ACCSCIENCE PUBLISHING

INNOSC Theranostics and Pharmacological Sciences

REVIEW ARTICLE

Opioid use among Nigerian students: Exploring knowledge gaps and preventive strategies

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Citation: Adegoke AA, Tariq M, Muhammad S, *et al*. Opioid use among Nigerian students: Exploring knowledge gaps and preventive strategies. *INNOSC Theranostics and Pharmacological Sciences.* 2025;8(1):47-58.
doi: 10.36922/itps.3894

Submitted: June 7, 2024

Revised: September 7, 2024

Accepted: November 28, 2024

Published online: January 2, 2025

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Abstract

The increasing rate of opioid consumption among Nigerian students is alarming. Despite the therapeutic benefits of opioids, their excessive use could be detrimental. Exploring knowledge gaps and implementing preventive strategies are necessary to curb opioid misuse among Nigerian students. This review aimed to identify the prevalence estimates of non-prescribed opioid use among Nigerian students and explore the cultural and societal factors favoring opioid and other drug use in this population. It further aimed to provide and discuss strategies that could offer effective and long-lasting solutions for Nigerian policymakers to curb opioid use among Nigerian students. A systematic search strategy identified relevant studies from databases such as PubMed and Google Scholar using keywords such as opioid misuse, students, Nigeria, prevention strategies, and opioid use disorder. Articles on the prevalence rates, associated factors, and preventive measures were extracted. The findings revealed a high prevalence of opioid use among Nigerian students, particularly in the southwestern (7.87%) and northeastern (6.57%) parts of Nigeria. Approximately 4.6 million Nigerians, constituting 4.7% of the population, have used opioids for non-medical purposes. Tramadol and codeine are the most commonly misused opioids. Cultural practices and belief systems often impact the knowledge, attitudes, and perceptions of opioid use among students. Efforts to prevent and control opioid misuse in Nigeria should focus on effective coordination among students. Health-promotion measures and specific protection should be promoted alongside early diagnosis, prompt treatment, and rehabilitation of affected individuals.

Keywords: Opioid misuse; Students; Nigeria; Prevention strategies; Opioid use disorder

1. Introduction

Opioids are pain-relieving drugs with severe side effects such as addiction potential, poisoning, and overdose. In 2021, the Centers for Disease Prevention and Control (CDC) of the United States reported that one-third of drug overdose deaths involved opioids.[1] This translates to approximately 220 deaths caused by opioid overuse per day.[1] The increased craving and non-medical utilization of opioids among students may be attributed to the rise in opioid prescriptions such as analgesics.[2] Students who misuse opioid prescriptions are more prone to alcohol and marijuana consumption.[3] In addition, factors such as distress, depression, and suicidal tendencies predispose students to opioid misuse.[4] How students obtain opioids is also a point of interest, with the main sources being their homes and friends.[5] The terms used for opioid-related issues include opioid use disorder (OUD), opioid misuse or opioid dependence, or opioid addiction.[1] Due to the risks associated with its misuse, the CDC focuses on prescription monitoring, state laws, education, quality improvement, and awareness.[1] Adequate reporting of data regarding its prevalence will be beneficial for its prevention. Despite studies on opioid use in Nigeria, only a few focused on Nigerian students, particularly identifying prevalence estimates of non-prescribed opioid use among Nigerian students and exploring cultural and societal factors favoring opioid and other drug use in this population. In addition, studies on prescription drug use and illegal opioid use are limited. This review aimed to identify the prevalence estimates of non-prescribed opioid use among Nigerian students and explore the cultural and societal factors favoring opioid and other drug use in this population. It further seeks to provide and discuss strategies that could offer effective and long-lasting solutions for Nigerian policymakers to curb opioid use among Nigerian students.

2. Methodology

A systematic search was performed across electronic databases such as PubMed, Scopus, Google Scholar, and ResearchGate using the following Boolean operators: (Opioid Misuse) AND (Students) AND (Nigeria) AND (Prevention Strategies) AND (Opioid Use Disorder). Studies on opioid misuse among Nigerian students were identified. Articles were selected based on their relevance, focusing on prevalence rates, associated factors, and preventive measures. The inclusion criteria were as follows: English language articles published between 2008 and 2024 that focused on opioid misuse among Nigerian students, original research articles, reviews, case studies, cross-sectional studies, randomized control, non-randomized control trials, and case reports, and studies on Nigerian students involved in substance abuse. The exclusion criteria were as follows: non-English language articles, articles with no full text available, duplicate publications or studies with overlapping data published before 2008 or after 2024, articles that did not focus on opioid misuse or substance abuse, editorials, letters, case reports, non-human studies or studies not focused on Nigerian students, and articles on diseases not relevant to Nigeria.

3. Opioid misuse among Nigerian students

In Nigeria, a student usually aged 18 – 29 years old is described as someone who is enrolled in formal education at various levels, ranging from primary to tertiary and even vocational institutions, to gain information and skills in various subjects of study. Nigerian students, such as students elsewhere, experience academic hurdles, social pressures, and health problems. Akande-Sholabi *et al*. (2019) reported a significant health issue among Nigerian students, namely opioid use, particularly with codeine-containing drugs. In Nigeria, cough syrups include codeine, a commonly misused narcotic that students ingest.[6] Despite its prohibition in several countries, including Nigeria, codeine misuse has become a widespread trend among Nigerian youngsters and is frequently a gateway to the misuse of other narcotics.[7]

The opioid crisis is a worldwide problem, and Nigeria is no exception. Opioid misuse among Nigerian students has been connected to several causes, including easy access to narcotics, peer influence, and the desire to cope with academic stress and social issues.[8] According to Akande-Sholabi *et al*. (2019), codeine-containing cough syrups are the most frequently taken opioid medicines among Nigerian students, underlining the issue of drug use in educational settings. The misuse of opioids endangers students' health and well-being, resulting in addiction, negative impacts, and potential long-term implications.[9]

The availability and accessibility of opioids in Nigeria contribute significantly to student drug misuse. Despite the country's opioid-prescribing limitations, issues in properly implementing these rules remain, resulting in the ongoing incidence of opioid misuse.[10] Furthermore, the social acceptance and normalization of opioid use in specific situations contribute to the problem, producing a culture where substance misuse is not.[8] The lack of strict enforcement of opioid-dispensing restrictions at community pharmacies also contributes to opioid misuse in patient populations, such as individuals with sickle cell illness.[11]

Furthermore, students' attitudes and beliefs about opioids have a noteworthy influence on their overuse. Pharmacy schools should add opioid misuse management

into their curricula to teach future healthcare professionals about the hazards associated with these medicines.[12] Furthermore, students' prescription behavior has shifted, with fewer students willing to be prescribed opioids in clinical practice, indicating a rising knowledge of the hazards associated with these drugs.[13] This shift in attitude toward opioid prescription mirrors a larger trend of healthcare professionals and students adopting more cautious and educated practices.

When tackling the opioid issue among Nigerian students, sociocultural elements that affect pain treatment practices in the nation must be evaluated.[14] These issues, such as human resource restrictions, infrastructural problems, and budgetary constraints, influence effective pain management and lead to opioid misuse as a coping mechanism.[14] Furthermore, the modest presentation of OUD in some patient populations, such as those with sickle cell disease, emphasizes the significance of early diagnosis and referral to treatment facilities for appropriate management.[15]

4. Types of opioids consumed

In Nigeria, the opioid landscape is characterized by a wide range of drugs, with tramadol and codeine as the most often abused opioids. Tramadol, a synthetic opioid analgesic similar to meperidine, has become popular because it is more easily accessible and thought to be safer than conventional opioids. It is commonly used to treat moderate-to-severe pain; however, it is also becoming increasingly popular for its psychedelic properties. Studies have revealed that tramadol abuse is prevalent among young people, raising serious public health issues.[16,17]

Non-prescription opioids, also known as illicit opioids, are those that are not legally prescribed by a registered medical practitioner. They are often obtained and used illegally, usually injected, snorted, or smoked. Heroin, opium, and illicitly manufactured fentanyl are some of the most common non-prescription opioids. Some of these are illicitly manufactured or present as counterfeit pills, illicit opioids pressed into pills that mimic prescription opioids.[3,4,18] Prescription opioids are those prescribed by a registered medical practitioner. These are legally produced but are abused considerably by students with OUD. Oxycodone, hydrocodone, morphine, codeine, fentanyl, methadone, hydromorphone, oxymorphone, buprenorphine, tramadol, and tapentadol are the commonly prescribed opioids for pain but carry a risk of misuse and addiction. These drugs are also used in combination with other medications such as acetaminophen. Methadone is also used as a medication for the assisted treatment of opioid addiction.[19,20]

Codeine is another extensively abused opioid. It is commonly present in cough syrups and is easily accessible over the counter in many Nigerian pharmacies. The availability of codeine-containing products has led to its misuse, particularly among students who may use it for recreation or self-medication.[6] The "codeine diet," in which people consume significant amounts of codeine syrup combined with soft beverages, was a trend among Nigerian adolescents, illustrating the cultural norms around opioid use.[21]

Oxycodone and hydrocodone are less often reported in Nigeria due to their limited availability and stricter regulatory requirements. However, opiate abuse is not completely absent because some students may seek them out illegally for recreation or pain management.[22] The rise in polydrug use, where opioids are combined with alcohol or stimulants, complicates the opioid consumption picture among Nigerian students.[21]

5. Methods of opioid consumption

The methods of opioid use among Nigerian students vary greatly based on cultural conventions, availability, and personal preferences. Oral consumption is the most common delivery method, particularly for tramadol and codeine. Students may mix them with liquids, such as soft drinks or alcohol, to improve their effects. This strategy increases not only the risk of overdosing but also the likelihood of developing substance use disorders.[21,22]

Injecting opioids has also been documented; however, it is less frequent among the general student population. This approach is often associated with more severe substance use problems and is frequently observed among marginalized populations or individuals with a history of intravenous drug use.[23] The stigma associated with the use of injectable drugs may discourage many students from using this approach, resulting in a preference for oral use.

In addition to traditional methods of use, the trend of combining opioids with other drugs to obtain the desired effects has been increasing. For example, tramadol combined with alcohol or other stimulants is a common practice among students seeking to improve their experiences at social gatherings or parties.[21] This polydrug use has serious health hazards because the combination of multiple drugs might result in unforeseen and deadly effects.

The motives for opioid use among Nigerian students vary. Many students have reported taking opioids to deal with academic stress, emotional discomfort, or social pressure. The cultural environment in which these medications are taken significantly affects the views about opioid use. For example, the normalization of some

consuming behaviors, such as the "codeine diet," reflects broader cultural views that may minimize the dangers of opioid misuse.[21,22]

6. Side effects and adverse effects of opioid use

Although opioids are effective in managing pain, they are associated with various side effects and adverse effects that can significantly affect the quality of life of individuals, particularly among vulnerable populations such as students. Understanding these effects is crucial for developing preventive strategies against opioid misuse, particularly among Nigerian students, who may have limited awareness of the potential dangers associated with opioid use. This section delves into the side effects and adverse effects of opioid use, highlighting their implications for health and well-being.

6.1. Common side effects of opioids

Opioids have different side effects that can be classified into common and severe categories. The most prevalent side effects are nausea, vomiting, constipation, sedation, and respiratory depression. Nausea and vomiting are particularly common and affect a significant proportion of patients receiving opioid therapy. Studies have indicated that these emetic effects can lead to the discontinuation of opioid use, undermining pain management strategies.[24,25]

Constipation is another prevalent side effect, often referred to as opioid-induced constipation (OIC). OIC affects 15 – 70% of patients on opioid therapy depending on the specific opioid and dosage.[26] This condition can lead to significant discomfort and may require additional medical interventions, further complicating pain management.[27] The mechanisms behind OIC involve the inhibition of excitatory neural pathways in the gastrointestinal tract, resulting in decreased colonic propulsion.[26]

Sedation is frequently observed, particularly during the initial stages of opioid therapy or with increasing dose. This side effect can impair cognitive function and daily activities, posing risks for students who may already be dealing with academic pressures.[28,29] Furthermore, respiratory depression is a severe side effect that can lead to life-threatening situations, particularly in cases of overdose or when opioids are combined with other central nervous system depressants.[28,30]

6.2. Long-term adverse effects

The long-term use of opioids can lead to more serious adverse effects, including the development of tolerance, physical dependence, and addiction. Tolerance occurs when the body becomes accustomed to the presence of the drug, necessitating higher doses to achieve the same analgesic effect.[25,31] This phenomenon can lead to a cycle of increasing dosage and increased risk of adverse effects, including overdose.

Physical dependence is characterized by withdrawal symptoms when the drug dose is reduced or discontinued. Symptoms can vary from mild discomfort to severe physiological reactions, complicating opioid therapy cessation.[32] The psychological aspect of addiction, which includes compulsive drug-seeking behavior despite harmful consequences, poses significant challenges for individuals, particularly students who may be under stress.[31]

Moreover, chronic opioid use has been linked to cognitive decline and mood disorders, further intensifying the challenges faced by students. Research indicates that long-term opioid therapy can impair cognitive functions, leading to difficulties in concentration and memory, which are critical for academic success.[29,33]

6.3. Impact on the quality of life

The side and adverse effects of opioids can profoundly affect an individual's quality of life. For students, the combination of pain management and side effects of opioids can decline academic performance and social interactions. The stigma surrounding opioid use, particularly within cultural contexts like Nigeria, may further isolate individuals who struggle with opioid-related issues.[34,35]

In addition, the financial burden associated with side effect management – such as the need for laxatives to counteract constipation or additional medical consultations – can strain the resources of students and their families.[27,36] This economic effect can deter students from seeking help or adhering to prescribed therapies, perpetuating a cycle of misuse and adverse outcomes.

7. Prevalence of opioid use among Nigerian students

Several studies in Nigeria have provided substantial data on opioid use among Nigerian students. For example, a cross-sectional study from the University of Fort Hare and Ondo State University in Nigeria showed that nearly one-fourth of students (24.5%) had engaged in recreational drug use and approximately 17.5% were still involved.[7] Another cross-sectional study from the University of Ibadan, Nigeria, in 2018 reported that more than one-third of the students (34.2%) had used opioids.[6] A study from Ilorin, Kwara State, Nigeria, reported that approximately 40% of students aged 10 – 19 years were involved in drug use, where approximately 4% of the selected students had already used heroin.[37] Heroin is an illicit opioid, mainly

used as a non-prescription opioid. A study based on government schools in Lagos, Nigeria, with students aged 10 – 15 years, reported that opioids had a 9% lifetime drug prevalence rate.[38] Opioid use was found to be associated with sex, education, school management, and economic status.[38] Most Nigerian students reported being introduced to opioids by friends, with only a few being introduced by family or relatives. Students also reported consuming opioids at parties because of peer pressure[6] and curiosity.[39] Most students believed that counseling could help address this situation[39] (Figure 1).

8. Cultural influences on opioid use in Nigeria

According to the United Nations Office on Drugs and Crime, approximately 4.6 million Nigerians, constituting 4.7% of the population, have used opioids for non-medical purposes.[40] Tramadol and codeine are the most commonly misused opioids.[40] Tramadol has become a widespread concern because of its availability and affordability. In Nigeria, attitudes and values surrounding drug use, particularly opioid use, are significantly influenced by the complex interactions among cultural norms, societal expectations, and modern influences.[41] Cultural practices and belief systems, which socially integrate alcohol and drug use, often shape these attitudes.[42] Although drug use is generally considered taboo in Nigeria and is discouraged because of its association with health risks, addiction, and societal problems, its prevalence and effect cannot be overlooked. A concerted effort has been made to inform children in Nigerian schools about the risks associated with substance misuse.[43] Through awareness campaigns and counseling sessions, school administrators and teachers strongly emphasize prevention, highlighting the detrimental effects on the academic performance and general well-being of students.[44]

The digital media in Nigeria typically portrays drug use negatively,[45] exposing its destructive consequences through news reports, public service announcements, and entertainment content. Parents and teachers take on vital roles in discouraging drug use among Nigerian youth, emphasizing the importance of making healthy choices and seeking help if needed.[46] Despite these efforts, societal pressures and peer influences may glamorize drug use, particularly among youths.[47] Research consistently shows that social and peer influences play crucial roles in the initiation and continuation of drug use among adolescents.[48] Some individuals may feel compelled to experiment with drugs to fit in with certain social circles. However, those who choose not to use drugs often rely on strong family values and educational messages that promote resilience and self-worth. The influence of modernity, including urbanization and exposure to global trends, has affected attitudes toward drug use in Nigeria. Klein and Fiki highlighted that the spread of drug use, including opioids, among Nigerian youth is due to increased exposure to

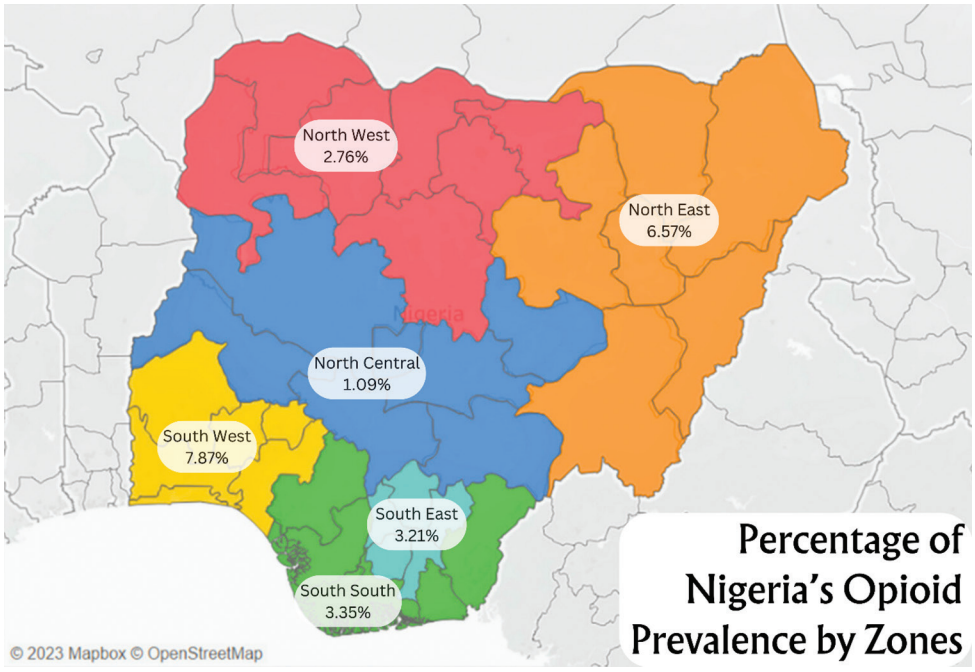


Figure 1. Percentage of Nigeria's Opioid Users in each of the six geographical zones. Map data made available from ©OpenStreetMap under the Open Database License.

Western influence.[49,50] This is further exacerbated by the neglect of rural communities and the activities of untrained individuals in the rural health sector.[49] Although the traditional values of community, family, and spirituality continue to shape societal norms, increasing access to technology and exposure to Western media may contribute to changing perceptions of substance use among members of the population. In addition, the rural-urban differences in attitudes toward modern technological gadgets, such as the global system of mobile communication, may play a role in shaping attitudes toward opioid use among Nigerian students.[51] The persistent stigma surrounding addiction is one of the challenges in addressing drug use in Nigeria. Ebigbo and Molobe highlighted the unique forms of cultural taboo and stigma faced by female African drug misusers, which can restrict their access to treatment.[52,53] Individuals and families affected by drug addiction may hesitate to seek help due to fear of judgment or discrimination. However, growing initiatives and advocacy efforts are aimed at reducing stigma and promoting open discussions about addiction and mental health in the country.

9. Strategies to curb opioid use among Nigerian students

9.1. Actions by the government and international bodies

Curbing opioid use in Nigeria requires a multifaceted approach involving government intervention, community engagement, education, accessible treatment options, and a concerted effort across all social classes. At the government level, laws and regulations related to opioid use in Nigeria have been enforced. The National Agency for Food and Drug Administration and Control regulates the distribution and use of opioids and other controlled substances in Nigeria.[54] Nigeria's drug laws and regulations are overseen by the National Drug Law Enforcement Agency (NDLEA). The NDLEA is tasked with reducing the unlawful manufacture, import, export, sale, and trafficking of psychoactive substances.[55] However, enforcing these regulations and combating illicit drug trafficking remains a challenge.

9.2. Actions by schools and institutions

Some non-profit organizations in Nigeria have been proactive in addressing drug misuse, particularly among adolescents, by implementing prevention programs in schools and communities to raise awareness about opioid misuse. These programs often target schools and communities to educate individuals about the risks of OUD and provide information on where to seek help. School-based substance use interventions have proven effective when implemented using various strategies.[56] Prevention and awareness programs have been conducted in Nigerian schools to educate students about the dangers of opioid use. These programs typically involve presentations, workshops, and counseling sessions led by health professionals or community organizations. In schools, counseling services may be available to students struggling with substance misuse. However, the availability and quality of these services can vary depending on school resources. Community-level interventions are crucial for effectively addressing OUD and reaching a broader audience in understanding the effect of OUD. Engaging Nigerian community leaders, religious institutions, and local organizations in awareness campaigns and support networks can help reduce stigma and promote the understanding of addiction as a treatable health condition.

9.3. Actions at the community level

In Nigeria, treatment options for OUD include counseling, detoxification, and rehabilitation programs.[57] Behavioral therapies and medication-assisted treatment may be available in specialized addiction treatment centers.[58] However, access to these services can be limited, particularly in the rural areas of Nigeria. Rehabilitation residences in Nigeria play a crucial role in supporting individuals recovering from OUD. Recovery residences may increase an individual's recovery capital, facilitate social support for abstinence, and foster a sense of community among residents.[59] Although the behavior of these residents varies, ideally, they should provide comprehensive care, including medical supervision, counseling, and vocational training to help individuals reintegrate into society. Challenges such as funding constraints and lack of trained personnel can affect the quality of care provided.

Access to help for OUD varies across different settings in Nigeria. Accessing treatment for OUD may be more challenging in rural or underserved areas because of limited healthcare infrastructure.[60] To ensure the effectiveness of efforts to reduce opioid use, ongoing monitoring and evaluation of prevention programs and treatment services are essential.[61,62] This includes collecting data on substance misuse trends, assessing the effect of interventions, and identifying areas for improvement or expansion of services. Strategies to curb opioid use in Nigeria require a coordinated effort involving government policies, community engagement, accessible treatment options, awareness programs, and ongoing education.

10. Global comparisons of opioid use in other countries

The global landscape of opioid use is diverse, with significant differences in consumption patterns, regulatory

frameworks, and public health effects among countries. Although opioid misuse is frequently linked to the United States due to its vast epidemic, this problem is a major concern in several other nations, albeit in different contexts and influences. This section examines opioid consumption patterns in several nations, highlighting major distinctions and parallels to the situation in Nigeria, and the larger implications for global public health.

The opioid problem in the United States has reached frightening proportions, with a sizable section of the population suffering from OUD. The crisis was partly caused by the aggressive marketing of prescription opioids in the late 1990s and early 2000s, which minimized the risks of addiction. Consequently, opioid prescriptions skyrocketed, causing a concurrent increase in addiction and overdose mortality. By 2019, opioids accounted for >70% of drug overdose deaths in the country.[63] The United States' experience demonstrates the hazards of overprescription and the need for strict regulatory control to avoid abuse.

In contrast, several European countries have practiced more careful opioid prescribing practices, resulting in lower rates of drug abuse and addiction. For example, a study of opioid consumption trends in Europe from 1990 to 2016 discovered that despite the increase in opioid use for pain management, misuse, and addiction rates remained much lower than that in the United States.[64] This might be ascribed to stricter regulatory frameworks and a more conservative attitude to pain treatment among European healthcare practitioners. Sweden and Norway have strong public health policies that promote non-opioid pain care options, which contribute to their effectiveness in preventing opioid use.[65]

However, the situation in Eastern Europe is more complicated, with Romania and Bulgaria having higher opioid misuse rates. This issue is frequently connected to socioeconomic situations and underfunded healthcare systems, leading to restricted access to legally prescribed opioids and a consequent reliance on illicit sources of pain management.[66] The variations in opioid availability and usage across Eastern and Western Europe highlight the importance of tailoring public health interventions to each region's specific difficulties.

Opioid use has historically been minimal in Asia, notably in Japan, due to cultural views toward pain treatment and stringent regulatory constraints. Recent researchers have found that despite the rising acknowledgment of chronic pain as a serious health problem, Japan has largely avoided the tremendous growth in opioid use seen in other countries.[67] However, there is still cause for concern because of the prescription opioid misuse and abuse rates of 45.5% and 24.5%, respectively, highlighting the need for increased awareness and preventive actions among healthcare practitioners.[18]

The situation in developing countries, such as Nigeria, is very different. Its opioid misuse is frequently connected to a lack of knowledge and education about the hazards associated with these drugs. Medical and pharmacy students in Nigeria consume codeine at high rates because of social pressure and a lack of education about the consequences of opiate usage.[68] This demonstrates a serious information gap and the need for comprehensive preventive interventions to address the growing trend of opioid misuse among Nigerian students.

Cultural variables also have a substantial effect on the views about opioid use in Nigeria. Because opioids are widely available and used in conventional medicine, many people believe they are harmless. This cultural acceptability can contribute to the higher drug abuse rates because people may not fully appreciate the risk of addiction and other negative consequences of opioid use.[69] Addressing these cultural elements is critical to the development of successful public health programs in Nigeria.

Globally, the World Health Organization (WHO) has underlined the significance of balanced pain treatment techniques that consider both the therapeutic advantages and hazards of opioid addiction. The WHO promotes the development of national policies that encourage safe prescription practices, public education campaigns, and greater access to addiction treatment services.[19] Such activities are critical in combating the global opioid issue, particularly in countries such as Nigeria, where a lack of knowledge and education adds to increased drug abuse rates.

11. Future directions and research needs

As the opioid crisis continues to spread worldwide, future paths and research requirements must be identified to effectively address the issues posed by opioid use, particularly among vulnerable groups such as students and youth. This section discusses critical topics for future research and intervention techniques that will help us gain a better knowledge of opioid use and prevention.

First, longitudinal studies that monitor opioid use patterns over time are urgently needed, particularly among teenagers and young adults. Such studies can provide important insights into the elements that contribute to the onset and course of opioid misuse. For example, a study conducted in the United States found that early exposure to prescription opioids during adolescence increases the risk of developing OUD later in life.[70] A similar study in

Nigeria could explore the trajectories of opioid misuse among students, identify important intervention points, and inform targeted preventive efforts.

In addition to quantitative research, qualitative studies are warranted to gain a better understanding of the cultural and socioeconomic forces that determine the views regarding opioid use among Nigerian students. Researchers can utilize approaches such as focus groups and interviews to investigate students' perspectives, beliefs, and experiences with opioid use and misuse. This qualitative technique can reveal the underlying motives for opioid misuse, including peer pressure, academic stress, and desire for pain relief, which may differ dramatically from those reported in Western settings.[68]

Furthermore, preventive treatments that are adapted to Nigeria's specific cultural and socioeconomic circumstances are needed. Programs that include community participation, education, and awareness campaigns can help reduce the stigma associated with opioid addiction and promote healthy coping techniques among adolescents. For example, peer-led education and support groups may promote a feeling of community while encouraging frank talks regarding substance use and mental health. Such interventions should be culturally sensitive and tailored to the unique values and conventions of the Nigerian population.

Research should also examine the effectiveness of Nigeria's current opioid-prescribing guidelines and laws. Understanding how these regulations affect opioid availability and usage can inform future policy decisions and reveal gaps in the existing regulatory system. Comparative research on the success of opioid policy in other countries could offer valuable insights to Nigeria as it develops a comprehensive strategy for opioid management.[19] For example, Canada's opioid-prescribing guidelines, which emphasize non-opioid alternatives and holistic pain management practices, could serve as a model for reducing addiction risks while ensuring effective pain treatment tailored to the Nigerian context.

The application of technology in opioid misuse prevention represents an intriguing area for future study. Mobile health applications and online platforms may be used to disseminate instructional content, provide resources for students, and improve access to mental healthcare. Research on the feasibility and effectiveness of such digital interventions in the Nigerian setting can help in the development of creative strategies for combating opioid usage among students.[66] These technological tools can also be used to track opioid use trends and identify at-risk individuals, allowing for early intervention and assistance.

Finally, coordination among academics, healthcare providers, politicians, and educational institutions is essential

Table 1. Summary of the actions taken to control opioid use among Nigerian students

Heading	Actions taken to control opioid use
Government efforts	The NAFDAC oversees opioid distribution, whereas the NDLEA enforces laws and fights illegal trafficking. They provide funding for prevention initiatives, treatment centers, and law enforcement while developing and updating laws to control opioid production, distribution, and prescription. [25]
Community initiatives	Mobilizing community leaders, religious groups, and local organizations to educate the public and combat stigma; setting up community support groups to assist those affected by opioid addiction; and involving community members in planning and executing culturally relevant interventions. [8]
School-based strategies	Organizing workshops, presentations, and counseling sessions by health experts to warn students about opioid dangers; offering counseling and mental health services in schools for students dealing with substance abuse; and encouraging student-led support groups to promote healthy choices and mutual support. [15]
Parental roles	Teaching parents to recognize signs of opioid misuse and understand the associated risks, promoting honest conversations between parents and children about drug use, and encouraging parents to supervise activities and provide emotional support to help children resist peer pressure. [17]
Educational institution's role	Including substance abuse education in school curricula for comprehensive student knowledge, equipping teachers and staff with the skills to identify and address opioid use among students, implementing policies, and establishing and enforcing school policies against drug use while supporting affected students. [15]
International organization's support	Offering technical expertise and resources for effective prevention and treatment programs, providing funding for local efforts to reduce opioid use and enhance healthcare infrastructure, partnering with Nigerian institutions for research, and sharing best practices in combating opioid misuse. [25]
Healthcare provider's contribution	Ensuring availability of counseling, detoxification and rehabilitation services, particularly in rural areas; providing behavioral therapies and medication-assisted treatments in specialized centers; and training healthcare workers to manage opioid addiction cases effectively and compassionately. [14]

Abbreviation: NDLEA: National drug law enforcement agency.

to develop a comprehensive plan for combating opioid use. Multidisciplinary methods that include stakeholders from multiple sectors can improve the efficacy of preventive and intervention activities. For example, collaborations between universities and healthcare institutions can help design comprehensive educational programs that provide students with the required knowledge and skills to manage the intricacies of opioid use and misuse.[20] Furthermore, multinational cooperation can facilitate information exchange and sharing of best practices, boosting the global response to the opioid pandemic (Table 1).

12. Conclusion

This review highlights the multifaceted nature of opioid misuse among Nigerian students, involving social, cultural, economic, and personal factors. Addressing this issue requires intersectoral coordination among the government, healthcare providers, communities, and educational institutions. Effective coordination is important for implementing opioid prevention and protection measures in Nigeria should be channeled through. Strategies should include health promotion, targeted protection, early diagnosis, prompt treatment, and rehabilitation of affected individuals. Despite some progress in preventing opioid misuse in Nigeria, it efforts are often hindered by insufficient law enforcement and healthcare facilities. Educational programs, along with rehabilitation efforts such as counseling or peer support groups, should be equally prioritized. Moreover, ongoing research, including cohort studies, case reports, and cross-sectional studies, is necessary to generate accurate data on knowledge, awareness, practice, and prevalence of the issue. This narrative review will contribute to the quality assessment of opioid misuse prevention, particularly in Nigeria, and help combat the issue effectively.

Acknowledgments

None.

Funding

None.

Conflict of interest

The authors declare that they have no competing interests.

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Writing–review & editing: Malik Olatunde Oduoye, Maryam Tariq

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data

Not applicable.

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