannabinol (THC), the primary psychoactive molecule in cannabis, can "prime" the brain for enhanced responses to other drugs and might explain its role as a gateway drug.[28] It has been at the centre of controversy recently, with many people calling for its legalisation in countries worldwide.[29] Even though it is touted to be safe, extensive research has shown its detrimental effect on physical and mental health.[30] Cannabis use remains illegal in Nigeria but it is still widely abused.[31]

Skunk, also called *SK*, is a cross-bred variety of cannabis grown under greenhouse conditions characterized by careful lighting and the absence of male plants, which prevents fertilization, permitting the accumulation of tetra-hydrocannabinol (THC).[32] A Nigerian newspaper reported an interview with a cannabis dealer who sold *Skunk*, which he described as "marijuana grown with fluorescent light".[33] However, it might be difficult to confirm if the term *SK* is consistently applied to this form of cannabis. *Arizona*, another cannabis preparation, was depicted to be stronger than *SK* and *Loud*; this is similar to an online publication that reported *Arizona* and *Loud* to be more potent and expensive than what our discussants described as *dope* (common variety cannabis).[34] The descriptions of *Colorado* appear to be consistent with synthetic cannabinoid compounds sprayed on leafy green materials for smoking.[35] Synthetic cannabinoids are classified as novel psychoactive substances (NPS) and are marketed under various brands/names such as *Joker, K2, Spice, Black Mamba, Kush, and Kronic*.[35] It is highly addictive and could have severe and occasionally life-threatening consequences.[35]

Sniffing vulcanizing gum and soakaway fumes (hydrogen sulphide gas) have previously been reported and appears to be getting commoner.[36,37] As revealed in the group discussion, inhalants are associated with aggressive behaviour. Its use has also been linked with criminal behaviour and health complications.[38] Unlike prescription drugs such as codeine or tramadol which can be banned or restricted, they are freely available and affordable. This is probably why they are the most abused substance among Nigerian street children.[39] Some organizations like the Nigeria Security and Civil Defence Corps (NSCDC) have called for the regulation of vulcanizing gum in Nigeria, which is a step in the right direction.[40]

The "Witch's garden egg" roughly fits the description of the Datura metel plant (Indigenous names: Igbo – Myaramuo; Hausa – Zakami; Yoruba – Apikan.), which grows as a weed in Northern Nigeria, although it is sometimes cultivated.[41] Datura's fruit (called the thorn apple) and leaves are similar to the eggplant. Its seeds are arranged similarly, although in contrast, its outer coat is spiked. It is commonly abused in Northern Nigeria and is the most abused substance in some Northern cities.[42] Research about the use of Datura in the southern parts of Nigeria is scarce, and additional studies are needed.

Some prescription drugs disclosed by the discussants, such as *Benadol* and *D4*, were unfamiliar to the researchers. These are probably street names of drugs well known within the circles of those who abuse them. More qualitative research or in-depth interviews among persons who use these drugs might be needed to identify their chemical constituents.

Some common drug combinations were also discussed, including Emzolyn (a commonly prescribed cough syrup) mixed with Coca-Cola. One formulation of Emzolyn contains codeine, a highly abused over-the-counter (OTC) drug recently banned in Nigeria.[43] Mixing it with Coca-Cola may potentiate the effect in yet unclear ways or might be a ploy to disguise an illicit substance in a licit bottle of Coca-Cola.

Lacing cannabis with formalin has previously been reported in some foreign studies and is known to cause severe lung injury.[44] There have been very few published reports of this in Nigeria, and its prevalence may be increasing. Mixing cannabis with gammalin (generic name lindane, a neurotoxin used as a pesticide) is even rarer and might be a recent phenomenon. More studies are needed to investigate these observations further.

According to discussants, several bars of a popular menthol-based candy (marketed as Tom-Tom) are mixed in soft drinks (i.e., carbonated drinks such as

Sprite or Lacasera) to get a euphoric effect, an example of how seemingly non-psychoactive substances might become potent in combination. This mixture merits further study to elucidate its mechanism of action. *Captain Black* is internationally known as the name of a company that makes tobacco products but locally is the street name for unprocessed tobacco, which could be mixed with cannabis. Generally, our data shows that mixing psychoactive substances to potentiate their effect is quite common.

Conclusion and Limitations

Our objective was to determine current trends in drug abuse by interviewing in-patients in a Nigerian psychiatric hospital. The primary focus was to elicit the street names of commonly used drugs and new drugs emerging in the subculture. This study provided information concerning the use and street names of popular and less well-known drugs of abuse. Also, we highlighted how drugs were combined for consumption, including some supposedly non-psychoactive substances that induce euphoria.

Our study, however, has some important limitations. Though typical for a qualitative study, our small sample size might limit the reliability and generalizability of the data obtained. We might have missed vital information concerning psychoactive abuse among the female gender since they were not represented in the focus group. Also, it is difficult to determine the credibility of individuals in the discussion group. Clinicians led the discussions, which might lead to social desirability bias. Street naming of drugs is not an exact science, and one name can mean different things to different people. We hope this paper will further research with larger samples and data triangulation for more accuracy.

Competing interests

The authors declare no competing interest.

REFERENCES

1. UNODC – United Nations Office on Drugs and Crime. World Drug Report - Booklet 1 – Executive summary, conclusions and policy implications. In: World Drug Report 2019. 2019. p. Sales No. E.19.XI.8.
2. Institute for Health Metrics and Evaluation. Findings from the Global Burden of Disease Study 2017. *Lancet.* 2018: 12.
3. National Bureau of Statistics, Centre for Research and Information on Substance Abuse, The United Nations office on drug and crime. Drug Use in Nigeria. Abuja. *National Bureau of Statistics.* 2018. p. 8–30.
4. Dignam G, Bigham C. Novel psychoactive substances: a practical approach to dealing with toxicity from legal highs. *BJA Educ.* 2017; **17:** 172–177.
5. Musbau R. Nigeria and the new wave of drug abuse [Internet]. Businessday (Online newspaper). 2018 [cited 2020 Apr 22]. Available from: https://businessday.ng/opinion/article/nigeria-new-wave-drug-abuse/
6. Gilani F. Novel psychoactive substances: the rising wave of 'legal highs;. *Br J Gen Pract.* 2016; **66:** 8–9.
7. Neale J, Allen D, Coombes L. Qualitative research methods within the addictions. *Addiction.* 2005; **100:** 1584–1593.
8. Sandelowski M. What's in a name? Qualitative description revisited. *Res Nurs Health.* 2010; **33:** 77–84.
9. Lambert VA, Lambert CE. Qualitative descriptive research: An acceptable design. *Pacific Rim Int J Nurs Res.* 2012; **16:** 255–256.
10. Neergaard MA, Olesen F, Andersen RS, Sondergaard J. Qualitative description – the poor cousin of health research? *BMC Med Res Methodol.* 2009; **9:** 52.
11. Kim H, Sefcik JS, Bradway C. Characteristics of Qualitative Descriptive Studies: A Systematic Review. *Res Nurs Health.* 2017; **40:** 23–42.
12. Gilgun JF. Lived experience, reflexivity, and research on perpetrators of interpersonal violence. *Qual Soc Work.* 2008; **7:** 181–197.
13. Nakhaee N, Jadidi N. Why do some teens turn to drugs? A focus group study of drug users' experiences. *J Addict Nurs.* 2009; **20:** 203–208.
14. Bakare AT, Isah BA. Psychoactive substances use among in-patients in a Nigerian neuropsychiatric hospital: prevalence, pattern and presentation. *MOJ Addict Med Ther.* 2016; **2:** 18–22.
15. Abasiubong F, Udobang JA, Idung AU, Udoh SB, Jombo HE. Pattern of psychoactive substance use in the northern region of Nigeria. *Afr J Drug Alcohol Stud.* 2014; **13:** 107–115.
16. Jilani TN, Sabir S, Sharma S, Jilani1 TN, Sharma S. Trihexyphenidyl [Internet]. StatPearls [Internet]. StatPearls Publishing; 2021 [cited 2021 May 2]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK519488/
17. Abubakar K, Muhammad AA, Jimoh AO, Abubakar SB. Prescription Pattern of Antipsychotic Drugs-A Case study of a Neuro-psychiatric Hospital in North-Western Nigeria. *Eur J Sci Res ISSN.* 2012: 332–337.
18. Onah PO, Abdulmalik A, Kaigamma AY. Antipsychotic Drugs Prescription Pattern among Patients with Schizophrenia in a Federal Neuropsychiatric Hospital Maiduguri, North-East Nigeria. *J Adv Med Pharm Sci.* 2018: 1–8.
19. Agbonile IO, Famuyiwa O. Psychotropic drug prescribing in a Nigerian psychiatric hospital. *Int Psychiatry.* 2009; **6:** 96–98.
20. Su Y-A, Yan F, Li Q, Xiang Y-T, Shu L, Yu X, *et al.* Anticholinergic use trends in 14,013 patients with schizophrenia from three national surveys on the use of psychotropic medications in China (2002–2012). *Psychiatry Res.* 2017; **257:** 132–136.
21. De Hert M, Wampers M, van Winkel R, Peuskens J. Anticholinergic use in hospitalized schizophrenic patients in Belgium. *Psychiatry Res.* 2007; **152:** 165–172.
22. Lynskey MT, Heath AC, Bucholz KK, Slutske WS, Madden PAF, Nelson EC, *et al.* Escalation of Drug Use in Early-Onset Cannabis Users vs Co-twin Controls. *JAMA.* 2003; **289:** 427.
23. Saddichha S, Sinha BNP, Khess CRJ. The Role of Gateway Drugs and Psychosocial Factors in Substance Dependence in Eastern India. *Int J Psychiatry Med.* 2007; **37:** 257–266.
24. Heap S. A bottle of gin is dangled before the nose of the natives': gin currency in colonial southern Nigeria. *Money in Africa.* 2009; **171:** 30–37.
25. Kalema D, Vindevogel S, Baguma PK, Derluyn I, Vanderplasschen W. Alcohol misuse, policy and treatment responses in Sub-Saharan Africa: The case of Uganda. *Drugs Educ Prev Policy.* 2015; **22:** 476–482.
26. Obot IS. Ethical and legal issues in the control of drug abuse and drug trafficking: The Nigerian case. *Soc Sci Med.* 1992; **35:** 481–493.
27. Egbe CO, Petersen I, Meyer-Weitz A, Oppong Asante K. An exploratory

study of the socio-cultural risk influences for cigarette smoking among Southern Nigerian youth. *BMC Public Health.* 2014; **14:** 1204.

28. Panlilio L V, Zanettini C, Barnes C, Solinas M, Goldberg SR. Prior Exposure to THC Increases the Addictive Effects of Nicotine in Rats. 2013: 1198–1208.

29. Moreno JA. Half-Baked: The Science and Politics of Legal Pot. Penn St L Rev. 2018; **123:** 401.

30. Lafaye G, Karila L, Blecha L, Benyamina A. Cannabis, cannabinoids, and health. *Dialogues Clin Neurosci.* 2017; **19:** 309.

31. Dirisu O, Shickle D, Elsey H. Perspectives of young cannabis users within the Nigerian policy context: The paradox of criminalization as a deterrence strategy. *J Subst Use.* 2019; **24:** 73–78.

32. O'Hagan A, Parker A. An examination into the possibility of the UK being a predominantly cannabis-producing nation and a methodology of cultivation techniques. *Forensic Res Criminol Int J.* 2016; **2:** 45.

33. Agbro J. Nigeria's romance with MARIJUANA [Internet]. The Nation Newspaper [online]. 2014 [cited 2020 May 3]. Available from: https://thenationonlineng.net/nigerias-romance-marijuana/

34. Ayanda T. In Lagos Dope Market: 'Police Dey Take Am', Army Dey Take Am…Everybody Dey Take Am' [Internet]. The Nigerian Tribune [Online newspaper]. 2017 [cited 2020 May 3]. Available from: https://tribuneonlineng.com/lagos-dope-market-police-dey-take-army-dey-take-everybody-dey-take/

35. NIDA. Synthetic Cannabinoids (K2/Spice) [Internet]. National Institute on Drug Abuse. 2018 [cited 2020 May 3]. Available from: www.drugabuse.gov/publications/drugfacts/synthetic-cannabinoids-k2spice

36. Danjuma A, Ibrahim Taiwo A, Omoniyi SO. Nonconventional Use of Substances among Youth in Nigeria: Viewpoints of Students in a Nigerian Tertiary Institution. *J Nurs Care.* 2015; **04:** 1–3.

37. Obot IS, Saxena S. Substance use among young people in urban environments. World Health Organization Geneva; 2005: 203–205 p.

38. Perron B, Howard M. Inhalants: Extent of use and complications. In MacMillan; 2008: p. 1–3.

39. Owoyomi VA. Substance abuse among street children: implication for social workers in Nigeria. *Sociol Int J.* 2018; **2:** 271–274.

40. The News. Codeine: Civil Defence commandant urges regulation of rubber solution sales [Internet]. The News [Online newspaper]. 2018 [cited 2020 May 3]. Available from: https://www.thenewsnigeria.com.ng/2018/05/06/codeine-civil-defence-commandant-urges-regulation-of-rubber-solution-sales/

41. Imo C, Arowora KA, Ezeonu CS, Yakubu OE, Nwokwu CD, Azubuike NC, *et al.* Effects of ethanolic extracts of leaf, seed and fruit of Datura metel L. on kidney function of male albino rats. *J Tradit Complement Med.* 2019; **9:** 271–277.

42. Adenugba AA, Okeshola FB. Substance Abuse among Females in Nigeria. *Int J Bus Soc Sci.* 2018: 9(5).

43. BBC. Nigeria bans cough syrup with codeine after addiction outcry [Internet]. BBC News [online newspaper]. 2018 [cited 2020 May 3]. Available from: https://www.bbc.com/news/world-africa-43961738

44. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav.* 1983; **24:** 385–396.