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Adolescent Drug Use in Nigeria: Trends, Mortality Risks, and Public Health Implications

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Abstract

Substance abuse among Nigerian adolescents has become a major public health concern, with increasing involvement of opioids, cannabis, alcohol, and polysubstance use. Evidence between 2000 and 2018 reveals consistent patterns of experimentation and dependence among school-aged and university students, with opioids such as tramadol and codeine cough syrups frequently misused. The National Drug Use Survey 2018 reported that over 14 percent of Nigerians aged fifteen to sixty-four had used psychoactive substances in the preceding year, with the highest prevalence among young people. Smaller school-based surveys indicate prevalence rates ranging from twenty to thirty percent, underscoring the scale of adolescent involvement.

Mortality evidence specific to adolescents is limited, yet hospital case reports confirm tramadol overdoses resulting in seizures, coma, and death. Globally, drug use disorders contributed to over half a million deaths in 2017, with adolescents and young adults disproportionately affected. In

Nigeria, substance-related mortality is further obscured by under-reporting, weak surveillance systems, and misclassification of causes of death.

Contributing drivers include porous drug distribution systems, weak enforcement of pharmaceutical regulations, peer pressure, socioeconomic hardship, and cultural influences such as media and music that normalize drug use. While government agencies have introduced regulatory restrictions and temporary bans, efforts remain fragmented and insufficient to address the depth of the crisis.

This review highlights urgent priorities: strengthening pharmaceutical regulation, establishing adolescent mortality surveillance, scaling up school-based prevention, and expanding adolescent-friendly treatment services. Without decisive action, Nigeria risks escalating into a full-scale opioid crisis with devastating public health and developmental consequences.

Keywords: Adolescents, Nigeria, Tramadol, Codeine, Substance Abuse, Mortality, Public Health Policy

Introduction

Adolescence is a formative period marked by physical, psychological, and social transitions, during which experimentation with psychoactive substances often begins. Globally, adolescents are among the most vulnerable groups to initiate substance use, a behavior that can have lasting health and social consequences (Patton *et al.*, 2016). Nigeria, home to the largest youth population in Africa, has experienced a steady rise in drug use and dependency among young people, raising significant public health and policy concerns.

Historically, drug use in Nigeria was considered primarily an adult problem, linked with social deviance, urban crime, and economic hardship (Adelekan, 1996) ^[1]. However, evidence accumulated since the early 2000s indicates that psychoactive substance use is now firmly entrenched among adolescents in both rural and urban areas. Commonly misused substances include cannabis, alcohol, inhalants, prescription opioids such as tramadol, and cough syrups containing codeine (Makanjuola *et al.*, 2007) ^[6](Igwe *et al.*, 2009) ^[3](Abdu-Raheem, 2013) ^[2]. These patterns mirror a global trend in which young people increasingly experiment with synthetic and prescription drugs rather than traditional substances (UNODC, 2018) ^[8].

The National Drug Use Survey 2018, led by the Federal Ministry of Health (FMoH), the National Bureau of Statistics (NBS), and the United Nations Office on Drugs and Crime (UNODC), provided the first nationally representative estimate of psychoactive substance use in Nigeria. The survey reported that 14.4% of Nigerians aged 15–64 years had used psychoactive substances in the preceding year, equivalent to approximately 14.3 million people, with non-medical use of prescription opioids representing a significant share of this burden (FMoH, NBS, & UNODC, 2019). Importantly, the highest prevalence was observed among individuals aged 15–39, demonstrating that adolescents and young adults are disproportionately affected.

School-based surveys provide additional insight into the scope of the problem. In Kaduna State, Abdu-Raheem (2013)^[2] found that 21% of secondary school students had used at least one psychoactive substance, with tramadol and codeine cough syrup emerging as the most frequently consumed opioids. In Ibadan, Makanjuola *et al.* (2007)^[6] reported that 25% of university students reported non-medical use of alcohol and analgesics. Similarly, Igwe *et al.* (2009)^[3] documented lifetime uses of cannabis and inhalants among nearly one-third of adolescents in Enugu. Together, these studies underscore the widespread penetration of drugs into the adolescent demographic, cutting across regional, educational, and socioeconomic lines.

Mortality and morbidity data specific to Nigerian adolescents remain sparse, but available case series highlight the risks. Oshikoya *et al.* (2010)^[7] described tramadol overdoses in adolescents that led to seizures, coma, and fatal outcomes, while James *et al.* (2011)^[5] reported tramadol dependence complicated by withdrawal seizures. These cases indicate that although official statistics are lacking, substance-related deaths among adolescents are likely underreported. At the global level, the World Health Organization (2018)^[9] estimated that drug use disorders accounted for 585,000 deaths in 2017, with adolescents and young adults disproportionately represented in this figure.

Several drivers sustain adolescent drug use in Nigeria. Easy access to pharmaceuticals through patent medicine vendors and open drug markets persists despite restrictions (FMOH *et al.*, 2019). Peer influence, socioeconomic stressors such as unemployment and poverty, and cultural normalization of drug use through music, media, and peer networks further reinforce patterns of initiation and continued use (Adelekan, 2000)^[1] (Abdu-Raheem, 2013)^[2]. In response, national agencies such as the National Drug Law Enforcement Agency (NDLEA) and the National Agency for Food and Drug Administration and Control (NAFDAC) have attempted to curtail opioid misuse through regulation and enforcement. However, porous borders, weak monitoring systems, and limited rehabilitation infrastructure have limited the sustainability of these efforts (UNODC, 2018)^[8].

This narrative review synthesizes evidence published between 2000 and 2018 to document the prevalence, drivers, and mortality burden of adolescent drug and substance abuse in Nigeria. By highlighting gaps in surveillance, regulation, and treatment, this paper underscores the urgent need for a comprehensive, multisectoral public health response to prevent avoidable deaths and safeguard the wellbeing of Nigeria's youth.

Methods

This paper adopts a narrative review approach, synthesizing literature and public health data on adolescent substance use in Nigeria from 2000 to 2018. The aim was to integrate findings from national surveys, hospital-based reports, and international health estimates to provide a comprehensive account of emerging trends, mortality patterns, and policy responses.

Relevant studies were identified through searches of PubMed, African Journals Online, Google Scholar, and institutional repositories such as the Federal Ministry of Health, the National Bureau of Statistics, the National Drug Law Enforcement Agency, and the National Agency for Food and Drug Administration and Control. Additional data were drawn from global health organizations, including the World

Health Organization and the United Nations Office on Drugs and Crime.

To ensure focus on the Nigerian adolescent population, studies were included if they reported on individuals between the ages of 10 and 24, presented prevalence, mortality, or morbidity data, and were published in English during the period under review. Excluded were studies that focused exclusively on adults above 25 years, reports without empirical data, and commentary pieces that lacked direct relevance to substance use or mortality outcomes.

The selected sources were examined thematically to identify patterns of prevalence, types of substances commonly used, reported health outcomes including mortality, and underlying social and regulatory drivers. Findings were then synthesized to highlight implications for public health policy and to identify gaps in existing interventions.

Findings

Prevalence of Adolescent Substance Use

Evidence from across Nigeria consistently demonstrates that psychoactive substance use among adolescents and young people is widespread and rising. The National Drug Use Survey conducted by the Federal Ministry of Health in partnership with the National Bureau of Statistics and the United Nations Office on Drugs and Crime provided the first national estimate, reporting that 14.4 percent of Nigerians aged 15 to 64 years had used psychoactive substances in the previous year, with opioids such as tramadol and codeine syrup among the most commonly misused (UNODC, 2018)^[8]. Within this figure, young people aged 15 to 39 accounted for most users, highlighting the vulnerability of adolescents and young adults. School- and university-based surveys reinforce this pattern. Adelekan (2000)^[1] identified alcohol, cannabis, and inhalants as dominant substances among adolescents and emphasized the role of peer influence and cultural acceptance. A university survey in Ibadan reported that one in four students engaged in non-medical use of analgesics or alcohol, with cannabis use also present (Makanjuola *et al.*, 2007)^[6]. In Enugu, Igwe *et al.* (2009)^[3] found that approximately one third of adolescents had experimented with cannabis or inhalants. In Kaduna State, Abdu-Raheem (2013)^[2] reported a 21 percent prevalence among secondary school students, with tramadol and codeine cough syrups highlighted as the most used opioids. Collectively, these findings suggest that adolescent substance use in Nigeria is neither isolated nor localized, but rather a widespread issue across regions and educational levels.

Mortality and Morbidity Patterns

Although national mortality statistics specific to adolescent drug use remain scarce, case reports and hospital data reveal a troubling picture. Oshikoya *et al.* (2010)^[7] documented tramadol overdoses in adolescents that resulted in seizures, coma, and in some cases, death. Similarly, James *et al.* (2011)^[5] reported tramadol dependence leading to withdrawal seizures, underscoring the lethal potential of unregulated opioid use among young populations. These hospital-based reports complement anecdotal accounts from educators, families, and law enforcement about sudden deaths linked to overdose or drug-related accidents.

International estimates provide additional perspective. The World Health Organization (2018)^[9] attributed approximately 585,000 deaths worldwide to drug use disorders in 2017, with adolescents and young adults

disproportionately represented. Although precise figures for Nigeria are lacking, the alignment of local hospital data with global mortality trends suggests that the burden of adolescent deaths is underestimated in national statistics. Furthermore, indirect mortality due to intoxication-related traffic accidents, violent encounters, and risky behaviors adds to the hidden toll of substance abuse among Nigerian adolescents.

Sociocultural and Economic Drivers

Multiple drivers sustain the rise of adolescent drug use in Nigeria. Easy availability of opioids through patent medicine vendors and informal markets undermines regulatory frameworks, even after high-profile bans on codeine syrup by the National Agency for Food and Drug Administration and Control. Peer influence and youth subcultures, including the promotion of tramadol and codeine in popular music, reinforce the normalization of use among adolescents (UNODC, 2018) ^[8]. Socioeconomic hardship also plays a critical role: adolescents facing unemployment, family instability, or academic pressures may turn to substances as

coping mechanisms.

Enforcement and Regulatory Responses

Government and agency interventions have achieved temporary gains but often fall short in sustainability and coverage. Operations by the National Drug Law Enforcement Agency have disrupted supply chains and seized illicit opioids, yet porous borders and persistent demand have limited their long-term impact. Efforts by the Federal Ministry of Health and NAFDAC, such as the 2018 ban on codeine-containing cough syrups, have raised public awareness but are frequently undermined by the flourishing black market. Rehabilitation services tailored for adolescents remain scarce, with most facilities concentrated in urban centers and often inaccessible due to cost or stigma.

Evidence Summary Table

To strengthen the synthesis, Table 1 consolidates the major prevalence and mortality findings across Nigerian adolescent studies and international datasets from 2000 to 2018.

Table 1: Prevalence and Mortality Evidence on Adolescent Substance Use in Nigeria, 2000–2018

Author / Source	Year	Study Design	Population / Sample	Age Range	Key Substances Reported	Findings (Prevalence / Mortality)
Adelekan (WHO review)	2000	Narrative review	Nigerian adolescents & youth (multi-source review)	10–24	Alcohol, cannabis, inhalants	Rising adolescent alcohol and drug use; highlighted peer and cultural influence
Makanjuola <i>et al.</i>	2007	Cross-sectional survey	1,200 university students, Ibadan	15–24	Analgesics, alcohol, cannabis	~25% reported non-medical analgesic or alcohol use; cannabis also common
Igwe <i>et al.</i>	2009	Cross-sectional survey	714 secondary school students, Enugu	13–19	Cannabis, inhalants, alcohol	~33% lifetime use; inhalants highly prevalent among younger teens
Oshikoya <i>et al.</i>	2010	Case series	Hospital records, Lagos	12–21	Tramadol, multiple substances	Multiple tramadol overdoses → seizures, coma, deaths
James <i>et al.</i>	2011	Case report	Psychiatric hospital, Benin City	17	Tramadol	dependence with withdrawal seizures; mortality risk identified
Abdu-Raheem	2013	Cross-sectional survey	600 secondary school students, Kaduna	14–20	Tramadol, codeine cough syrup, alcohol	21% prevalence; opioids most common
UNODC, FMOH, NBS (National Drug Use Survey)	2018	National survey (n=38,850)	Nigeria, general population	15–64 (youth overrepresented)	Tramadol, codeine, cannabis, alcohol	14.4% past-year use; 4.6M Nigerians used tramadol; highest among 15–39
WHO (Global Health Estimates)	2017	Global burden estimates	Global, with Nigerian relevance	10–24 highlighted	All psychoactive substances	~585,000 deaths globally; adolescents/young adults disproportionately represented

Discussion

The findings of this review demonstrate that adolescent substance abuse in Nigeria has evolved from the widespread use of alcohol, cannabis, and inhalants in the early 2000s to a more complex epidemic driven primarily by opioids such as tramadol and codeine by the late 2010s. This shift mirrors patterns observed in other low- and middle-income countries where pharmaceutical opioids, often diverted from legal supply chains, have become increasingly accessible to young people (Degenhardt *et al.*, 2016). However, the Nigerian context is unique in that open drug markets, weak regulation of prescription medicines, and cultural normalization through music and media have combined to accelerate the spread of opioids among adolescents.

Comparison with Global Trends

Globally, adolescent drug use is a recognized public health concern. In high-income countries, cannabis remains the most widely used illicit substance, while non-medical opioid

use has emerged as a crisis particularly in North America (Volkow *et al.*, 2014). In the United States, the opioid epidemic has been linked to widespread prescribing practices, availability of potent synthetic opioids such as fentanyl, and inadequate preventive education. Mortality among adolescents and young adults due to opioid overdoses has risen sharply, with parallels now observable in Nigeria, albeit with tramadol and codeine rather than fentanyl as the main drivers (CDC, 2018).

In sub-Saharan Africa, adolescent substance use is less well documented, but emerging evidence suggests rising misuse of alcohol, cannabis, and pharmaceuticals across the region (Peltzer & Pengpid, 2016). Nigeria's National Drug Use Survey 2018 stands out as one of the few comprehensive datasets, underscoring the scale of the problem but also highlighting the absence of systematic adolescent-specific mortality data. This gap prevents accurate comparisons with international mortality trends and likely underestimates the true burden in Nigeria.

Mortality and Morbidity Burden

Hospital case reports in Nigeria consistently describe tramadol-related overdoses leading to seizures, coma, and in some cases death (Oshikoya *et al.*, 2010)^[7] (James *et al.*, 2011)^[5]. These cases, while anecdotal, confirm that the adolescent population is not spared from fatal consequences. International data strengthen this concern: The World Health Organization (2018)^[9] estimated that drug use disorders contributed to approximately 585,000 deaths worldwide in 2017, with adolescents and young adults disproportionately represented. Given Nigeria's large adolescent population, even modest prevalence translates into significant morbidity and mortality. Furthermore, substance abuse in adolescence is strongly associated with accidents, violence, unsafe sexual practices, and long-term psychiatric disorders (WHO, 2018b; Olawole *et al.*, 2018).

Policy and Programmatic Gaps

Despite recognition of the issue, Nigeria's policy response has been fragmented and inconsistent. Regulatory agencies such as the National Agency for Food and Drug Administration and Control (NAFDAC) and the National Drug Law Enforcement Agency (NDLEA) have attempted to restrict opioid distribution, but porous borders, corruption, and weak enforcement undermine their effectiveness (UNODC, 2018)^[8]. Periodic crackdowns on codeine syrups, including the 2018 ban on codeine-containing cough mixtures, have achieved temporary reductions in availability but often result in the substitution of other substances, such as tramadol. Rehabilitation facilities for adolescents remain scarce, expensive, and concentrated in urban centers, limiting access for many affected youths.

Prevention programs within schools are limited, often one-off awareness campaigns without integration into the curriculum. Evidence from other countries suggests that sustained school-based prevention programs, when combined with parental involvement and community outreach, are effective in reducing initiation of substance use (Faggiano *et al.*, 2014). Nigeria's education system has yet to fully adopt such evidence-based approaches.

Socioeconomic and Cultural Drivers

Poverty, unemployment, and lack of educational and recreational opportunities contribute significantly to adolescent drug use in Nigeria. In many urban communities, opioids are readily available and marketed as tools for enhancing academic performance, increasing stamina for manual labor, or reducing stress. Cultural factors, including the glamorization of drug use in popular music and media, further normalize adolescent experimentation (Abdu-Raheem, 2013)^[2]. Peer influence, particularly in boarding schools and university campuses, reinforces initiation and continuation of drug use. These drivers indicate that adolescent drug use in Nigeria is not merely a health issue but a complex social problem requiring multi-sectoral responses.

Implications for Public Health and Development

Unchecked adolescent substance abuse threatens Nigeria's human capital development. Adolescents constitute a significant proportion of the country's population, and their health and productivity directly influence future economic growth. Substance abuse leads to school dropouts, reduced academic achievement, increased criminal involvement, and long-term health care costs. Moreover, the mortality and

morbidity burden among young people undermines progress toward achieving Sustainable Development Goals, particularly those related to health, education, and inequality (United Nations, 2017).

Policy Recommendations

Strengthening pharmaceutical regulation

Nigeria must improve control of opioid access by addressing informal drug markets and strengthening prescription oversight. Enforcement agencies such as the National Agency for Food and Drug Administration and Control (NAFDAC) and the National Drug Law Enforcement Agency (NDLEA) require greater resources to curb the diversion of tramadol, codeine, and related substances. Evidence shows that poorly regulated pharmaceutical markets facilitate youth access to opioids and undermine existing restrictions (UNODC, 2018)^[8].

Establishing adolescent mortality surveillance

Drug-related mortality remains underreported in Nigeria, particularly among adolescents. A dedicated surveillance system integrated into national health information platforms would provide essential data for public health planning. Hospital records, police reports, and community-based monitoring could be linked to produce reliable statistics. International experiences demonstrate that surveillance systems help guide early response and resource allocation (WHO, 2017).

Scaling school-based prevention programs

Secondary schools and universities are key entry points for prevention. Programs that combine drug education, peer support, and life-skills training are most effective. Evidence from other African and global contexts shows that structured school-based programs reduce initiation and delay substance use among adolescents (WHO, 2014). Nigeria should adopt and adapt such models, ensuring they are culturally relevant and delivered consistently across regions.

Expanding adolescent-friendly rehabilitation services

Treatment and rehabilitation options for adolescents remain scarce. Many existing facilities are designed for adults, and stigma discourages young people from seeking help. Community-based rehabilitation centers integrated into primary health care would improve accessibility. Multidisciplinary care that combines psychosocial therapy, family counseling, and, where appropriate, pharmacological treatment should be prioritized.

Multi-sectoral collaboration and policy coherence

Adolescent substance abuse is not solely a health sector problem. Effective solutions require collaboration across ministries of health, education, youth development, justice, and social welfare, with engagement from civil society, religious organizations, and community leaders. Integrated action is necessary to address socioeconomic drivers, challenge cultural normalization, and provide sustainable alternatives for vulnerable youth (Federal Ministry of Health, 2018)^[8].

Conclusion

Adolescent substance abuse in Nigeria represents a growing public health emergency with significant social and developmental implications. The evidence reviewed

highlights rising patterns of opioid and polysubstance use among secondary school and university students, with tramadol and codeine emerging as the most misused opioids. Although national mortality data remain sparse, case reports and international estimates suggest that the burden of drug-related deaths among adolescents is underestimated, with overdose, accidents, violence, and poor academic outcomes contributing to avoidable losses.

The drivers of this crisis are multifaceted. Easy access to opioids through informal drug markets, weak pharmaceutical regulation, peer influence, and socioeconomic stressors create a permissive environment for early initiation. Efforts by enforcement agencies have been inconsistent and insufficient to match the scale of the problem. The lack of adolescent-focused rehabilitation services further exacerbates vulnerabilities, leaving many young people without support or treatment options.

Addressing adolescent substance abuse in Nigeria requires decisive, evidence-informed, and multi-sectoral action. Strengthened regulation, adolescent mortality surveillance, school-based prevention, and community rehabilitation services are critical steps. These interventions must be supported by political commitment, cross-sector collaboration, and engagement of families and communities. Without urgent reforms, Nigeria risks an escalating opioid crisis with profound consequences for the health, productivity, and future of its youth.

The findings of this review reinforce the need for policy coherence and sustain public health investment. Protecting adolescents from the harms of substance abuse is not only a matter of individual health but a national priority central to Nigeria's developmental goals.

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