



Internet Fraud among Patients Admitted for Psychoactive Substance Use Disorders in Selected Hospitals of Southwestern Nigeria: Prevalence, Predictors, and Implications

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Abstract

Background: The nexus between internet fraud and drug abuse is a complex and multifaceted issue that has garnered significant attention in recent years. The study aims to explore the relationship between internet fraud and psychoactive substance use among patients admitted for substance use disorders in southwest Nigeria.

Methods: The study used a cross-sectional approach, using a mixed qualitative and quantitative method, to examine patients admitted for psychoactive substance use disorder in southwestern Nigeria between March 2023 and May 2024. Statistical significance was determined at p -values less than 0.05 for quantitative data, while content analysis was used for qualitative variables.

Findings: The study revealed that the average respondent, who was 28.5 years old, experienced their first episode of mental illness at 26.9 years and had 2.5 relapses. They began using drugs at 16.9 years and started internet fraud at 19.9 years. Several factors influenced the likelihood of engaging in internet fraud. Respondents whose parents were together ($P < 0.001$), those who were employed ($P = 0.001$), and individuals from monogamous families ($P = 0.001$) had significantly lower odds of engaging in internet fraud. Additionally, respondents with a secondary school certificate were less likely to engage in internet fraud compared to those with a Bachelor's degree ($P < 0.014$). Single individuals ($P = 0.001$), males ($P < 0.001$), and those with more relapses ($P = 0.001$) were much more likely to engage in internet fraud.

Conclusion: The study reported that drug abuse predates internet fraud among the respondents. Relevant stakeholders must invest in curbing the scourge of drug abuse, as it has been linked to internet fraud.

Keywords: Relationship, Internet fraud, Addiction, Nigeria

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Introduction

The Internet, mobile apps, and information technology have become integral parts of societal structures in finance, health, education, and business across many countries worldwide. These technologies enable deviance and crime by offering visibility and accessibility to alternative explanations and normative viewpoints on forms of cybercrime.¹ The Internet is now a haven for criminals who have left the streets for the cyberworld. This situation has made cybercrime one of the greatest, most perplexing, and most convoluted issues in the digital world.²

The growing participation of young individuals in cybercrime can be linked to various factors such as poverty, educational attainment, place of residence, peer pressure, greed, and unemployment. In addition to these factors, other motivating factors likely drive individuals to engage in cybercrime.² The perpetrators of cybercrime exploit and thrive on their victims' ignorance, fear, and occasionally greed. A Nigerian study reported an 86.1% prevalence of perceived internet fraud among undergraduates.³ According to the Fraud Triangle theory, the convergence of pressure, opportunity, and



rationalization significantly increases the likelihood of individuals engaging in fraudulent behavior. Removing any of these elements from the equation can potentially reduce the risk of fraud.³ The Fraud Triangle theory suggests that financial pressures, internal control weaknesses, and vulnerabilities in the financial system enable Nigerian youths to engage in cyber fraud with minimal risk of detection.⁴

Drug abuse is emerging as a global public health issue. The recent World Drug Report 2019 of the United Nations Office on Drugs and Crime (UNODC) estimated that 271 million (5.5%) of the global population (aged between 15 and 64 years) had used drugs in the previous year.⁵ Also, it has been projected that 35 million individuals will be experiencing drug use disorders.⁶ The burden of drug abuse (usage, abuse, and trafficking) has also been linked to the four areas of international concern, viz., organized crime, illicit financial flows, corruption, and terrorism/insurgency.⁷

The relationship between drug abuse and internet fraud is multifaceted and often interlinked.⁸ Individuals engaged in internet fraud may turn to drugs as a means of coping with the stress and moral conflicts associated with their illegal activities. Drug abuse can impair judgment and increase impulsivity, leading to more reckless engagement in fraudulent activities. Additionally, the financial pressures resulting from drug addiction can drive individuals to commit internet fraud as a means to sustain their habits. This cyclical relationship creates a complex web of psychological, social, and economic factors that perpetuate both drug abuse and criminal behavior.⁹

The prevalence of internet fraud in Nigeria is a significant concern, as evidenced by various studies.^{10,11} Research indicates that online investment fraud victimization is prevalent among internet users in Nigeria and is aggravated by factors such as limited financial experience, a desire for quick financial gains, and recommendations from family and friends influencing investment decisions.¹²

In view of the relationship between drug abuse and internet fraud and its sociopolitical implications in Nigeria, there is a need for all stakeholders to understand the interplay between these two criminal activities. There is a dearth of studies on the prevalence and predictive factors of internet use among patients abusing psychoactive substances, hence the need for the present study.

Study Aims

The objective of this study was to determine the relationship between internet fraud and psychoactive substance use among patients admitted for substance use disorders in southwest Nigeria.

Specific Objective

Firstly, the present study aimed to understand the

sociodemographic characteristics of the participants. Secondly, it aimed to establish the prevalence and types of internet fraud among the respondents and determine the severity of addiction among respondents who engage in internet fraud. Lastly, the study aimed to identify the predictors associated with internet fraud among the respondents.

Methodology

Study Setting

The study was conducted at the Drug and Rehabilitation unit of the University of Medical Sciences Teaching Hospital, Ondo, and the State Neuropsychiatric Hospital, Akure, Ondo State, Afe Babalola University Teaching Hospital, Ado Ekiti, Ekiti State, and Osun State Hospital, Asubiaro, Osogbo, Nigeria.

Study Population

The study population consisted of patients admitted to the Drug and Rehabilitation Units of selected hospitals in southwest Nigeria between March 2023 and May 2024. Three states were randomly chosen from the six states in the region, namely Ado, Ondo, and Osun. Within each selected state capital, one rehabilitation unit of the Department of Mental Health was randomly selected using a balloting method.

Study Design

This is a cross-sectional study employing a mixed-methods approach.

Quantitative Study Design

The census method was used to collect the sociodemographic and clinical variables from all the patients admitted for psychoactive use disorder who gave informed consent during the period of investigation.

Qualitative Study Design

The participants were selected through convenience sampling based on their willingness to participate in the interview. The interviews were conducted by the author in the consultant's office, adhering to best practices for qualitative research. The researcher explained the study and obtained informed consent before proceeding with the oral interviews. Data were collected through face-to-face, semi-structured interviews designed to explore the relationship between internet fraud and psychoactive substance use. The interviews were audio-recorded, transcribed, and analyzed using content analysis.

Inclusion and Exclusion Criteria

Patients admitted for acute drug intoxication, harmful drug use, and drug dependence were included in the study, while patients with psychotic symptoms that affected their ability to read, write, and interact freely were excluded.

Data Collection

Quantitative Data

The questionnaire used to collect sociodemographic data included their age, gender, marital status, tribe, religion, education level, occupation, and last work experience. They were also asked about their psychological support from family members and whether they received the necessary support from family members. Participants' clinical information included diagnosis, duration of illness, relapses, comorbid mental illness, current medications, age at first episode, and number of episodes. They also provided details of drug screening tests. In addition, the internet fraud variable included their age of starting internet fraud, reasons for engaging in internet fraud and drug use, street names associated with fraud, family awareness, financial details, feelings of regret, plans to quit, risky behaviors, and legal issues related to drug use or internet fraud. It also explored the impact of family members, financial details, and potential legal consequences.

Qualitative Data

The respondents were asked the following semi-structured questions: "Discuss why people engage in internet fraud," "Discuss the types of fraud that are available," and "Discuss the relationship between internet fraud and drug use."

Sample Size

The sample size for this study will be computed using the formula below.¹³

$$N = \frac{Z^2 pq}{d^2}$$

The minimum study sample size from the prevalence was 384; however, to reduce the type 1 error and increase the power of the study, the sample size was increased. Questionnaires were distributed among the patients admitted for psychoactive substance rehabilitation between March 2023 and May 2024.

Procedure

After retrieving the lists of the patients admitted for drug rehabilitation in the Department of Information Management from the respective hospitals, the objective of the study was discussed with the patients. Assertion of confidentiality was given, and the benefits of the study were explained. Informed consent for participation was obtained from patients who met the inclusion criteria. The respondents were given the self-administered questionnaires, which were collected by the researchers and research assistants. The key informant interview was conducted in the doctors' consulting room at different times. Urine samples were collected and tested using a 10-panel Generic Multi Drug Urine Dip Card Test Kit following the manufacturer's instructions. The kit tested for

the presence of ten psychoactive drugs: methamphetamine (MET), cocaine (COC), oxycodone (OXY), morphine (MOP), amphetamine (AMP), methadone (MTD), barbiturates (BAR), marijuana (THC), Benzodiazepines (BZO), and phencyclidine (PCP).

Data Analysis

The Statistical Package for Social Sciences (SPSS version 21) was used for data analysis. The sociodemographic details of respondents were reported using descriptive statistics such as frequency and percentage. Chi-square and multivariate statistical techniques, such as binary logistic regression, were employed to identify the factors that were significantly associated with internet fraud among respondents abusing psychoactive substances. The confidence interval was set at 95%. Statistical significance was considered at a *P* value less than 0.05.¹⁴

Content analysis was used for the qualitative variable.

Findings

Sociodemography of the Respondents

A total of 429 patients admitted into the selected drug rehabilitation centers within the study period were selected. The study findings indicated that 69.7% of the respondents were male, 63.6% were single, 69.7% had senior secondary school certificates, 66.7% were employed, 75.8% had a family history of drug use, and 57.6% were from monogamous families. Additionally, 66.7% of the respondents' parents were living together. Participants in the study had an average age of 28.5 years (± 7.4). On average, they experienced 2.5 relapses (± 1.3). The average age at first episode of mental illness was 26.9 years (± 7.9). The participants reported starting drug use at an average age of 16.5 years (± 3.1) (Table 1).

Among the respondents, regular drug toxicology detected 87.7% drug use, and marijuana (69.7%) was the most commonly abused drug (Figure 1).

Table 2 below revealed that 42.4% of the respondents were involved in internet fraud, making an average of ₦1,567,857.143 per month, mostly spent on fashion and cars, while the average age of starting internet fraud was 19.9 ± 2.2 years. The majority (78.8%) of those engaged in internet fraud believed it was legal. Two-thirds of the family members of those involved in internet fraud were aware, and a significant proportion (82.2%) supported the act. Additionally, 65.0% of respondents who use the internet do not wish to stop internet fraud, while the majority of the group engage in risky behavior and have legal problems.

Association Between the Sociodemographic Variables and Internet Fraud Among Respondents

A statistically significant finding was that males are more likely to be involved in internet fraud (56.5%) compared to females ($X^2=80.281$, *P* value < 0.001). Additionally,

a substantial proportion of single individuals (52.4%) exhibited a high tendency to be involved in internet fraud compared to married individuals ($X^2=30.470$, P value <0.001).¹⁵ Furthermore, there was a significant association between those with SSCE/OND and a high tendency for internet fraud, with 47.85% involved compared to those with a bachelor's degree ($X^2=11.787$, P value <0.001). A statistically significant association was also observed among unemployed respondents, with 72.7% having a high proportion for internet fraud compared to those who were employed ($X^2=80.639$, P value <0.001). A significant proportion of individuals from polygamous families had a high tendency for internet fraud (57.1%) compared to those from monogamous families ($X^2=28.036$, P value <0.001). Similarly, a significant association was found between the level of education of parents and internet fraud, where 44.8% of respondents whose parents were undergraduates demonstrated a high tendency for internet fraud ($X^2=7.355$, P value = 0.007) (Table 3)

Association Between the Mean of the Sociodemographic Variable and Internet Fraud

Regarding internet fraud, respondents with a higher

Table 1. Sociodemographic of the Respondents

SN	Variable	Frequency	Percentage
1.	Gender		
	Male	299	69.7
	Female	130	30.3
2.	Marital status		
	Single	273	63.6
	Married	156	36.4
3.	Highest level of education		
	NCE/OND	299	69.7
	Bachelor/HND	130	30.3
4.	Occupation		
	Employed	286	66.7
	Unemployed	143	33.3
5.	Family history of drug use		
	Yes	325	75.8
	No	104	24.2
6.	Family type		
	Monogamy	247	57.6
	Polygamy	182	42.4
7.	Are your parents living together?		
	Yes	286	66.7
	No	143	33.3
8.	Age years (\pm SD)	28.515 \pm 7.435	
9.	Number of relapses	2.545 \pm 1.282	
10.	Age at first episode of mental illness (years)	26.939 \pm 7.978	
11.	At what age did you start using drugs	16.484 \pm 3.099	

number of relapses demonstrated a significantly higher tendency to commit internet fraud, with a mean score of 3.42 ± 1.18 , compared to those without a history of relapse ($T = -15.163$; $P < 0.001$) (Table 4)

Qualitative Analysis

Common types of Internet Fraud

The common types of internet fraud mentioned by respondents include romance or dating scams, hacking, land and estate fraud, and buying and selling scams, often involving impersonation of military personnel, UNICEF staff, or NGO agents.

Reasons Why People get Involved in Internet Fraud

Respondents gave different reasons why they got involved in internet fraud. Bad parenting, the poor state of the economy, the intent to become a hookup or lover boy, peer influence, and poverty. These are further explained below (Figure 2).

Bad Parenting

A respondent attributed his journey into internet fraud to his upbringing. He emphasized that his father and mother did not have time to care for their children, and this allowed him to engage in internet fraud without their knowledge. He stated:

“My parents do not spend adequate time with me; they have no time to care for their children’s well-being. My father is a highly influential person in his field. He is a former L.G.A. chairman, and as a result, he became involved with different women here and there. My mother

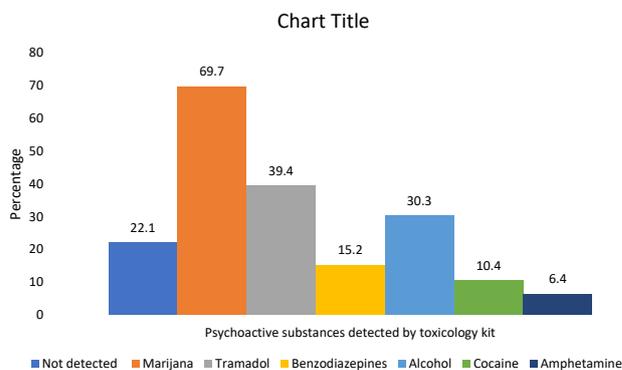


Figure 1. Pattern of psychoactive substance use among the respondents



Figure 2. Word cloud showing the common internet frauds

Table 2. The internet fraud variable among the respondents

SN	Variable	Frequency	Percentage
1.	Are you involved in internet fraud?		
	No	247	57.6
	Yes	182	42.4
2.	If yes, do you see it as illegal (n = 182)		
	No	143	78.8
	Yes	39	21.2
3.	Do your family members knows about internet fraud? (n = 182)		
	No	73	40.0
	Yes	109	60.0
4.	If yes, what is their reaction? (n = 109)		
	Support	89	82.0
	Oppose	20	18.0
5.	Have you been engaging in any risky behaviors like tattooing, injecting, sharing needles, or unsafe sex? (n = 182)		
	Yes	173	95.0
	No	16	5.0
6.	Do you have legal problems because of your internet fraud, for example, an arrest or jail? (n = 182)		
	Yes	138	75.8
	No	44	24.2
7.	Level of education of parents (n = 182)		
	Undergraduate	160	87.9
	Graduate	22	12.1
8.	What are the different street names for internet fraud? (n = 182)		
	Yahoo	84	45.0
	Fraud	16	9.0
	Farmland	6	4.0
	Gee/online G boys	40	22.0
	Work/hustle	14	8.0
	Fast fingers	11	6.0
	Fraudsters	11	6.0
9.	What are the major things you spent money on? (n = 182)		
	Bill's	16	9.0
	Drug's/alcohol	44	24.0
	Fashion and cars	66	36.0
	Opposite gender and friends	56	31.0
10.	Are you hoping or planning to quit internet fraud and/or drug use? If yes, what do you intend to do? (n = 182)		
	Stop internet fraud	46	25.0
	Quite drug abuse	109	60.0
	Quite both	27	15.0
11.	At what age did you start internet fraud? (years)	19.857 ± 2.237	
12.	On average, how much do you make monthly?	₦1,567,857.143 ± 1,441, 175.12	

was once a matron in her field of work. My wayward life began when I was given admission to a university, and I was given a laptop to assist me in the course. I ventured into internet fraud, and my first ever profit was \$24, equivalent to #40,000.00 back then in 2010. That

inspired me to carry on.” (Respondent 1)

Bad State of the Economy

The poor state of the economy is another reason mentioned by respondents as to why people get involved in internet

Table 3. Association between the sociodemographic variables and internet fraud using chi-square

SN	Variable	Internet Fraud		X ²	DF	P value
		NO	YES			
1.	Gender					
	Male	130 (43.5%)	169 (56.5%)	80.281	1	<0.001
	Female	117 (90.0%)	13 (10.0%)			
2.	Marital status					
	Single	130 (47.6%)	143 (52.4%)	30.470	1	<0.001
	Married	117 (75.0%)	39 (25.0%)			
3.	Highest level of education					
	NCE/OND	156 (52.2%)	143 (47.8%)	11.787	1	0.001
	Bachelor/HND	91 (70.0%)	39 (30.0%)			
4.	Occupation					
	Employed	208 (72.7%)	78 (27.3%)	80.639	1	<0.001
	Unemployed	39 (27.3%)	104 (57.1%)			
5.	Family history of drug use					
	Yes	182 (56.0%)	143 (44.0%)	1.363	1	0.243
	No	65 (62.5%)	39 (37.5%)			
6.	Family type					
	Monogamy	169 (68.4%)	78 (31.6%)	28.036	1	<0.001
	Polygamy	78 (42.9%)	104 (57.1%)			
7.	Level of education of parents					
	Undergraduate	208 (55.2%)	169 (44.8%)	7.355	1	0.007
	Graduate	39 (75.0%)	13 (25.0%)			
8.	Have you been engaging in any risky behaviors like tattooing, injecting, sharing needles, or unsafe sex?					
	No	143 (57.9%)	104 (42.1%)	0.024	1	0.876
	Yes	104 (57.1%)	78 (42.9%)			
9.	Do you have legal problems because of your internet fraud, for example, an arrest or jail?					
	No	192 (59.1%)	133 (40.9%)	1.237	1	0.266
	yes	55 (52.9%)	49 (47.1%)			

Table 4. Association between the mean of the sociodemographic variable and internet fraud using the independent t-test

SN	Variable	Internet Fraud		X ²	DF	P value
		NO	YES			
1	Age (years±SD)	28.3 (±8.49)	28.7 (±5.71)	-0.647	427	0.518
2	Number of relapses	1.89 (±0.91)	3.42 (±1.18)	-15.163	427	<0.001
3	Age at first episode of mental illness	26.78 (±9.00)	27.14 (±6.34)	-0.453	427	0.651

fraud. The high level of unemployment and the pressure to make ends meet are significant contributing factors to the rise in the number of internet scammers. One of the respondents remarked:

“The difficult economic situation has pushed many young people of my age into internet fraud. A major factor is the lack of job opportunities; if employment were readily available, crime rates would likely be much lower. Some also turn to internet fraud out of frustration, depression, and the pressure to meet daily needs. In addition, the inability to meet expectations from friends and family can further drive individuals into this form of crime.”

(Respondent 2)

Poverty

The high rate of poverty, which often results from poor economic conditions, is another reason highlighted by respondents. The inability of some parents to cater to their family’s needs, and the associated burden it engenders, has spurred some young people to go into internet fraud. A respondent posited thus:

“Many young people grow up in homes where money is scarce, and the burden of providing often falls heavily on their shoulders. For some men in particular, the

pressure to be seen as the family's breadwinner can feel overwhelming. In chasing quick wealth, some are drawn into money rituals or internet fraud, believing these paths will bring the financial breakthrough they desperately seek. What is troubling is how much creativity and intelligence are now being redirected into deceit, with many young people turning their skills toward exploiting others instead of building legitimate opportunities." (Respondent 2)

The intent to become a hookup/lover boy

Another reason mentioned was a respondent's desire to present himself as a "lover boy" and pursue romantic or casual relationships with women, using this avenue to gain access to their personal spaces and ultimately defraud them. The respondent explained thus:

"From the beginning, I was interested in relationships with women and often promised them love. I later started using different profile pictures online to create false identities. This allowed me to gain their trust and access their accounts without their awareness. Presenting false love online became my approach to internet fraud, and I have benefited from it in various ways." (Respondent 3)

Peer Influence

This is a recurring theme among the reasons interviewees gave for young people's involvement in internet fraud. The interest in using the latest gadgets and obviously seeing their friends and older brothers get involved in internet fraud is a major contributing factor. A respondent narrated how he joined the bandwagon:

"The starting point for me was the year 2012, when I travelled to Lagos in order to visit my mum. I saw some secondary school students of the JSS class holding iPhones, and I was furious. During the 3 years I spent in Lagos, around Egbeda, with my mum, I got some older kids in the street to teach me internet fraud. I finished my senior secondary school in 2011. I became more skilled in entering people's email addresses, especially companies', by accessing the CEO's email, and that gave me courage. Then, I contacted the head of the financial department to obtain approval for the requests, so a huge amount of money was transferred to his account. So many have fallen into my traps through such internet fraud." (Respondent 2)

Respondents' Perceptions of the Relationship Between Internet Fraud and Drug Use

Respondents expressed the opinion that internet fraud and drug use are interconnected, with one often leading to the other. They all opined that drug abuse leads to internet fraud. Some also mentioned that they engage in drug use to "get high":

"Internet fraud is the mother of drug abuse." (Respondent 1)

"In my opinion, drug abuse disrupts an individual's sense of direction and leads to engagement in internet fraud." (Respondent 2)

"The best way is to stay away from both totally. Drug abuse leads to internet fraud and destroys the person. I am a living example." (Respondent 3)

Post-Hospital Admission Plans

A respondent mentioned that he intends to get married, another mentioned that he plans to go into farming, while the third plans to secure employment and start a new life (Figure 3):

"I am a hardworking graduate. Once I get a job opportunity, I will not have time for internet fraud. By working, I will get myself to face the reality of life." (Respondent 1)

"I will get married to a good woman and avoid the deceit of bad friends." (Respondent 2)

"I will go into farming and forget internet fraud." (Respondent 3)

Discussion

The study predominantly involved male respondents, a demographic influenced by societal expectations, biological factors, and individual choices. Men are expected to display traits like strength, independence, and risk-taking behavior, leading to higher rates of substance use.¹⁶ Most were employed, suggesting that a low educational level may lead to low-paying jobs or common lifestyles. The family history of drug use among the respondents further emphasizes the significant role of genetics in addiction. Genetic factors play a crucial role in determining an individual's response to psychoactive substances, with studies showing that genes can contribute up to 50% of the risk for developing addictive behaviors.¹⁷ Most respondents were not living with their parents, and family dynamics can both promote healthy behaviors or contribute to addictive ones. Lack of communication, support, and understanding can lead to substance use, and genetic predispositions and learned behaviors can also influence addiction.^{19,20,21}

Pattern of Psychoactive Substance Use and Internet Fraud Among the Respondents

The study reveals that marijuana, opioids, and alcohol are the most commonly used psychoactive substances in Nigeria.²² However, emerging psychoactive substances and new, non-traditional forms of psychoactive substances are also emerging.^{23, 24, 25, 26} A significant proportion of respondents engage in internet fraud, which they think is legal. There is a dearth of research on internet fraud among those abusing psychoactive substances. Problematic internet use has been observed in people abusing psychoactive substances, suggesting a potential link between substance abuse and online behaviors like

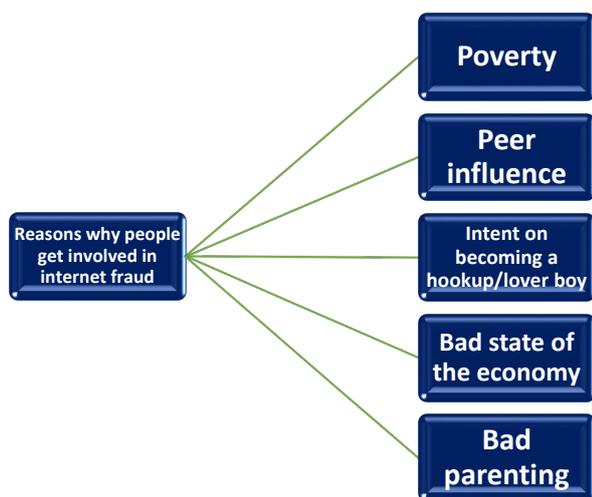


Figure 3. Network diagram showing why people get involved in internet fraud

excessive computer use and social network addiction.
12,27,28,29

The Relationship Between Drug Abuse and Internet Fraud

Drug abuse initiation preceded the internet fraud among the respondents. This implies that most respondents started psychoactive substance use before engaging in internet fraud. This is corroborated by one of the respondents, who stated that drug abuse is the mother of all evils. They may initiate internet fraud in order to sustain the addiction. One possible explanation for this phenomenon is the effect psychoactive drugs can have on an individual's decision-making abilities and moral compass. Drugs can alter brain chemistry and impair judgment, making individuals more likely to engage in risky or illegal behaviors.³⁰ Additionally, the use of these drugs may lead to addiction, compelling individuals to find alternative ways to obtain money to support their habit. This could potentially drive them to engage in internet fraud as a quick and easy way to make money.³¹

Predictors of Internet Fraud Among the Respondents.

This study reported that individuals whose parents were not living together were at a higher risk of engaging in internet fraud (Table 5). A study in China reported that children with both parents at home are less likely to cheat by grade five.³² Parents play a crucial role in preventing internet misuse among their children by closely monitoring their online activities and setting appropriate limitations.³³ Living together in a monogamous setting can create a supportive environment for open communication about internet usage.³⁴

Unemployment and substance abuse can increase the likelihood of internet fraud among individuals. Unemployed individuals may feel isolated and desperate, viewing internet fraud as a quick money-making opportunity. Substance abuse sufferers may have impaired

judgment, making them more susceptible to illegal activities.⁵ The anonymity of the internet and lack of oversight make this criminal activity a viable option in desperate situations.^{31,35}

Single individuals with psychoactive substance abuse are more likely to engage in internet fraud due to psychological, social, and financial factors. These factors include impaired judgment, loneliness, isolation, and economic instability.³⁶ These factors make them more susceptible to manipulation by fraudsters, who exploit their emotional needs and seek quick money through illegal means.³⁷⁻³⁹ Polygamous individuals who abuse psychoactive substances are more likely to engage in internet fraud. Growing up in a polygamous household can lead to feelings of neglect, low self-esteem, and a desire for quick financial gain.⁴⁰⁻⁴³ The anonymity and accessibility of the internet make it easier for these individuals to rationalize their actions.^{44, 45} Multiple relapses in addiction can increase susceptibility to risky behaviors like internet fraud. These relapses can lead to feelings of hopelessness, low self-esteem, and lack of control, making individuals more likely to engage in impulsive and reckless activities.⁴⁶⁻⁴⁹

Summary and Recommendations

The study found that most respondents were male and single and had low literacy, likely driven towards internet fraud by societal expectations and biological factors. Substance abuse impairs education and employment, and genetics plays a role. Common substances used include marijuana, opioids, and alcohol. Key predictors of internet fraud include parental non-cohabitation and low literacy among individuals with substance use problems. Interventions can help mitigate substance abuse and related behaviors. Addressing family dynamics, addressing unemployment and substance abuse, improving mental health and social support, monitoring polygamous individuals, offering emotional support and substance abuse treatment, and providing tailored interventions for male substance abusers are all essential steps to prevent internet fraud and achieve long-term recovery, especially for those experiencing multiple relapses in addiction.

Conclusion

This study demonstrates that psychoactive substance use among predominantly male, low literacy respondents is closely intertwined with involvement in internet fraud, with drug abuse typically preceding fraudulent activities and likely serving as a driver to sustain addiction. Familial instability, unemployment, single or polygamous marital status, and repeated relapses emerged as important social and psychological vulnerabilities that heighten the risk of both substance abuse and cybercrime. These findings underscore the need for integrated interventions that

Table 5. The Sociodemographic Predictors of Internet fraud among the respondents using Logistic Regression

SN	Variable	Odd Ratio	P value	(CI) Low	(CI) High
1	Level of education of parents				
	Graduate (Ref)				
	Undergraduate (1)	0.437	0.280	0.098	1.961
2.	Are your parents living together?				
	No (Ref)				
	Yes (1)	0.165	0.001	0.059	0.463
3.	Occupation				
	Unemployed				
	Employed	0.020	<0.001	0.003	0.145
4.	Marital status				
	Married (Ref)				
	Single (1)	13.614	<0.001	3.543	52.321
5.	Family type				
	Polygamy (Ref)				
	Monogamy (1)	0.019	<0.001	0.003	0.111
6.	Highest level of education				
	Bachelor/ HND (Ref)				
	SSCE/OND (1)	0.131	0.014	0.026	0.668
7.	Gender				
	Female (Ref)				
	Male (1)	1539.020	<0.001	172.180	13756.402
8.	Number of relapses (HFP3)	25.789	<0.001	10.456	63.602

simultaneously target substance use disorders, strengthen family and social support systems, improve educational and economic opportunities, and specifically address high-risk groups to reduce internet fraud and promote long-term recovery.

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Data Sharing Policy

The data is presently unavailable in the public domain because authors do not have permission to share the data yet. Therefore, data can be made available only on reasonable request.

Competing Interests

All authors of this paper declare that there is no conflict of interest related to the content of this manuscript.

Ethical Approval

Ethical approval was obtained from the Ethics and Research Ethics Committee of the University of Medical Sciences Teaching Hospital, Ondo City, Ondo State (UNIMEDTH/REC/21/055).

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Informed Consent from Participants

Participation was voluntary, and informed consent was obtained from participants.

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