

Original Research Article
**SUBSTANCE ABUSE AMONG RESIDENTS OF
GWAGWALADA ABUJA, NIGERIA**

ABSTRACT

Aims: To determine the variety of psychoactive substances existing in Gwagwalada and the extent to which residents indulged in them.

Study design: A cross-sectional survey using questionnaires and audio interviews on eligible respondents.

Place and Duration of Study: Gwagwalada, Abuja, Federal Capital Territory in the month of April 2023.

Methodology:

A cross-sectional survey was carried out by administering pre-tested questionnaires and audio interviews on 320 respondents with substance use history from selected areas of the town using convenience sampling.

Results: 100 questionnaires were returned filled, and 91 valid responses consisting of 52 users and 39 non-users were obtained. 27 and 25 of valid responses were active and inactive users. 17 active users frequently, and 35 infrequently indulged in substance abuse. 20 substance users concurrently used multiple substances while 32 indulged in only one item per time. Most listed substances by responders and their routes of administration were alcohol (51.6%) oral, marijuana (24.2%) oral/inhalation, Crystal Methamphetamine (4.4%) inhalation/injection, Tranq (4.4%) injection, MDMA (4.4%) oral/injection, Panadol (3.3%) oral, Caffeine (3.3%) oral, Tramadol 2.2%) oral, and Datura spp. seed/leaf (2.2%) oral/smoking. Most used routes were oral (79.1%), inhalation/smoking (35.2%), and injection (28.2%). Alcohol was the substance most concurrently used with other listed substances, but mostly with marijuana and tramadol. Reasons given by respondents for their indulgence are: peer pressure (42%), recreational use (30%), as a therapy (22%), to feel good (4%), and nonsensical reasons (2%). Responders listed availability/accessibility, affordability, peer pressure, need to belong, as coping mechanism with the harsh economic realities as factors promoting substance abuse.

Conclusion: Our findings of Crystal Methamphetamine, Tranq, MDMA and Datura species among the variety of psychoactive substances and the fact that 29.7% of the sampled population actively indulged in them indicates a high prevalence of substance abuse Gwagwalada. This calls for urgent substance abuse mitigation strategies.

Keywords: Gwagwalada, Substance abuse, psychoactive, Datura species, Zakami

1. INTRODUCTION

Substance abuse – alternatively known as substance misuse or substance use disorder - is society, or both the use of prescription or over-the-counter drugs or alcohol in amount, by methods, or for motives that are not medically or legally permissible or that may constitute harm to the user, [1].

The incidence of substance/drug abuse is high and, on the increase, because the items of abuse are often already in common use among the populace; and their use only

becomes abuse/misuse/ use disorder when it is associated with user's incapacitation, personal/social irresponsibility, health complications, impairment/loss of self-control, increased personal and societal risks. Indeed, the global attention substance abuse is currently receiving is believed to stem from its high prevalence and the attendant negative health impact [2]. Reports as recently as year 2020 indicate two hundred and eighty-four (284) million people (5.6% of the world's population) within the 15 – 64 age group reportedly engaging in drug abuse does not indicate a high global prevalence of this public health menace alone but also a significant increase (26%) compared to similar indices a decade ago. Another 2022 study reported about 176 million (2.2% of 8 billion) worldwide engaged in combined substance-use disorders, with alcohol-use disorders prevalence almost doubling that of non-alcoholic drug-use (cannabis, opioid, amphetamine, cocaine) disorders [3, 4].

If recent drug-related data is to be reckoned with, Nigeria today is almost at the verge of substance abuse crisis – recording higher than most countries in alcohol and other drug abuse rates over the years. Reports indicate Nigeria rank among highest global alcohol, tramadol, marijuana, codeine- and dextromethorphan- containing cough syrups users/abusers and contributes nearly 3 million substance/drug use disorder cases to the global pool [5, 6].

The well-documented negative health and social impacts of substance abuse of which Nigeria is expected to have her own fair share in view of the highlighted Nigeria's concerning data include the development of chronic non-communicable diseases e.g., hypertension, liver cirrhosis, respiratory disorders, and psychiatric disorders (anxiety, depression, psychosis, addiction, and dependence); increased risks of injuries/premature deaths/accidents – including accidental substance overdose; increased risks of infection with HIV, hepatitis C and B. Other substance abuse complications include low socio-economic and educational attainment, and low social responsibility and increased risky sexual and social behaviours – including increased crime rate. Moreover, alcohol abusive use has been implicated in over 200 health disorders, causing over 3 million mortalities, and about 5% of the disability-adjusted life years disease/injury burden, globally [7, 8, 9].

The increasing incidence of substance/drug abuse in most parts of Nigeria indicates a need to identify the prevailing substances/drugs of abuse among the residents of the Federal Capital Territory (FCT), generally, and the Gwagwalada Area Council, particularly. This becomes necessary in view of a recent National Drug Use Survey which indicates a much higher-than-global-average prevalence of substance in the country and an estimated 180,000 FCT residents being dependent on drugs. Another covert FCT-wide substance survey implied, among other things, that illicit drugs are readily available and openly traded within the city, that drug use is very common amongst the youth who often indulge in substance/drug abuse on recreation ground, and that there is virtually no legal/security curtailment of drug-related activities. The survey further posited that there has been an upward use of over-the-counter medications and significant increase in the sale and distribution of illicit drugs – suggesting corridors to their sources are still active and open. Previous substance use/abuse surveys in Gwagwalada area council of the FCT indicate alcohol, tobacco, cannabis, and opiates are the most used/abused substances [10]. Based on the increasing incidence of substance/drug use in the nation and the FCT and on the reports of famed ingenuity of Nigerian substance users/peddlers in ceaselessly shunning out new mixes of psychoactive chemicals with improved potency, there is a need to, within regular time intervals, carry out on the spot assessment of the currently prevailing substances/drugs of abuse with a view to marshalling mitigating strategies against their continued use. This study, therefore, is to carry out a survey on variety of psychoactive substances being indulged in by Gwagwalada residents.

2. METHODOLOGY

This study took place in Gwagwalada, the headquarters of Gwagwalada area council – one of the six such councils of the FCT. A cross-sectional community-based survey was undertaken by administering pre-tested questionnaires and audio interviews on respondents from selected areas of the town on four different days in the month of April 2023. Convenience sampling was used to select areas and respondents based on pre-survey sampling conducted which indicated high reluctance enrolling into the study by a lot of potential participants due to personal security fears. The questionnaire which consisted of 21 both open-ended and close-ended questions had 2 sub sections: the demographic and substance use data. The questionnaire was distributed in person to over 320 persons. Only 100 respondents returned the questionnaires filled. Those respondents who were unable to fill the questionnaires but still willing to be part of the survey were captured through audio-only interviews. Inclusion into the study required potential participant to either be or has been a psychoactive substance user/peddler or has knowledge of at least a substance user/abuser. A respondent that has ever/never indulged in the use/abuse of substances/drugs at any material time is labelled a 'USER'/'NON-USER, respectively'. A respondent that is currently indulging/not indulging in substance use/abuse is labeled an 'ACTIVE USER'/'NON-ACTIVE USER'. A response is invalid if the biometrics are absent, or the respondent neither has knowledge about nor indulges in substance use/abuse. Responses were filtered based on this yardstick, and in all, 91 valid responses were obtained. Data collected were entered into Microsoft Excel 2016 and exported to SPSS version 24. Descriptive analysis was done to examine our findings.

3. RESULTS AND DISCUSSION

Biodata of responders (Table I): Eighty-two (82) of the total 91 respondents were males and only 9 were females. 76 (83.5%) were between ages 18 and 40 years, 11 (12.1%) were below 18 years, and 4 (4.4%) above 40 years. Eight (8) had no formal education, 17 had only primary school education, 33 had secondary school education, 12 were secondary school dropouts, 18 were undergraduates, 3 were graduates. Thirty-four (34) married and 50 were unmarried, and 7 divorced. Only 29 responders indicated they were gainfully employed or had stable income. Forty (40) respondents indicated they had more than 4 siblings. While 30 responders came from polygamous family background, only 11 responders indicated they were from broken families.

Survey outcomes: The total 91 valid responses consisted of 52 (57%) users and 39 (43%) non-users (Figure I). Only 2 of the 52 substance users were females. 86 had and 5 did not have knowledge of other substance users/abusers. Of the 52 responses listed as users, 27 (29.7%) and 25 (27.4%) of the total 91 responses were active and inactive users. Significantly there were active female substance users. 17 (18.7% of total 91) active users indulged regularly (> 20 times per month) and 35 (38% of total 91) did not regularly (<5 times per month) indulge in substance use/abuse. Twenty substance users 20 (22.0%) of the study population indulged in concurrent use of more than one substance while 32 (35.2%) indulged in only one item at a time.

The most frequently listed substances by responders in descending order and their routes of administration are alcohol 47 (51.6%) oral, marijuana 22 (24.2%) oral/inhalation, ice (crystal methamphetamine) 4 (4.4%) inhalation/injection, Tranq (fentanyl plus xylazine) 4 (4.4%) injection, Molly/Ecstasy(MDMA) 4 (4.4%) oral/injection, panadol 3 (3.3%) oral, caffeine 3 (3.3%) oral, tramadol 2 (2.2%) oral, and Datura spp. ('zakami') seed/leaf 2 (2.2%) oral/smoking. The most frequently employed routes (Fig. III) by substance users were oral (79.1%), injection (28.6%), inhalation/smoking/sniffing (35.2%). Alcohol was the substance most concurrently used with other listed substances, but mostly with marijuana and tramadol.

Reasons (Fig. IV) given by responders for their substance habits include: “I just felt like taking the psychoactive substance like every other user” (42%), recreational use (30%), as a therapy (22%), to feel good (4%), and nonsensical reasons (2%). Responders listed availability/accessibility 40 (44.00%), affordability 33 (36.3%), peer pressure/ need to belong 31 (34.1%), and harsh economic realities 28 (30.8%) as factors promoting substance abuse.

Table I: Respondents' demographics

Variables		(n=91)
Age	<18 years	11 (12.1%)
	20 – 40 years	76 (83.5%)
	>40 years	4 (4.4 %)
Gender	Male	82 (90.1%)
	Female	9 (9.9%)
Education	Nil formal	8 (8.8%)
	Primary	17 (18.7%)
	Secondary	33 (36.3%)
	(Dropouts)	12 (13.2%)
	Undergraduates	18 (19.8%)
Religion	Graduates	3 (3.3%)
	Christianity	62 (68.9%)
	Islam	23 (25.3%)
Parental background	others	6 (6.6%)
	Unbroken family	80 (87.9%)
	Broken family	11 (12.1%)
	Polygamous	30 (33.0%)
Marital status	Monogamous	61 (67.0%)
	Married	34 (37.4%)
	Never married	50 (54.9%)
No of Siblings	Separated	7 (7.7%)
	>4 Siblings	40 (44.0%)
Employment/ Income status	<4 siblings	51 (56.0%)
	Have stable employment or income	29 (31.9%)
	No stable employment or income	62 (68.1%)

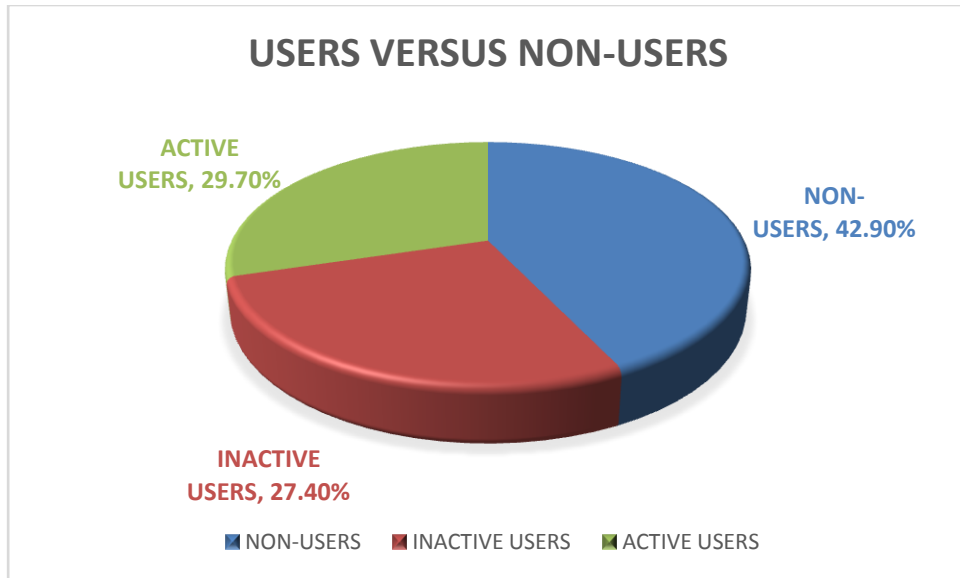


Figure I: Percent substance users and non-users.

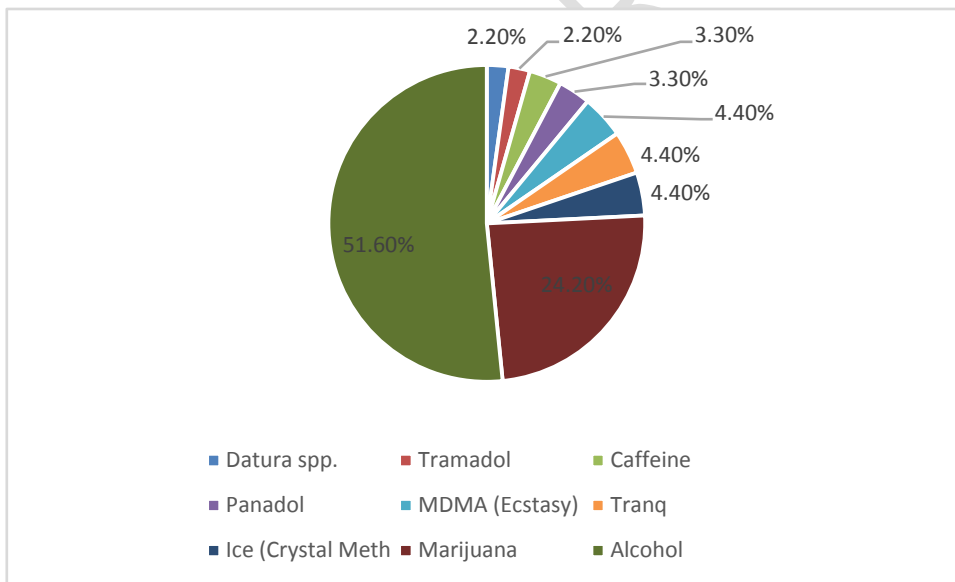


Figure II: Participants' substance use distribution

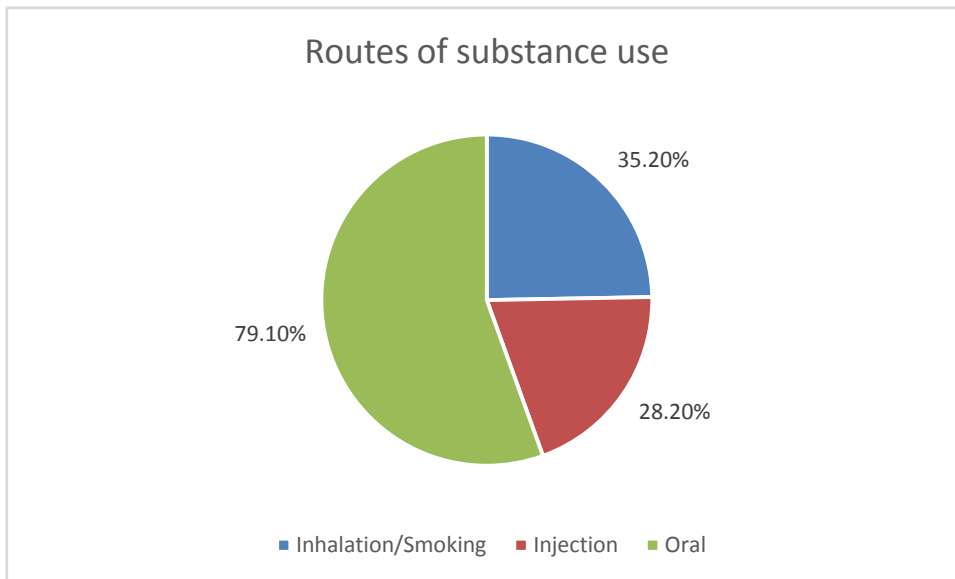


Figure III: Most listed routes of substance use
(Note: some substances are administered by multiple routes)

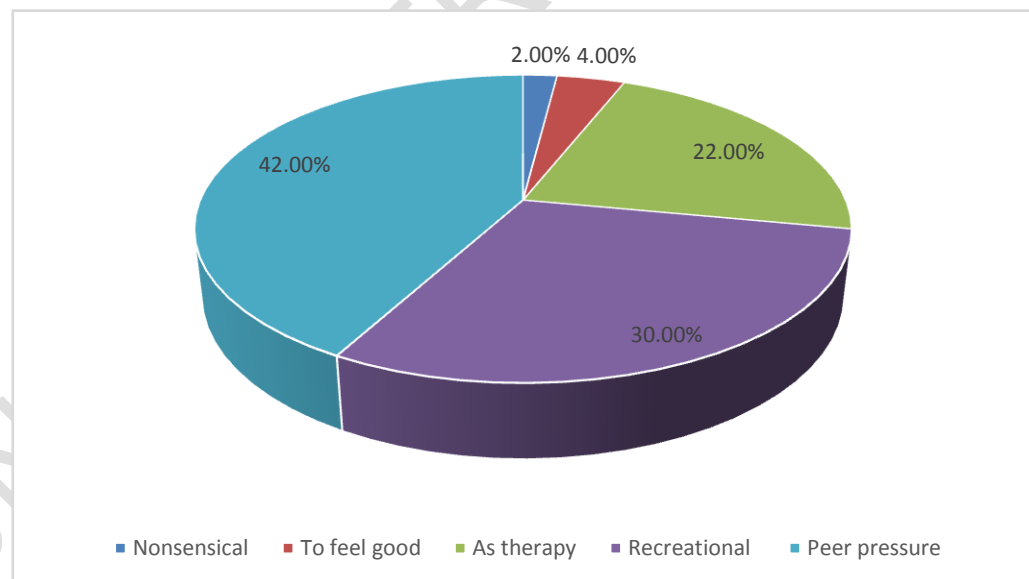


Figure IV: Reasons listed for substance abuse in Gwagwalada.

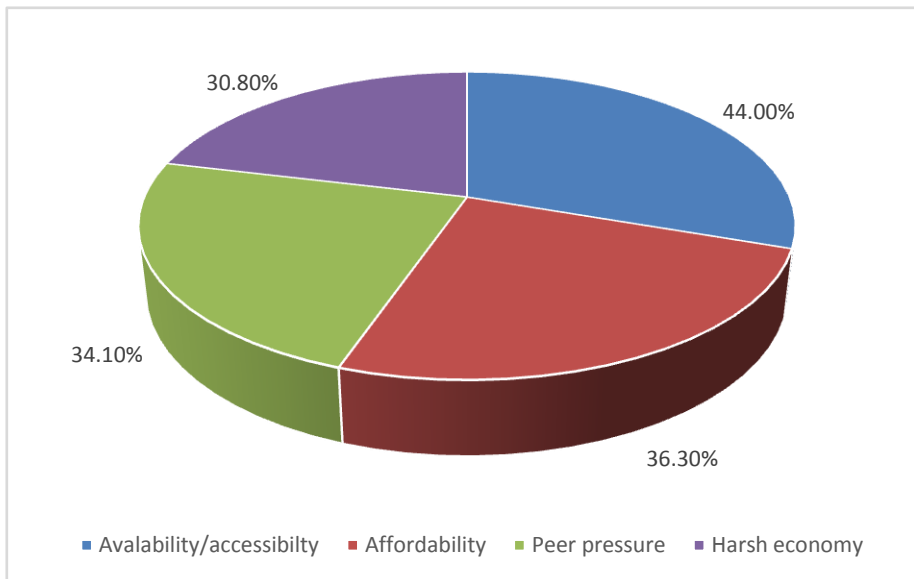


Figure V: Factors promoting substance abuse in Gwagwalada

Our findings indicate more than fifty percent of the respondents were indulging in substance use/abuse and nearly 19% already showing signs of dependence on the psychoactive substances judging by the frequency of their indulgence in the habit. The high prevalence of substance use among the participants in the study is in concordance with the findings of Ekop et al. (2019) [10] whereby the overall prevalence rate for lifetime substance use was 72.7% among secondary school students in Gwagwalada area council, with the National Drug National Drug Law Enforcement Agency 2021 report which indicates more than 40% of Nigerian youths were deeply involved in drug abuse, with those of Salubuyi et al. (2022) survey in which some substances like cannabis were found to have 80% prevalence among users in the Northern part of Nigeria [11], and with those of Jatau et al. (2021) which indicates up to 40% substance abuse prevalence among some Nigeria students [12]. Gwagwalada Township is made up largely of low-brow communities of the FCT with most of the inhabitants living within the lower rungs of socio-economic scale as revealed in the fact that only 29 (about 30%) of our survey participants have stable income or gainful employment. High level of substance use has been shown to have direct correlation with crime rates, globally [13]. The renewed wave of criminal activities in Gwagwalada and other Abuja fringe communities may be related to the high prevalence of substance abuse in these highly populated residential areas.

Factors listed as responsible for the high substance abuse prevalence in our survey include availability of these psychoactive substances and easy access to their selling points, affordability, peer pressure, need to belong, and the need to cope with the harsh economic realities. In this regard, our findings largely agree with those of [10] which implicated similar factors as promoters and sustainers of substance abuse in the schools included in their surveys.

A finding in our study that should raise concerns is the fact every 1 in 5 study participants are listed as frequent users of psychoactive substances – indulging in abuse activities more than 20 times within a 30-day period or as frequently as daily. These can be

safely viewed as substance-dependent and are at risk of addiction to these psychoactive compounds with the attendant deleterious effects. The potential psychiatric complications of substance abuse include anxiety, depression, insomnia, agitations, and other forms of schizo-affective disorders. The potential negative physical health complications include increased risks of HIV and hepatitis C and B infections, diabetes mellitus, hypertension, heart failures, and chemical hepatitis/hepatic failures. These are apart from the increased risks of getting involved in unprotected sex, physical bodily injuries, accidents, and untimely death [6-9]. The social negative impact comprises socio-economic disadvantages, job losses, poor social responsibility, increased societal violence/crimes and family disharmony [13].

The most abused psychoactive substances in our study include alcohol, marijuana, ice (crystal methamphetamine), Tranq (fentanyl plus xylazine), molly/xan, panadol, caffeine, tramadol, and 'zakami'/'zekomi' seed beverage. These findings are like previous substance abuse surveys in Gwagwalada in which alcohol, marijuana, tobacco and kolanut were reported as the most abused substances [10]. However, our findings are different these previous surveys in that as far as our literature search could reach, this is the first scientific report on the use/abuse of substances like ice (crystal methamphetamine), Tranq (fentanyl plus xylazine), molly/xan, panadol, caffeine, tramadol, and 'zakami'/'zekomi' seed extract in Gwagwalada township. This finding is significant when the serious negative health and social fallouts on the user and the society consequent on the use/abuse of such dangerous substances like ice (crystal methamphetamine), Tranq (fentanyl plus xylazine), molly/xan, and 'zakami'/'zekomi' seed/leaf extracts are considered.

Crystal methamphetamine, (street names: Meth, Crank, Chalk, Speed, Crystal Meth, Glass, Ice, Tina etc.), is one of the several forms of methamphetamine drug that usually comes as a crystalline chunky, highly water-soluble, odorless and bitter-tasting white powder that can be sniffed, smoked, injected or taken orally. Crystal Meth is regarded as a strong central nervous system stimulant with potent addictive properties – capable of producing addiction the very first time it is used. It is the sheer rapidity and strength of its addiction that make its abuse a very serious public health issue. Immediate and long term effects of Crystal Meth abuse may include physical hyperactivity, raised blood pressure, tachypnea, hyperpyrexia, dilated pupils, excessive sweating, anorexia, insomnia, fleeting euphoria, and irrational, irritable mannerisms. Others include engaging in repetitive meaningless tasks, jaw clenching, acute gastrointestinal upset, headaches, tremors, tachycardia, dry mouth and foul breath odour, acute fatigue, cardiomyopathy, anxiety, depression, psychosis, convulsions, and violent aggression [14, 15].

Hitherto, Crystal Meth use, trafficking and production have been reported in and thought to be restricted to the southern, particularly, the south-eastern parts of the country only, with dire consequences including violent crimes, health emergencies and even deaths. Factors viewed as promoting Crystal Meth use include comparatively greater sexual pleasure, performance and exploration, mental focus, physical stamina, weight losing effect and ameliorating effect in chronic pain and mood disorders [16, 17].

The listing of this drug in our survey is an indication that its use must have spread to the Federal Capital Territory and potentially, the northern parts of the country. This reality should send an alert signal to the stake holders on the scope of drug menace that will trigger relevant action to prevent its further spread.

Tranq (shorthand for tranquility; street other names: "tranq dope", "sleep-cut", "Philly dope" and "zombie drug") is used as a mixture of xylazine (a veterinary sedative, analgesic, anaesthetic and tranquilizer) and fentanyl (a sedative opioid analgesic). Until reports of its

human abusive use emanated few years ago in parts of the United States xylazine never had, and was never intended for, any human use [18].

Concerns being raised over Tranq abuse are due to its rapid spread, the bizarre skin lesions and the alarming rates of overdose fatalities seen with its use. While the skin necrosis is linked to xylazine, the overdose deaths are believed to result from the combined central nervous system depressant effect of both drugs since they are potentially sedative. Moreover, xylazine is not an opioid compound, and so its sedative effect is not ameliorated by naloxone. Some of the severe features of Tranq abuse include ataxia, hypoventilation, blurred vision, disorientation, bradycardia, coma, hypotension, dizziness, hyperglycemia, miosis, and death [19, 20].

Reports on Tranq use/abuse in Nigeria are few and our finding of its use in Gwagwalada Abuja, may be among the first of such reports. This finding may be of great health and social concerns to our societies considering the short period within which the tranq abuse crisis started in the United States and reports of its abuse in Nigeria. This may imply its possible trafficking to, or de novo production in Nigeria. And the severity of health and social risks – including overdose fatality associated with its abuse makes it imperative on relevant stakeholders to take necessary mitigating steps against Tranq trafficking, production and use in the country.

Molly, also known as ecstasy or MDMA: 3,4-methylenedioxy-metamphetamine, is a synthetic psychoactive drug that possesses amphetamine stimulant and mescaline-like hallucinogenic effects – producing feelings of heightened energy, euphoria, emotional warmth and empathy toward others, peacefulness, and perturbations in sensory and time perception [21]. It is the increased energy, euphoria, emotional warmth and empathogenic effects following its oral or inhalational (sniffing) use that made the drug popular among party goers and are reasons why it is being used by nearly 20 million Americans [22] till date. Some of the negative effects associated with its use include blurred vision, anorexia, raised blood pressure, jaw clenching, sweatiness, sleeplessness, dehydration, body rash, chill, and nausea, muscle tension and hyperpyrexia. And its potential complications comprise depression, liver, kidney, and cardiac failures, and death [23, 24]. Factors that make use of Molly dangerous to the users include high rates of adulteration with other illicit drugs – particularly when accidentally combined with methamphetamine – the additive stimulant and other deleterious effects from such mixtures could result in physical and neuro-psychological complications such as hyperpyrexia, acute agitation, acute hypertension, tachycardia, panic attacks, heart attacks, convulsions, neurotoxicity, and death [25].

Apart from a few Nigerian media reports listing Molly/Ecstasy/MDMA as one of the most abused psychoactive drugs, scientific reports on its abuse in Nigeria is scanty. Nonetheless, a 2021 report by Osayomi et al. on the drug use in Nigeria in 2018 indicates over 300, 000 Nigerians were indulging in Ecstasy use [26]. The listing of the same drug in our study indicates the psychoactive substance is in use in the FCT and by extension, in the country. This reality calls for more anti-drug enforcement.

Decoctions obtained from the seeds of *Datura metel* plant were also listed by some of the substance abusers in this survey. *Datura metel* is commonly known as Thorn apple and as Baba jibji or Zakami in Sokoto and other Hausa-, Apikan in Yoruba-, and Myaramuo in Igbo-speaking parts Nigeria. It is an annual/perennial shrubby short-lived plant with attractive trumpet-like blooms often seen growing either on dump sites as weed, or in households/gardens as ornamental plant [27, 28]. Even though *Datura* species are reported for some ethno-medicinal values in the treatment of depression, Parkinson's symptoms, insomnia, infections etc., extracts from them are equally viewed as toxic due to the presence

of highly poisonous tropane alkaloids – hyosinamine, tigloidin, scopolamine, apoatropine, aposcopolamine, etc., - in most parts of the plant – particularly the leaf and the seed. The abuse appeal of the plant is believed to be related to its reported narcotic, hallucinogenic, sedative and mood altering effects. Both therapeutic and toxic effects are also thought to be closely linked to its potent anticholinergic effects. Physical and behavioural effects of ingesting or smoking *Datura metel* seeds/leaves may include headaches, skin flushing, mydriasis, blurred vision, mouth dryness, hyperpyrexia, agitations, laboured breathing, and amnesia. Other likely effects, especially at high doses, include hallucinations, disorientation, ataxia, seizures, psychosis, coma [28, 29],

The concerns over *Datura* spp. use and abuse are largely on the closeness of their recreational/therapeutic and lethal doses – with as few as 15 seeds or as little as 15 g of leaf extract resulting in overdose poisoning. Records of fatalities from accidental and intentional/recreational overdoses abound – including the recent media reports of seven deaths at a Kano, Nigeria wedding after partaking in the drinking of a tea suspected to have *Zakami* (*Datura metel*) and perhaps other substances as ingredients [28, 29, 30]. The risks are increased in those that concurrently indulge in multiple substances – and on this note our study outcome indicate a significant 22.0% of substance users in Gwagwalada might be at such risk of accidental use *Datura* extracts and other psychoactive substances. Our investigation also revealed Gwagwalada residents were far more aware of the toxic properties, the abuse potential, and the possible psychoneurobehavioural complications associated with *Datura* species indulgence than have been reported. Our finding may be the first study that will specifically highlight it as a substance of abuse. Putting all the highlights about *Datura* species in focus will alert relevant stakeholders into proactive mitigating actions that will safeguard the citizens from the latent physical and psychological hazards that could come from their use. – including being used as starting materials for creating new sets of psychoactive substances in our communities by the ceaselessly creative ingenuity of Nigerian drug users and peddlers.

Efforts to prevent, reduce, and possibly eliminate substance abuse are multi-tier and multi-dimensional – involving all stakeholders from the relevant International monitoring/regulatory authorities, National/Sub-National authorities/drug-regulatory bodies, religious/educational/health stakeholders, communities leaders, family heads, and the individual members of the society. In this regard, the coordinating role of the World Health Organisation and the United Nations' Office on Drugs and Crime in marshalling international strategies against drug trafficking and abuse should be strengthened and improved in scope and reach. The National authorities should create conducive socio-economic environment that will empower the teeming populace and cushion the harsh economic realities. Most youths take to drugs as an escapist venture from societal hardship. Governments should also demonstrate requisite political support to and interest in the Drug regulatory agencies - both National Drug Law Enforcement Agency (NDLEA) in charge of hard drugs and the National Agency for Foods and Drug Administration Commission (NAFDAC) in charge of prescription and over-the-counter drugs should be well funded and oversighted, with up-to-date training, equipment, and good welfare for staff. NAFDAC in collaboration with the Pharmacy council of Nigeria should embark on greater supervisory/monitoring activities over commercial pharmacies, chemists, and patent medicine outlets regarding sale of non-prescription medicines that are increasingly becoming items of abuse.

Health awareness and substance/drug abuse educational campaigns should be activated and sustained in most if not all institutions – particularly health, educational, and even religious facilities – on the negative health and social impact of substance abuse. On this note, drug abuse-related enlightenment campaigns to school age youths in Gwagwalada areas of the FCT, and doing so in the languages they best understand, have been previously

reported to be effective in reducing incidence of drug/substance abuse [10]. One of the themes of such health educational campaigns should be to empower members of the public with the necessary skills to recognize and the confidence/self-assertion to guard against drug-related peer pressure from drug users and peddlers. This strategy has also been shown to result in reduced incidence of substance abuse among some Nigerian adolescents [31].

Finally, when the findings of this study are viewed together with previous studies in Gwagwalada and other area councils of the FCT, the following recommendations proffered by a concerned non-governmental body should be urgently implemented by the FCT administration in concert with other stakeholders to stem the tides of high prevalence of substance abuse in these areas:

- i. The central authorities should set up an all-encompassing task force that will enlist cooperative actions from stakeholders against the menace of drug abuse and trafficking and/or prosecute all drug offenders and financiers.
- ii. Increased participation in health education by government advocacy agencies e.g., the National Orientation Agency using the various youth societies/clubs in all institutions of learning.
- iii. There must be enforcement actions by FCT authorities aimed at blocking all FCT-bound drugs transit routes.
- iv. Existing rehabilitation centers must be activated and made to function, and new ones to be built to handle the increasing cases of drug abuse and addiction.
- v. The FCT administration must back-up with sufficient budgetary allocations all substance abuse preventive measures – including blocking all drug store houses and distribution networks.

V. CONCLUSION

Our findings indicate there is a high prevalence of substance abuse amongst Gwagwalada residents and all stakeholders should promptly embark on counter moves against it.

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