


# Insights into the Experiences of Persons with Substance Use Disorders During COVID-19 Lockdown in Lagos, Nigeria: A Qualitative Investigation

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## ABSTRACT

**OBJECTIVE:** This study investigated the impact of COVID-19 lockdown on the consumption of illicit drugs among Persons with Substance Use Disorders in Lagos, Nigeria.

**METHODS:** Using convenience sampling, 25 participants, who use different substances consented to participate in the study. Data was collected using in-depth interview guide and thematically analysed using NVivo 12 Plus.

**FINDINGS:** The findings show that activities of celebrities on social media were motivation for use. There was an increase in the consumption of illicit drugs during the COVID-19 lockdown period among the participants. Participants were able to purchase illicit drugs from street vendors despite the lockdown restriction, while others bought from online retailers – the social media platforms. Participants reported an increase in the price of substances and a reduction in their quantity and quality during the lockdown which may likely account for the increase in consumption reported.

**CONCLUSION:** The lockdown, though used in curtailing the spread of COVID-19, had an unintended increase in the consumption of illicit drugs suggesting that drug markets can be resilient and adaptive during global crises.

**KEYWORDS:** Access, illicit drug, social media platform, street vendors, consumption

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## Introduction

The COVID-19 pandemic has been a pivotal event in human history, radically transforming societies and influencing global development. As of May 2023, the World Health Organization reported that COVID-19 had caused 6 900 000 deaths from a total of 766 million confirmed cases, with over 12 861 382 558 vaccine doses administered globally.<sup>1</sup> The pandemic disrupted economies, instigated widespread panic, affected family structures and pushed many into poverty, while also influencing substance use.<sup>2</sup> The pandemic's impact on substance use has been debated. Some experts argue that COVID-19 decreased the selling and consumption of illicit substances, while others believe that lockdowns, particularly in countries with inadequate regulation, increased access to drugs among people.<sup>2,3</sup> Studies indicate that in countries with strict lockdowns, substance use saw a decline. For example, substance use treatment admissions in South Africa decreased post-lockdowns.<sup>2</sup> However, a decline in presentations and treatment admissions does not necessarily mean less illicit drug use, as some services

closed during COVID-19. Conversely, in Georgia, the lockdowns led to a shift in substance distribution to digital platforms like Telegram, facilitating continued access to illicit substances.<sup>3</sup> Some research indicates that the economic and emotional strain of the pandemic increased alcohol consumption and related substance use.<sup>4</sup> Others suggest that reduced substance availability due to lockdowns curtailed overall use.<sup>5</sup> Changes in consumption patterns, like using or combining different substances based on availability, could increase harm risk even if overall numbers remain unchanged.<sup>6</sup>

Substance use among Nigerians is a significant social and public health issue. In Nigeria, commonly misused substances include illicit drugs such as cannabis, as well as legal substances like alcohol and cigarettes.<sup>7</sup> Drug misuse typically involves non-medical use of pharmaceuticals, leading to severe health impacts.<sup>8,9</sup> An estimated 200 million people globally use illicit drugs annually.<sup>10</sup> Nearly 15 million people in Nigeria are substance users while the annual prevalence of illicit drug use among adults is 14.4%, significantly higher than the global





prevalence of 5.5%.<sup>11,12</sup> This percentage encompasses those who have engaged in drug use frequently, rather than those who have only tried drugs once or used them infrequently. In response to the crisis, Nigeria established the National Drug Law Enforcement Agency (NDLEA) in 1990 to combat drug trafficking and use. Persistent substance misuse can lead to health, and social issues.<sup>13</sup> The misuse of psychoactive substances such as opioids is widespread, with prescription drugs like tramadol and codeine-containing cough syrups being prevalent.<sup>14</sup> Many Nigerians rely on various drugs for social and educational activities.<sup>15</sup> A 2018 survey indicated that one in seven Nigerians aged 15 to 64 had used illicit substances (other than tobacco and alcohol) in the past year, with significant numbers suffering from drug-related disorders.<sup>16</sup>

Social media, such as Twitter and Instagram, are critical resources for identifying trends in prescription drug misuse.<sup>17</sup> For instance, hashtags like #opioidcrisis and #painkillers can reveal patterns of substance use and the types of substances that are being misused.<sup>18,19</sup> Studies have shown that exposure to substance use on social media can predict future substance use behaviours.<sup>20,21</sup> Pro-smoking content on social media, for example, has been linked to increased smoking behaviours.<sup>22</sup> The COVID-19 lockdowns imposed strict restrictions on movement, complicating cross-border drug trafficking and limiting drug distribution.<sup>23</sup> These measures varied from prohibiting border crossings to full lockdowns, which severely impacted the drug supply chain. Substance use has dire consequences, including increased hospitalizations and a loss of self-control.<sup>24</sup> The Global Burden of Disease Project predicts that substance use will remain one of the fastest-growing causes of mortality through 2030.<sup>25</sup> Cannabis use, in particular, is linked to mental health issues such as suicidality, especially during economic recessions.<sup>26</sup>

Giommoni<sup>27</sup> emphasises the rapid and unpredictable changes in drug market dynamics during the pandemic, cautioning against drawing conclusions from early, short-term data. He stresses the need for comprehensive studies to understand the pandemic's true impact on drug supply, demand and users. Similarly, James and Maguire<sup>28</sup> found that lockdowns led to reduced drug availability among homeless populations, making it harder to find dealers and further complicating access due to their diminished ability to generate income. These insights emphasize the need for a thorough analysis of COVID-19's impact on drug markets and users, underscoring the importance of a nuanced approach to understanding how the pandemic has shaped substance use and drug market dynamics.

This study focuses on understanding how the COVID-19 pandemic and subsequent lockdowns affected substance use in Lagos, Nigeria, particularly in the context of psychoactive substances. It aims to explore changes in substance acquisition and consumption patterns during the pandemic, considering the broader implications of government measures. Existing

research has primarily focused on the physiological effects and spread of the virus, neglecting the broader social implications of lockdown measures. There is limited information on how mobility restrictions influenced substance acquisition methods during the pandemic, and insufficient understanding of the role social media played in either facilitating or mitigating substance use in low-income countries. Furthermore, research on the long-term effects of pandemic-related changes in substance use patterns is inadequate, especially in the Nigerian context where cultural, economic and regulatory factors uniquely affect behaviour. This study also seeks to explore the connections between economic and emotional strains induced by the pandemic and alterations in substance use behaviours. By providing a context-specific analysis, the research aims to fill these gaps, contributing valuable insights that can inform public health policies and interventions to support at-risk groups during and after global crises like COVID-19.

### *Ecological model of substance abuse and internet use disorder (IUD)*

This study adopts the Ecological Model of Substance Abuse and the Internet Use Disorder (IUD) theories to examine the impact of COVID-19 lockdowns on Persons with Substance Use Disorders in Lagos, Nigeria. The Ecological Model of Substance Abuse is a framework that examines substance use through multiple levels of influence, including individual, interpersonal, community, virtual and societal factors. This model emphasizes the interaction between personal behaviour and the broader social environment, highlighting how various contextual elements contribute to substance use.<sup>29</sup> In environments with high-risk factors, the likelihood of substance use increases, while environments with fewer risk factors see lower rates of substance use.<sup>29</sup>

During the COVID-19 lockdowns, the environment created both challenges and opportunities for substance use. Stricter enforcement curbed substance use in some countries, but various interacting socioeconomic factors posed challenges in all countries, regardless of enforcement levels. However, in Nigeria, the study contends that the lack of stringent drug control and the porous environment allowed the lockdown to inadvertently facilitate substance sales and use. The Ecological Model is thus relevant for understanding the dynamics of substance use during the pandemic.

The Internet Use Disorder (IUD) model, on the other hand, refers to the growing body of research on problematic internet use, including behaviours that resemble addiction. This model explores how excessive or compulsive use of the internet can lead to negative consequences, including its potential role in facilitating substance use through online platforms. The IUD model explains that during the lockdown, increased internet usage provided avenues for people to explore and purchase illicit substances online. The lockdown's restriction on face-to-face drug



transactions in some regions, like Georgia, led to a rise in the use of digital platforms such as Telegram for drug sales.<sup>3</sup> In Nigeria, where drug regulation is weak, the internet became a tool for people to access illicit drugs, with traffickers exploiting the situation to advance their activities, often using upscale locations as fronts for their operations.<sup>30</sup> Social media and fintech apps enabled drug transactions, with platforms like Telegram seeing increased trade during lockdowns.<sup>31,32</sup> While the supply of drugs like cocaine dropped, alcohol and cannabis use rose. Social media discussions showed changing drug behaviours, and the rise in use among vulnerable populations emphasized the need for virtual treatment options.<sup>33,34</sup> Though these platforms facilitated drug sales, they also offer intervention opportunities.<sup>35</sup>

By integrating these models, the study aims to provide a comprehensive understanding of how the COVID-19 pandemic influenced substance use behaviours among Nigerians, highlighting the interplay between environmental factors and digital platforms in facilitating substance use.

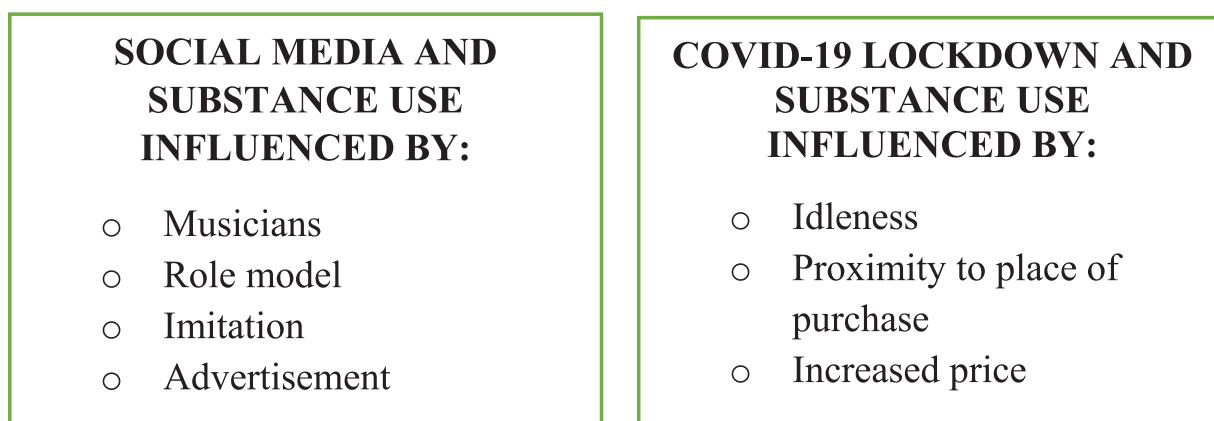
### Methods

The study adopted a qualitative research approach and was carried out among individuals with substance use disorders in Abule-Ijesha, Yaba, Lagos. Purposeful sampling technique, including snowballing, was employed because the participants must meet the set criterion (must be persons with substance use disorder). The participants were selected from different streets located in Abule-Ijesha to ensure that the sample was sufficiently broad. Participants were included in the study if they were actively using drugs, resided in the study location and provided verbal consent to be interviewed, while individuals who were not persons with substance use disorder or did not consent to participate were excluded. The study population consisted of 25 participants who gave their consent to be interviewed. Participants were recruited until no new relevant information emerged, signalling data saturation. Once it was determined that additional interviews did not provide new insights, data saturation was discussed and confirmed. The

interviews involved 21 males and four females all of whom were persons with substance use disorder. Interviews with participants took place in various settings, including some conducted in locations (joints/spots) where the individuals were using drugs and others conducted in their residential houses. Some of the participants offered to call their friends, who were also people who used substances, so they could be interviewed.

An interview guide was used to obtain information from the participants. To ensure that the questions were clear, relevant and capable of eliciting the desired information while minimizing the risk of issues during the main study, the interview guide was pilot-tested with three individuals, purposively selected, who met the inclusion criteria but were not included in the main study. The pilot test closely mirrored the actual interview process, including the setting and approach. Following the pilot, the process was evaluated for question clarity, relevance, flow and timing. The interview guide was then revised based on the feedback gathered. The questions asked can be found in Appendix A. Each interview lasted between 20 and 30 minutes on average. The interviews were conducted using tape recorder in three languages: Yoruba, Pidgin English and English Language. All interviews were transcribed verbatim and where participants spoke Yoruba and Pidgin they were translated into English language by a professional translator. The interview data were analysed using NVivo 12 Plus. Themes were identified through inductive coding and grouped for interpretation. Two major themes were identified from the data: social media, celebrities and substance use; and COVID-19 lockdown, access to, and use of illicit drugs, as illustrated in Figure 1. Direct quotes from the participants were presented in the data analysis as similar studies have done.<sup>36</sup>

All the participants were informed about the rationale for the study and participation was voluntary. An ethical approval was also obtained from the Lagos University Teaching Hospital Health Research Ethics Committee with approval number: ADM/DSCST/HREC/APP/45548. Participation in the study was entirely voluntary. To protect participants' confidentiality and anonymity, all personal identifiers were removed



**Figure 1.** Overview of the key themes arising from the analysis of the interview of participants.



**Table 1.** Socio-demographic characteristics of participants.

PARTICIPANTS (N = 25)	
CHARACTERISTICS	FREQUENCY (%)
<b>Age</b>	
19-24	9 (36)
25-30	13 (52)
31-33	3 (12)
<b>Sex</b>	
Female	4 (16)
Male	21 (84)
<b>Marital status</b>	
Single	25 (100)
<b>Education</b>	
Secondary	8 (32)
Tertiary	10 (40)
Undergraduate	7 (28)
<b>Occupation</b>	
Employed (formally and self-employed)	16 (64)
Student	6 (24)
Unemployed	3 (12)
<b>Use type (illicit drug)</b>	
Single use (marijuana)	5 (20)
Multiple use (those who use more than one)	20 (80)

from the data, and unique codes were assigned to each participant to prevent easy association. Additionally, real nicknames/street names used to describe individuals in the context of substance use were replaced with the pseudonyms *Carlos* and *Jayden* to safeguard their identities. Interviews were conducted in private settings to prevent stigmatization, and all data were securely stored with restricted access, ensuring that participants' identities and information were safeguarded throughout the research process.

The results presented in Tables 1 and 2 provide valuable insights into the socio-demographic characteristics of the participants, based on data collected directly through a field survey conducted specifically for this study, as indicated by the source labelled 'fieldwork 2021'. The majority of participants fell within the age range of 25 to 30 years, indicating a predominance of young adults in the study location. Additionally, males constituted a significantly higher proportion of the sample compared to females. All participants were reported as single, suggesting that marital status may not strongly influence engagement in substance use among people in the study location. Regarding educational background,

**Table 2.** Type of illicit drug.

S. NO.	COMMON/STREET NAME	FREQUENCY	%
1	Arizona/Igbo (marijuana or cannabis)	10	40
2	Rophynol (flunitrazepam)	5	20
3	Molly (MDMA – ecstasy)	5	20
4	Loud (high-potency marijuana)	4	16
5	Coco (cocaine)	4	16
6	Ice (methamphetamine)	4	16
7	Skunk (SK) (high-potency cannabis)	3	12
8	Swinon/trams (tramadol)	2	8
9	Codeine	1	4
10	Tobacco	1	4
11	Colorado (synthetic cannabinoid)	1	4
12	542 (rohypnol)	1	4
13	Alcohol – ethanol (alcohol)	1	4
14	Happy pills (MDMA – ecstasy)	1	4

Source: Fieldwork 2021.

a substantial proportion had attained tertiary education, while others had completed secondary education or were currently undergraduates, indicating a diverse educational profile among participants. Occupationally, the majority were employed, either formally or self-employed, with smaller proportions being students or unemployed.

Marijuana was the most reported illicit drug, although a significant majority reported multiple substance use, highlighting polydrug use tendencies within the sample. Codeine, Tobacco, Colorado, 542 and Happy Pills, each with 1 mention (4.00%) were the least mentioned drugs. The findings show that substance use occurs across a range of demographics.

### *Social media, celebrities and substance use*

During the COVID-19 lockdown in Nigeria, social media consumption likely increased, driven by the need to stay informed about the pandemic. As part of the strategies for combating the virus, social media became a crucial tool for connection, coping with anxiety, boredom and excessive leisure time. These radical changes in daily routines may have led to a notable rise in the average time spent on social media platforms, which, combined with the influence of celebrities, likely contributed to shifts in substance use patterns during the lockdown. Participants in this study revealed that drugs and drug-related content are shown on social media. Pictures and videos about drugs are portrayed in a positive light by celebrities and social media users. People who follow these celebrities on social



media watch and keep up with their lifestyle and follow in their footsteps. These were illustrated in the statements of the participants.

One of the participants, a 29-year-old male who uses Facebook and Instagram said

Yes, a lot of people use drugs on social media. It's a normal thing because it makes them to be smart. . . . sometimes if you want to sleep, once you start taking drugs like this, it'll make you feel like you should keep taking it. You'll be risking different kinds of drugs, maybe you started with weed (Marijuana) now, gradually, gradually you will start to take Arizona (Cannabis). Arizona is more powerful than weed (Marijuana) while colo (Synthetic Cannabinoid) is more powerful than Arizona

When probed further, he said:

Naira Marley (a Nigerian Musician/celebrity) posts where he smokes and all those stuffs and if you are watching Olamide (another Nigerian Musician/celebrity) they normally post where they are smoking, you get? Tobacco, all that stuff.

Another participant, a 25-year-old male who smokes marijuana and Ice reported that:

They (celebrities) take pictures and post videos of themselves smoking or holding a blunt

Similarly, another participant cited an example of a celebrity who posts marijuana:

Yes, mostly Burna Boy (a Nigerian Musician/celebrity), you would hardly see a picture without weed (Marijuana) in his hands.

In similar vein, another participant gave an example of a celebrity who posts marijuana:

Everything goes together, artists must smoke weed, all of them, even the ladies, Tiwa Savage is friendly, she even posted her weed jar on her Instagram story this last week. So yes, there's weed on social media, I see weed there (Male, 26 years old).

A participant who believes he must follow the footsteps of the artists he sees as role models said:

As an upcoming artist, you have to check out the way of those that are already made, you have to follow their steps, big artists are my role models, most especially Wizkid, Davido, Burna Boy, Zlatan Ibile, If Weed (Marijuana) gives them inspiration, then it will also give me too (Male, 26 years old).

Analogously, a 23-year-old participant said:

Look, we all have people we look up to, like our role model, there is no artist that won't use drugs, you cannot sing without using drugs, do you think that those artists can just face crowd if they are not high before they enter studio they will get high before they perform they will also get high, so how can I be seeing them get high and me too I won't get high, higher level sure.

### *COVID-19 lockdown and access to and use of illicit drugs*

During the COVID-19 lockdown in Lagos, some participants were able to access illicit drugs, and claimed to have taken a lot of the substances and how they were able to access these substances as stated below.

I used drugs a lot during COVID, especially coco (coke), because I had nothing else to do. I was free and just wanted to enjoy myself. My friends and I would get high and gamble all night. Actually, I still have my guy's number—what's his name again? *Jayden* (a pseudonym). He would come by and give us drugs every day. I used more substance during the pandemic because I was idle and spent my time smoking with my friends. We just had fun, drank, and enjoyed ourselves. Honestly, I enjoyed the pandemic—I even wish another one would happen (Male, 26 years old).

Similarly, another participant explained:

Oh, COVID-19 didn't affect my drug use because it is a normal stuff like that instead I will be at home taking my drugs, if I want to eat anything I will take drugs first before eating, I will take drugs before having sex too. Yes, now because *Carlos* (the pseudonymous street name of the participant's drug supplier) is always there even if there is war, *Carlos* will be there, if *Carlos* is not there you will see so many area boys there. Ok, I use more drugs during the lockdown, because I'm always home doing nothing and I have my money to buy different kinds of drugs I want, I'm a very rich guy (Male, 29 years old).

A participant who was also able to access drugs during the lockdown, when asked if the lockdown affected accessibility to illicit drugs, explained how her drug vendor delivered drugs to her doorstep thus:

No, it did not, because I was still able to access it. Yeah, I have a dealer, he stays on my street so when I called him, he brought it to me, brings it to my house, nothing changed (frequency of drug use), still the same. I smoke everyday (Female, 23 years old).

Another participant also explained why his drug use increased and how he was able to access drugs during the lockdown:

That was when my drug use increased because I had a lot of time, I was home and bored and my blunt kept my company I had to get a new dealer around, someone gave me his contact, so it was his own (dealer) I was using during pandemic it was higher because there was time (Male, 25 years old).

Similarly, another participant said:

It (Covid 19 lockdown) didn't affect my drug use because I took drugs even during the pandemic. It (access to drugs) is easy that is why I have a dealer, someone that import and export it to me. Still the same (frequency of drug use), everyday morning till night nothing changed (Male, 25 years old).

Similarly, a participant said:



It (Covid 19 lockdown) did not affect anything. I got from dealers around and one of my flat mates already bought in bulk, so sometimes we shared. Nothing changed, I still use drugs every day (Male, 32 years old).

Another participant said that he was able to get drugs the same way he did before the lockdown:

Normal way I get it before, my dealer came through (Male, 23 years old).

A participant claimed that he used drugs to protect himself from COVID-19:

It (COVID-19 lockdown) didn't affect anything, I protected myself. Social? No, COVID was there, but for me, I protected myself with weed. My dealer was loaded, very loaded, and since my street is coded (secretive), we were moving around, in fact there are many dealers around, I don't know how they got their supply, but weed was there. You know weed is like medicine, all over the world they know it, even in America they give sick people, if you smoke weed how will COVID catch you (affect you), so I was at home, with nothing to do, COVID was outside, won't I protect myself? (Male, 26 years old).

One of the participants narrated how his drug use increased during the lockdown and how he was able to use the Covid 19 passage permit to drive to his preferred destination to purchase drugs:

It (Covid 19 lockdown) really affected, it's one of my problems now. I took a lot because there's nowhere to go, just sitting alone doing nothing. Sometimes I go to Mushin (a notorious area for drugs in Lagos), I drove to Mushin, there was a specific time, once you are out with your permit, I had a permit, I got it from an official. It's easy. That pandemic was fucked up, I used a lot, now I have reduced it (Male, 24 years old).

### *Price increased and reduced quantity*

However, a subset of participants noted a price surge during the lockdown period. These individuals expressed concerns regarding the heightened costs, with some also reporting a decrease in the quantity of the substance available.

At first it was easy, later dealers started to increase their prices, I think they were getting scared of shortage, so price increased (Male, 24 years old).

Similarly, another participant said:

I have dealers in different locations, during the lockdown I was getting from the dealer closest to me, I couldn't get "LOUD" (High-Potency Marijuana), but Mary-j (marijuana) was available. Oh ok, it got to a point, the price changed, they added to the price, those of them that didn't add to the price reduced (the quality of) what they were selling to us, it was painful (Male, 28 years old).

Another participant corroborated this by saying:

Some of these dealers were using us to make money, the normal thing they were selling for 100 naira, some of them started to say 200 naira for one, normal weed we always buy for 100 naira (Male, 26 years old).

Similarly, another participant also talked about the increase in price:

It was crazy, they knew we could not work because of the lockdown but they still decided to increase their prices

A participant stated that the quality of the marijuana sold during the lockdown reduced when compared to the marijuana sold before the lockdown:

I think some of them mixed what they were selling because the weed was not really as effective as before the lockdown, they also increased the price at a point (Female, 25 years old).

## **Discussion**

This study reveals some important insights into the interplay between social media influence, celebrity behaviour, and substance use among people, particularly in the context of emergency such as the COVID-19 lockdown. Through the combination of the Ecological Model of Substance Abuse and the Internet Use Disorder (IUD) as theoretical frameworks, the study highlights how digital environment shapes and perpetuates substance use behaviours among people in the study location.

The study participants reported that social media platforms like Facebook, Instagram, Snapchat and Twitter, along with content posted by celebrities, played a key role in normalizing and glamorizing drug use.<sup>37-40</sup> Top Nigerian celebrities were frequently mentioned by participants for showcasing drug use, particularly marijuana, in a positive light. This behaviour appears to serve as a powerful model for young people, who often regard celebrities as role models. Consistent with the Ecological Model adopted by the study, the digital environment appears to create a cultural norm where drug use is perceived as an acceptable or even desirable behaviour, thereby increasing the risk of substance use among followers.<sup>41</sup>

This finding aligns with Frederick and Danica's<sup>42</sup> study where they found that social media can affect drug markets in two ways. First, by providing opportunities for buying and selling of drugs. Second, by influencing the demand for drugs in general through drug-related experience sharing, drug-themed photo and video sharing, and drug-focused opinion forming. Constant exposure to drug-related content on social media lowers the perceived risks of substance use and increases its desirability and acceptability. This can create a milieu where people, influenced by the behaviour of their idols, are more likely to experiment with drugs. The study's findings are consistent with previous research such as Motyka and Al-Imam,<sup>43</sup> indicating that the portrayal of drug use by influential figures can lead to imitation and increased substance use among their followers.<sup>44</sup>



The COVID-19 lockdown was shown to further exacerbated these dynamics as participants reported increase in drug use during the lockdown, facilitated by easy access to drugs through local dealers or delivery services. The lockdown, which led to complete social isolation and increased idle time, provided a conducive environment for substance use in the study location. This appears to suggest that participants may have engaged in riskier substance use behaviours during the pandemic. The IUD framework helps explain this phenomenon by highlighting how increased internet usage during the lockdown provided more opportunities for people to encounter and engage with drug-related content. Internet became a primary means of social interaction and entertainment, which, in turn, heightened exposure to drug-promoting content and facilitated access to substances.

Despite movement restrictions, the ease of accessing drugs during the lockdown points to the gaps in drug control and regulation in Nigeria. Participants indicated that their drug use not only continued but increased due to the availability of dealers and the ease of drug delivery. The support we found in the literature were mix. For instance, in their observational study, Béén et al<sup>45</sup> found that COVID-19 lockdown restrictions led to marked decreases in drug and substance consumption in some locations, but also similar or higher levels in others. Slavova et al<sup>46</sup> found that early data indicate an additional surge in substance use behaviours during the pandemic, including opioid overdoses. While for Scherbaum et al<sup>47</sup> and Bergeron et al<sup>48</sup> COVID-19 lockdown led to decreased availability of some drugs, but most persons with substance use disorder reported no change in their drug consumption, and only 1% to 2% obtained their main drug via the web. This increase in availability and ease of access we found in our study illustrate the inadequacy of existing drug policies, inability for policies to evolve and adapt to changing realities, and the challenges in enforcing them, particularly during a crisis like a pandemic in Nigeria. The findings suggest that lockdown measures did not completely deter substance acquisition or consumption, and that the lack of stringent drug control measures, along with the presence of a supportive environment for drug distribution, may have contributed to the persistence and increase of substance use during the lockdown.

Similarly, a notable number of participants reported an increase in the price of drugs and a reduction in their quantity and quality during the lockdown which highlights how market dynamics and supply constraints can impact drug accessibility and consumption. While increase in drug prices might have reduced access for some, it also led to complaints about reduced quality, suggesting that some dealers may have resorted to adulterating drugs to maintain supply. According to a cross-sectional survey by Farhoudian et al,<sup>33</sup> 69.0% of participants reported a decrease in drug supply, while 95.3% noted an increase in prices globally. Similarly, Scherbaum et al<sup>47</sup> found a

14.4% increase in drug prices, with 28.3% of participants indicating a decline in drug quality. In the study by James and Maguire,<sup>28</sup> participants reported mixed experiences concerning drug quality, with some noting a decline. The COVID-19 pandemic likely had long-term effects on substance use patterns, exacerbating existing behaviours by fostering conditions that increased drug consumption. The emergence of previously unrecognized online channels for accessing drugs may have contributed to a surge in both availability and use.

The adaptability of local drug markets observed in our study aligns with the resilience documented in the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Europol's 2024 Analysis,<sup>49</sup> where drug networks quickly adjusted to external pressures like lockdowns. This adaptability is further supported by Nygaard-Christensen and Sogaard,<sup>50</sup> who found that the anticipation of drug shortages, rather than actual long-term scarcity, significantly influenced market dynamics, including availability and price stability. This is reflected in participants' reports of hoarding and stockpiling drugs. Similarly, in line with Namli's<sup>51</sup> findings, our data show that street-level drug vendors in Lagos adapted their strategies, leading to price increases and occasional quality adulteration during the lockdown. Our findings contribute to the growing body of literature on how COVID-19 disrupted drug markets, particularly by providing evidence from Nigeria, complementing research by Giommoni<sup>27</sup> and Nygaard-Christensen and Sogaard<sup>50</sup> on the resilience of drug markets during global crises. A key contribution of this study lies in its demonstration that, despite strict movement restrictions during the COVID-19 pandemic, drug activities persisted. Notably, in this low-resource setting, the use of social media emerged as a critical channel for circumventing these restrictions, highlighting the adaptability and resilience of drug markets. This finding offers a unique perspective that enriches the global understanding of drug market dynamics during crises.

This study's limitations include the potential challenges in generalising the findings to wider Nigeria, as the focus is solely on an urban centre in a large city, where substance use patterns are likely very different from those in rural areas. Also, a wider survey should be conducted to cover a wider geographical location. Additionally, the purposive and snowball sampling methods may have introduced biases, and social desirability could have influenced participants' responses, affecting data accuracy. These limitations have been acknowledged to provide a more balanced interpretation of the study's results. While the impact of the COVID-19 pandemic on mental health and its role in substance use has been widely recognized,<sup>52,53</sup> this connection was not mentioned in the responses from our study participants. Despite some participants citing boredom and inactivity, the absence of discussion about mental health could suggest a lack of understanding, and reluctance among them to address this topic due to factors like stigma or discomfort. This gap in



our findings limits the study's ability to fully understand the relationship between mental health struggles and substance use during the pandemic.

## Conclusion

Overall, the study exposes the interplay between social media influence, environmental factors, and substance use among people thereby underscoring the need for comprehensive strategies that address not only the direct availability of drugs but also the broader social and cultural factors that contribute to substance use. The study argues that policies aimed at reducing drug use must consider the role of digital environments and seek to mitigate the influence of drug-promoting content online. It also calls for enhanced regulatory measures and effective enforcement to curb the accessibility of drugs, especially in times of crisis. The study reveals the profound impact of the COVID-19 pandemic on local-level drug markets, particularly in terms of supply disruptions, price and quality changes, and the adaptive strategies employed by people who use drugs. These insights underscore the resilience and adaptability of drug markets in response to global crises, shedding light on the complex dynamics at play. It concludes that by examining both the experiences of drug users and the broader market implications, this study contributes to a deeper understanding of how crises like the pandemic can reshape drug markets and the need for multifaceted responses that consider both regulatory and market-based strategies. To improve the relevance of our findings, we recommend implementing comprehensive prevention programs such as the U.S. 'Truth Campaign', utilizing digital monitoring systems similar to those in Australia and developing collaborative policies like those in the EU. Furthermore, strict enforcement and content regulations inspired by Singapore's laws and TikTok's guidelines, along with public awareness initiatives like New Zealand's 'Be Smokefree' campaign, can effectively address substance use and curb drug-promoting content.

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## Author Contributions

SOA and AB conceptualized and designed the study, PO and WA writing, reviewing and editing, SBA data curation, RG interpretation and validation, TD supervision, FAB supervision and reviewing and editing.

## Ethical Considerations

The ethical review board of the Lagos University Teaching Hospital gave the approval for the study to be conducted.

## Consent to Participate

Participants gave verbal consent to participate voluntarily after the study was explained to them. Verbal consent was used to address participants' concerns about confidentiality and the potential criminal implications they associated with written consent. The process involved reading a standardized statement aloud and obtaining verbal agreement. This approach, approved by the ethics committee, ensured participants' comfort while maintaining adherence to ethical standards.

## Consent for Publication

Participants gave consent for the data to be used in publication without identifying information.

## Data Availability

The data for this study is available with the corresponding author and will be made available at a reasonable request.

## Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work, the authors used ChatGPT and PaperPal in order to improve the language and readability of their paper. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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## Appendix A

### Interview guide

#### Section A: Socio-demographic characteristics

1. What is your ethnic group?
2. What is your level of education?
3. What is your occupation?
4. What is your age as at last birthday?
5. What is your marital status?

#### Section B: Drug use

6. Please tell me when you started using drugs.
7. Share with me what made you to start using drugs?



8. Tell me why you use drugs now?
9. Which drugs do you use?
10. How often do you use these drugs?

### Section C: Social media

11. Do you use social media?
12. Share with me the social media sites you use often? (eg, Facebook, Instagram, Twitter).
13. Please tell me the kind of people you keep up with / follow on social media? (eg, musicians, actors, people you know personally).
14. Share with me if you ever seen drugs use on social media (eg, posts about drugs on your timeline or randomly).
15. Please share with me how the use of drug showcased on social media influence your usage of drugs.
16. Share with me if your favourite celebrity posts about drugs on his/her social media account (eg, posting pictures of marijuana and other substances).
17. Share with me if you visit social media just to see what is happening about drugs.

### Section D: Cable TV and drug use

18. Do you watch cable TV channels?
19. Which channels are your favourites?
20. Please tell me if you often see the use of drugs on your favourite cable TV channels.
21. Has it helped you to discover new drugs?
22. Tell me if you feel inspired to use drugs when you see your favourite celebrities use it on TV.
23. Do you think cable TV channels show drug use more than linear TV channels?

### Section E: Streaming websites and drug use

24. Do you use streaming websites (eg, YouTube, Netflix, Iroko TV)?
25. Which streaming website do you use most?
26. Do you see any content related to drug use on these websites?
27. Tell me how this ever influenced you to use drugs.
28. Share with me if you think people have more access to drug related content on streaming websites than on cable TV and Linear TV channels?

### Section F: Internet and drug use

29. Have you ever discovered drug vendors on the internet?
30. Please share with me if you ever bought drug items such as vaporizer, shisha pen, etc. from an online vendor, tell the process please?
31. Share with me if you ever ordered marijuana laced brownies/cakes from an online vendor, what was the process like?
32. Do you think it is easier to discover a drug vendor online than on the streets?

### Section G: COVID-19 and drug use

33. Share with me how the COVID-19 pandemic affected your use of drugs?
34. Please share with me, how were you able to get drugs during the lockdown?
35. Please compare your frequency of drug use during the pandemic and before the pandemic, what have changed and why?