Analysis of Public Perceptions of Physical and Psycho-Behavioral Characteristics of Substance Abusers in Kaduna State, Nigeria

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Abstract: *This study investigates the physical, psychological, and behavioral characteristics of substance abusers in Kaduna State, Nigeria, using quantitative data obtained through a structured survey. The findings reveal that substance abusers exhibit a range of identifiable traits across these three domains. Physically, symptoms such as withdrawal, weight loss, poor hygiene, and unusual body odours were consistently reported. Psychologically, mood swings, impulsivity, depression, and symptoms of mental illness were prevalent, highlighting the emotional instability linked to substance abuse. Behaviorally, lying, manipulation, neglect of responsibilities, involvement in crime, and aggression emerged as dominant patterns. The Relative Importance Index (RII), mean scores, and standard deviation values were used to rank and interpret the significance and variability of these traits. The results suggest that substance abuse in Kaduna State is associated with observable and disruptive personal and social behaviors that negatively impact individual well-being and societal stability. The study emphasizes the need for multi-dimensional intervention strategies, incorporating physical health care, psychological counseling, and behavioral rehabilitation. The findings are corroborated by prior research in Nigeria and internationally, underlining the urgent need for context-specific substance abuse prevention and rehabilitation programs*

Keywords— **Public Perception**, **Psycho-Behavioral Traits**, **Physical Characteristics**, **Drug Abuse, Mental Health and Kaduna State**

1. INTRODUCTION

Substance abuse remains a critical public health concern globally, with complex ramifications on individuals, families, and societies. In recent decades, the prevalence of substance use and dependency has risen alarmingly, particularly in developing countries, where socioeconomic challenges, weak health systems, and limited access to mental health services exacerbate the problem. Nigeria is not exempt from this trend, with various states including Kaduna State witnessing increasing rates of substance use among both youths and adults. Substance abuse is an anti-social human behaviour which is not a new phenomenon. Many people have abused one form of substance or the other in their life time. According to World Health Organization (WHO) [1]. substance abuse (SA) or substance use (SU) is a major health issue that impact negatively on many areas of economic development, human health and well-being. Substance abuse has emerged as a significant public health issue globally, with far-reaching impacts on the physical, psychological, and behavioral well-being of affected individuals. The World Health Organization (WHO) specialists group on drug dependence defined drugs as "any chemical, natural or manufactured, that, when introduced into a living organism alters its functioning or structures." Substance abuse refers to the repeated use of any drug or drug combination in a manner that is unsafe or unmonitored by a medical practitioner [1]. Substance abuse refers to the repeated use of any drug or drug combination in a manner that is unsafe or unmonitored by a medical practitioner. Drug misuse is a significant global issue. Statistics indicate that in 2021, approximately 5.8% of individuals aged 15–64 had engaged in drug use within the preceding 12 months. This number increased from 240 million in 2011 to 296 million in 2021, affecting health, particularly mental well-being and safety. Furthermore, stigma and discrimination often hinder individuals with drug-related challenges from seeking help, with less than 20% receiving treatment, and access to treatment varies greatly. Substance abuse is influenced by a confluence of physical, psychological, and behavioral factors collectively referred to as physical and psycho-behavioral traits**.** These traits encompass genetic predispositions, neurochemical imbalances, personality characteristics, cognitive distortions, emotional dysregulation, and maladaptive behavioral patterns. Physical traits associated with substance abuse include withdrawal symptoms, changes in appearance, and neglect of

personal hygiene. Studies have shown that substance abusers often experience significant physical alterations such as weight changes, sleep disturbances, and physical deterioration, which are often signs of addiction. Psychologically, substance abusers frequently suffer from mental health issues such as depression, anxiety, and impulsivity. These psychological traits can drive harmful behaviors, contributing to the cycle of addiction. Behavioral traits in substance abusers in Kaduna State and similar regions often include aggression, involvement in criminal activities, and social withdrawal. Previous research has highlighted the relationship between substance abuse and increased aggressiveness, criminal behavior, and neglect of social responsibilities. In addition, substance abusers may exhibit traits such as impulsivity and manipulative behavior, which are commonly linked to addiction. In Kaduna State, the substance abuse crisis is further complicated by factors such as unemployment, peer influence, family dysfunction, and easy accessibility to illicit drugs. Despite growing concern, there is a paucity of empirical studies that holistically examine the physical and psycho-behavioral profiles of individuals who engage in substance use. Most existing research either focuses solely on sociocultural aspects or adopts a biomedical perspective, thereby overlooking the nuanced interplay between the physical and psychological, and behavioral domains. Understanding these interconnected dimensions is vital for developing targeted interventions that address not only the symptoms of substance abuse but also its underlying causes. This study seeks to bridge this gap by conducting a comprehensive analysis of the physical and psycho-behavioral traits of substance abusers in Kaduna State. By doing so, it provide a deeper understanding of the multi-dimensional factors that predispose individuals to substance use and sustain addictive behaviors.

2. The study Area

Kaduna State, located in Nigeria's Northwest geopolitical zone, lies between latitudes 9°03'–11°32'N and longitudes 6°05'–8°38'E. The state is bordered by Katsina, Zamfara, and Kano to the north; Bauchi to the east; and Plateau and Nasarawa to the south, enabling the easy movement of goods and people [2[. Covering a landmass of 46,053 km²—about 5% of Nigeria's total—Kaduna State has a tropical continental climate with distinct dry and rainy seasons. Rainfall is heavier in southern areas like Kagoro and Kafanchan (over 1,524mm) than in northern zones like Makarfi and Ikara (1,061mm) [3]. Major rivers include the Kaduna and Gurara, with origins from the Jos Plateau. Cannabis cultivation occurs in remote riverbanks and hilly areas, often beyond the reach of law enforcement [5].
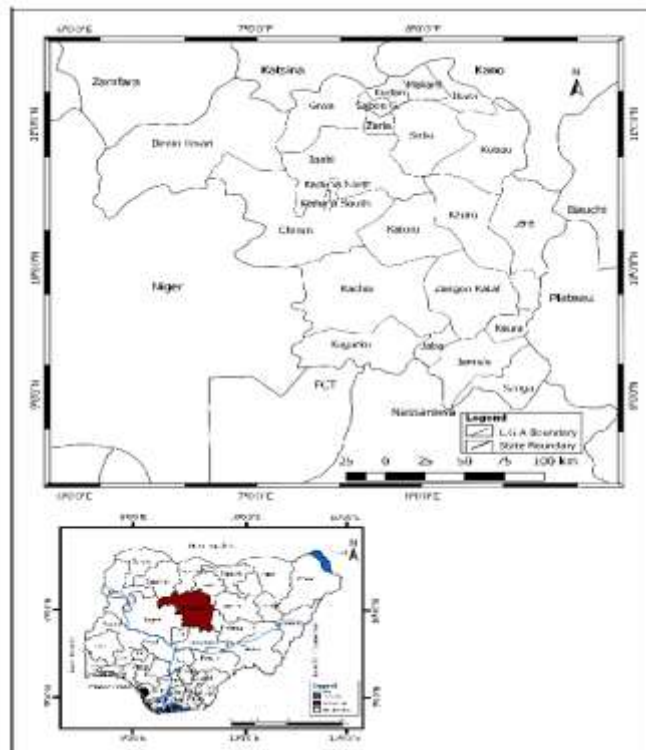

Figure 1: Map of the study Area
Source: Modified from Administrative Map of Kaduna State (2016)

According to FAO [6]. Kaduna's well-drained red-brown soils support the growth of crops and psychoactive plants like cannabis. Vegetation in Kaduna transitions from the Guinea to Sudan Savannah, with tall grasses and scattered trees used for herbal and non-conventional substances like pawpaw, moringa, and Zakami—frequently misused by youths [7]. Human activities have significantly altered the natural landscape. The 2006 census placed Kaduna's population at 6.1 million (NPC) [8].with projections reaching 9.49 million by 2019 based on a 3.04% growth rate (FGN) [9]. Major urban centers include Kaduna, Zaria, and Kafanchan. Urban migration has strained infrastructure and increased dependency ratios, especially among women and children, who make up a significant part of the population (KSDP) [2]. The north and southeast zones are more populated, while areas like Birnin Gwari and Giwa remain sparsely settled. Kaduna is ethnically diverse, home to groups such as Fulani, Hausa, Gbagyi, Adara, and Bajju, alongside Yoruba, Igbo, and other migrants. Cultural practices often include the use of substances like kolanuts and alcohol during ceremonies. The economy is largely agrarian, with widespread cultivation of crops like maize, millet, tobacco, ginger, and cassava. Livestock rearing is common, especially poultry and cattle, although most farming remains subsistence-based (KSDP) [2]. Dry-season irrigation supports vegetables and sugarcane cultivation, attracting traders, some of whom may be involved in illicit substance trade. Over 80 industries operate in Kaduna, including Peugeot Automobile Nigeria, fertilizer plants, and leather research institutes. Some industrial workers

reportedly resort to substance abuse due to occupational stress [10]. Kaduna's transport infrastructure—comprising roads, a rail line to Abuja, and local feeder roads—enables movement across the state. Unfortunately, these routes are also exploited by traffickers using motorcycles, buses, and taxis to distribute substances (KSDP) [2].

4. Methodology

This study employed a descriptive survey research design to assess the physical, psychological, and behavioral characteristics of substance abusers. The approach was appropriate for obtaining standardized responses from a large population and allowed for the statistical analysis of perceptions and experiences related to substance abuse.

The research was conducted in Kaduna State, Nigeria, a region known for its socio-cultural diversity and growing concerns over youth involvement in substance abuse. The state comprises both urban and rural communities, offering a diverse setting to capture variations in substance abuse characteristics. The study population consisted of individuals within the state who had direct experience with substance abuse either as users, relatives, health professionals, or social workers. A multistage sampling technique was used: Purposive selection of urban and peri-urban areas in Kaduna State with known high incidences of drug abuse, random sampling of households and community members from selected areas, Snowball sampling was also employed to identify individuals with substance use experiences, especially those not easily reached through formal institutions. A total of 400 respondents participated in the study, ensuring adequate representation for generalization. within the study context. A structured questionnaire was developed and used as the primary instrument for data collection. The questionnaire was divided into four sections: Section A: Socio-demographic information, Section B: Physical characteristics of substance abusers, Section C: Psychological characteristics of substance abusers and Section D: Behavioral characteristics of substance abusers Items were measured using a 5-point Likert scale, ranging from *Strongly Disagree (1)* to *Strongly Agree (5)*. Quantitative data were analyzed using descriptive statistics including mean scores, standard deviations (SD), and the Relative Importance Index (RII). These metrics helped to rank and interpret the significance of various characteristics as perceived by respondents. The Relative Importance Index (RII) was calculated using the formula: $RII = \frac{\sum w}{A \times N}$ Where: w = weight given to each response (ranging from 1 to 5), A = highest possible score (5 in this case), N = total number of respondents. This analysis allowed for the comparison of perceived importance across characteristics and categories (physical, psychological, and behavioral).

4. Result and Discussion

5. CHARACTERISTICS OF SUBSTANCE ABUSERS

Table 3 show that withdrawal symptoms are strongly agreed upon by respondents. The mean indicates that most respondents recognize withdrawal as a prominent trait of substance abuse.

The RII supports its significance, and the SD shows moderate consistency in responses. A significant number of respondents agree that a decrease in weight is a common effect of substance abuse. The mean and RII values reflect strong agreement, though the SD indicates a moderate variation in responses. Increased consumption of substances is also highly significant in the context of substance abuse. The mean shows strong agreement, and the RII value is high, indicating its importance as a behavioral sign of addiction.

5 .1 Physical Characteristics of substance abusers

Variable	Mean	SD	RII	Ranking
Withdrawal	4.41	0.83	0.882	1st
Decrease in weight	4.41	0.91	0.882	2nd
Increase in substance use	4.41	0.83	0.882	3rd
Changes in appearance	4.40	0.89	0.880	4th
Looking unkempt	4.36	0.96	0.872	5th
Unusual odours	4.32	0.89	0.864	6th
Sleeping uncontrollably	4.25	1.02	0.850	7th
Red eyes/dry mouth	4.24	1.11	0.847	8th

Source: Field Survey, 2021

The SD suggests a moderate spread of responses. Changes in appearance, such as poor hygiene and physical deterioration, are also frequently noticed among substance abusers. This trait shows a mean and RII that indicate a high level of agreement among respondents. The SD is moderate. Looking un kept or disheveled is another behavior commonly observed among substance abusers. The mean and RII suggest that this trait is strongly associated with substance abuse. The SD indicates some variation, with some respondents not agreeing as strongly as others. Unusual odours from the body or breath are a common sign of substance abuse, particularly with certain drugs like alcohol or opioids. The mean and RII suggest that a large proportion of respondents agree on this characteristic. The SD is relatively high, indicating some disagreement. Sleeping uncontrollably is a behavior often linked to substance abuse, particularly with depressants like alcohol or sedatives. The mean indicates strong agreement, and the RII shows that it is considered a significant trait. The SD indicates some variation in responses. Red eyes and dry mouth are physical symptoms commonly associated with drug use, particularly cannabis and other stimulants. The mean and RII values indicate these are important signs of substance abuse. The SD suggests moderate variability in responses. All listed characteristics are rated highly important, indicating strong agreement that these are observable signs/symptoms perhaps of drug use, stress, or illness. The standard deviations indicate moderate variability, suggesting that while most participants strongly agreed on these signs, some variability exists. These observed physical characteristics can possibly be explained by the fact that abusers

are experiencing complications such as tolerance/withdrawal syndrome which signify dependent use of substances like craving, intoxication and psychosis which may drive an individual to violent crimes and other criminal behaviors, as reported in the US study in which 30% of SAs were found to have committed violent crimes under the influence of alcohol and other substances [14]. Other possible reasons could be due to the fact that the risk attached to consumption of substances by the respondents is low due to community norms that favours abuse of some substances. Physical characteristics of SAs such as unusual body odour, having red eyes/dry mouth, changes in physical appearance and uncontrolled sleep have been reported by [30]. in Zaria, Kaduna State. [31]. in a study on street children in Gambia similarly documented that SAs showed physical signs like changes in appearance, loss of weight, endless issues with family members, endless issues with peers, sleep uncontrollably, showing red eyes, dry mouth as well as involving in crimes. Similarly, [32]. in another study in Kwara, Sokoto State, Nigeria revealed that about 70% of SAs were looking unkempt, having red eyes, dry mouth, headache, body itching and feeling weak/tired with profound negative impact on workplace productivity and security of the State. Similar studies by [33, 34,35,36]. have found associations between SA and different physical characteristics.

5.2 Psychological Characteristics of substance abusers

The result in Table 4 revealed the psychological characteristic of substance abusers. Changes in mood as a characteristic ranks highest among all.

Table 4: Distribution of Respondents by Psychological Characteristics

Variable	Mean	SD	RII	Ranking
Changes in mood	4.425	0.812	0.885	1st
Impulsivity	4.408	0.804	0.882	2nd
Depression	4.400	0.771	0.880	3rd
Hallucination/delusions	4.365	0.801	0.873	4th
Guilt and shame	4.327	0.794	0.865	5th
Mental illness	4.258	0.888	0.852	6th

Source: Field Survey, 2021

The high mean and RII show that respondents strongly agree that sudden or unpredictable changes in mood are a dominant feature of substance abusers in Kaduna State. Mood swings may result from the chemical effects of drugs on brain function and emotional regulation. Impulsivity acting without forethought is also strongly identified.

Respondents agree that impulsive behavior is a common trait among substance abusers. Impulsivity—acting without thinking can drive individuals toward risky behaviors, such as unprotected sex, criminal activities, or reckless spending. This is a major concern in addiction psychology This trait is common among individuals with substance use disorders, as drugs often impair decision-making and increase risky behaviors. The relatively low SD suggests strong agreement among respondents. Depression is widely recognized as both a cause and consequence of substance use. There is strong agreement that depression is linked to substance abuse. Many individuals turn to drugs as a coping mechanism for emotional pain. At the same time, prolonged substance abuse can lead to chemical imbalances in the brain, worsening depression. The high score reflects strong awareness of the emotional toll addiction takes on individuals. This is particularly important in intervention planning, as mental health support must be integrated into rehabilitation. Hallucination/Delusions point to severe psychological disruption, likely due to prolonged or heavy substance use. The high rating suggests that psychotic symptoms are not rare in the sample and may require clinical psychiatric attention. Substance abusers often experience internalized guilt and shame, especially in societies where drug use is heavily stigmatized. The rating shows this emotional state is widely observed and may hinder recovery if not addressed through counseling and social support. Mental Illness though ranks lowest among the six, this characteristic still score very high. It reflects the recognition that substance abuse often coexists with broader psychiatric disorders such as bipolar disorder, schizophrenia, or anxiety. The slightly higher SD here may suggest variability in how respondents perceive or identify "mental illness" compared to more observable traits like mood swings or impulsivity. All the six characteristics received Strongly Agree ratings, indicating that they are widely recognized as significant psychological traits of substance abusers. The highest-rated traits (Changes in Mood, Impulsivity, and Depression) suggest that emotional instability and poor decision-making are key factors in substance abuse. The slightly lower ranking of Mental Illness suggests that while mental disorders are acknowledged, they may not be as immediately visible as mood swings or impulsive behavior. The low standard deviation (SD) values indicate strong agreement among respondents. This finding suggests the addictive level of pharmacological toxicities of substances, acute intoxication, or a consequence of tolerance from chronic abuse of single or multiple substances among the subjects. A study on SA by [37]. in Kaduna town similarly found that individuals who develop SA disorder can develop SA psychological disorder such as anxiety, irritability, hostility, paranoid and suicide ideation. [38]. in a similar study on SA in Zaria, Kaduna State opined that schizophrenia, depression, biobolar symptoms, anxiety and mental problems are some of the psychological problems found among SAs in the metropolis at the time of the survey. In the US [39]. also opined that cannabis abusers experience high level of psychological problems such as depression, yawning from uncontrolled sleep, anxiety and other deprivations. Vivid dreams, hallucination and impulsivity.

5.3 Behavioral Characteristics of substance abusers

Table 5 revealed that respondents strongly agree that lying and manipulative behaviors are prevalent among substance abusers. This is the most common trait observed, as reflected by the high RII and mean. The SD indicates a moderate variation in responses.

Table 5 behavioral Characteristics of substance abusers

Variable	Mean	SD	RII	Rank
Lying and manipulative	4.425	0.812	0.885	1st
Blaming others for life problems	4.390	0.785	0.878	2nd
Neglect of responsibilities	4.420	0.801	0.884	3rd
Involvement in crime	4.377	0.856	0.875	4th
Aggressiveness	4.338	0.875	0.867	5th
Argument due to tendencies	4.184	0.927	0.836	6th
Gang formation	4.095	0.951	0.819	7th
Sexual harassment	4.255	0.917	0.851	8th

Source: Field Survey, 2021

Substance abusers tend to blame others for their life challenges. This behavior is highly prevalent, as indicated by the mean and RII values. The slightly lower SD suggests respondents mostly agree with this behavior. Neglect of responsibilities is highly significant among substance abusers. The mean suggests that a large proportion of respondents agree with this trait, with the RII confirming its importance.

The SD indicates a moderate level of agreement among participants. Involvement in crime is commonly associated with substance abuse, as evidenced by the high mean and RII. The SD is higher here, suggesting a bit more variability in how respondents view this characteristic. Sexual harassment is seen as a common consequence of substance abuse. While not as strongly rated as the top traits, respondents still agree that this is a serious issue among abusers. The higher SD suggests that there is more divergence in opinions on this characteristic. The tendency to argue is highly associated with substance abuse, as shown by the mean and RII. However, the higher SD indicates more disagreement among respondents, suggesting that some might not see this trait as consistently present. While gang formation is not as commonly cited as some other traits, it is still a significant behavior linked to substance abuse, particularly in urban areas. The SD is high, indicating that the responses were spread out, possibly due to varying contexts and experiences. Aggressiveness is a prominent trait among substance abusers, as indicated by the mean and RII. However, the SD suggests some variation in how strongly respondents agreed with this characteristic. The top three characteristics—lying and manipulative, blaming others, and neglect of responsibilities—are seen as the most consistent and impactful behaviors linked to substance abuse. Involvement in crime and aggressiveness are common, which highlights the social dysfunction associated with substance abuse. Some traits, like gang formation and sexual harassment, show greater response

variability, which could be due to differences in the social context or the types of substances abused. These insights can inform treatment programs by emphasizing behavioral modification, accountability, and mental health support in rehabilitation. These literates that SA is a social evil because it culminates in behaviours that deviate from normal social behaviour making the abusers social deviant usually associated with criminal and social depravity. These antisocial behaviours may be characterized by a pervasive pattern of disregard for, and violation of the rights of others as well as unwillingness to conform with societal norms and could have negative consequences on the individual, family and societal relationship, making these institutions dysfunctional and transforming them from assets into burden like medical and treatment services for abusers, other financial losses and distress. [32] corroborated this in a similar finding which opined that poor sleep, physical aggression, aimless wondering, neglect of self-care and verbal aggression were the behavioral features found among SAs in Sokoto town, Nigeria. [10]. in another study on the effects of SA on employees' job performance in Nairobi, Kenya found that the respondents who are SAs indicated behavioural changes such as over-reaction to constructive criticism, being withdrawn, imbalance mood changes, emotional unsteadiness, anxiety, looking irrelative and being unnecessarily argumentative, lying, rude languages and display of violent behaviour which invariably affected work performance in the metropolis. [40]. in an Australian study on SA also found that patients in a treatment unit showed symptoms of somatization, insensitivity, paranoid ideation, aggression, hostility neglect of responsibility and insincerity.

6. Conclusion

This study explored the multifaceted characteristics of substance abusers in Kaduna State, Nigeria, with specific focus on physical, psychological, and behavioral dimensions. The findings revealed that substance abusers commonly exhibit noticeable physical signs such as withdrawal symptoms, weight loss, red eyes, and general neglect of personal hygiene. Psychologically, mood swings, impulsivity, depression, hallucinations, and mental illness were strongly observed among the respondents, indicating the emotional and mental toll of substance use. Behaviorally, the prevalence of lying, manipulation, neglect of responsibilities, aggression, and involvement in criminal activities were highlighted as major indicators of substance abuse. The results of this study, supported by similar findings in national and international literature, confirm that substance abuse in Kaduna State is a significant public health and social concern. The physical deterioration, psychological instability, and antisocial behaviors associated with substance abuse present a major challenge to individual well-being, family cohesion, community safety, and overall societal productivity. The strong agreement among respondents regarding these traits further validates the need for urgent and coordinated intervention.

7. Recommendations

Based on the findings, the following recommendations are made:

i. Integrated Rehabilitation Programs**:** Government of Kaduna State and non-governmental organizations should establish well-equipped rehabilitation centers that provide not only detoxification services but also psychological counseling and behavioral therapy tailored to local needs.

ii. Community Sensitization and Education**:** Awareness campaigns should be intensified across communities to educate the public on the dangers and signs of substance abuse. Engaging religious leaders, schools, and traditional institutions can help counter cultural norms that enable or tolerate substance use.

iii. Early Detection and Intervention: Health workers, teachers, and community leaders should be trained to identify early signs of substance abuse and refer affected individuals to appropriate support services before the condition worsens.

iv. Mental Health Integration: Mental health services should be integrated into primary healthcare systems to address the psychological disorders often associated with substance abuse, such as depression, anxiety, and psychosis.

v. Youth Empowerment Initiatives: Unemployment and idleness are key drivers of substance abuse. Government should implement skills acquisition and job creation programs targeting at-risk youth to provide alternatives to drug use and criminality.

vi. Stronger Law Enforcement and Regulation: Law enforcement agencies should strengthen efforts to control the availability and distribution of illicit substances, while ensuring that enforcement does not further stigmatize or criminalize users but focuses on disrupting supply chains.

Further Research: More localized and longitudinal studies should be conducted to monitor trends in substance abuse and evaluate the effectiveness of intervention programs over time.

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