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## Opioid Use and Mortality in West and Central Africa: Public Health Burden, Determinants, and Policy Responses (2017–2020)

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### Abstract

Opioid misuse and related mortality have become emerging public health challenges in West and Central Africa. Although the global discourse on the opioid epidemic has focused on North America, evidence from the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization (WHO) reveals that Africa has developed a growing problem centered on the use of tramadol and codeine. Between 2017 and 2020, large-scale seizures, increasing hospital admissions, and policy restrictions illustrated both the magnitude and complexity of the crisis. Weak regulatory frameworks, widespread poverty, and

inadequate access to pain relief have created a dual crisis excess access for non-medical use and limited access for legitimate medical purposes. This review synthesizes regional literature published between 2017 and 2020 to describe epidemiological trends, determinants, policy responses, and ethical challenges associated with opioid misuse in West and Central Africa. The findings highlight the urgent need for balanced opioid governance that integrates surveillance, prevention, and equitable pain management across the region.

**Keywords:** Opioids, Tramadol, Codeine, Africa, Public Health, Mortality, Policy Response

### Introduction

The global opioid crisis has gained international attention as one of the most significant health emergencies of the twenty-first century. According to the UNODC World Drug Report (2017) <sup>[6]</sup>, approximately 190,000 drug-related deaths occur worldwide each year, and opioids account for about 76 percent of these fatalities. While synthetic opioids such as fentanyl have been responsible for large-scale mortality in North America, the crisis has evolved differently in Africa. In West and Central Africa, the challenge stems primarily from the non-medical use of pharmaceutical opioids such as tramadol and codeine (UNODC, 2020) <sup>[8]</sup>.

The rise in opioid misuse in Africa reflects complex interactions between poverty, weak regulatory systems, limited treatment access, and inadequate pain management infrastructure. The Drug Use in Nigeria 2018 Survey estimated that 14.4 percent of adults, about 14.3 million people, had used psychoactive substances within the previous year, and 2.4 million reported non-medical opioid use (UNODC, 2018) <sup>[7]</sup>. These figures are nearly three times the global average of 5.6 percent. Similar patterns have been observed in Ghana and Cameroon, where tramadol misuse has become a growing concern among youth and manual laborers (Yorke *et al.*, 2019) <sup>[10]</sup>.

At the same time, the region faces a shortage of opioids for legitimate medical purposes. The World Health Organization (2020) reports that only 14 percent of individuals who require palliative care globally receive it, and nearly half of those without access live in Africa. The ethical paradox of oversupply for misuse and scarcity for care highlights deep inequities in Africa's health and drug control systems (Bhadelia *et al.*, 2019) <sup>[3]</sup>. This review integrates evidence from international and regional sources to examine the epidemiological, policy, and ethical dimensions of opioid misuse in West and Central Africa from 2017 to 2020.

### Inclusion and Exclusion Criteria

This review focused on peer-reviewed and institutional literature that addressed opioid use, misuse, or related mortality in West and Central Africa between January 2017 and December 2020.

### Inclusion criteria

1. Studies and reports conducted within West or Central African countries, including Nigeria, Ghana, Cameroon, Côte d'Ivoire, Benin, Togo, Niger, Senegal, Sierra Leone, Liberia, Mali, Burkina Faso, Chad, and the Democratic Republic of Congo.
2. Publications from 2017 to 2020 corresponding to the period of significant opioid-related policy and epidemiological change.
3. Articles addressing non-medical opioid use, opioid-related harm, mortality, policy interventions, or access to pain relief.
4. Peer-reviewed journal articles, government or intergovernmental reports (UNODC, WHO, NAFDAC).
5. English-language publications.

### Exclusion criteria

1. Studies focusing exclusively on Northern, Eastern, or Southern Africa without a relevant discussion of West or Central Africa.
2. Publications before 2017 or after 2020, unless they contain data relevant to the target period.
3. Studies focusing primarily on non-opioid substances.
4. Editorials or opinion pieces lacking empirical data.
5. Reports with unclear methodology or non-validated data.

Searches were performed across PubMed, Scopus, Web of Science, and institutional repositories (UNODC, WHO, and NAFDAC). Additional documents were identified through screening of the reference list.

### Epidemiological Overview of Opioid Use

According to NODC surveillance reports, West Africa emerged as the largest center for tramadol trafficking and consumption in the world during the review period, with annual seizures exceeding 150 tons (UNODC, 2020) <sup>[8]</sup>. Nigeria, Ghana, and Côte d'Ivoire acted as significant entry and distribution points for this drug. Tramadol, initially marketed as a low-risk analgesic, has been widely diverted for non-medical use. The UNODC Drug Use in Nigeria 2018 Survey revealed that tramadol and codeine are the most commonly used opioids for non-medical purposes, often combined with alcohol or energy drinks to enhance stamina and alertness (UNODC, 2018) <sup>[7]</sup>.

Hospital and community-level studies have recorded increasing opioid poisoning admissions. In Nigeria, Lagos University Teaching Hospital documented a consistent rise in acute poisoning cases between 2016 and 2019, with opioids accounting for a growing proportion (Akinwunmi *et al.*, 2018) <sup>[2]</sup>. In Ghana, tramadol-related emergency visits have increased significantly since 2017 (Yorke *et al.*, 2019) <sup>[10]</sup>. While robust mortality statistics are lacking, hospital-based data suggest rising opioid-related fatalities. The limited number of toxicology laboratories across the region contributes to under-reporting, and UNODC (2020) <sup>[8]</sup> acknowledges that Africa contributes less than five percent of global drug-mortality data despite evidence of growing harm.

### Determinants and Consequences of Opioid Misuse

The determinants of opioid misuse in Africa are multidimensional. Economic vulnerability is a major driver, as low-income populations use opioids to suppress pain, hunger, and fatigue. Tramadol is often used by manual

laborers, commercial drivers, and motorcycle-taxi riders to sustain productivity (Ajayi & Adebisi, 2019) <sup>[1]</sup>. Among youth, codeine-containing cough syrups gained cultural significance as recreational drugs, popularized through music and social media.

Gendered patterns are emerging although men are predominant users, women's access through informal pharmaceutical networks is increasing. Over-the-counter sales of codeine and tramadol for self-medication remain common in rural and peri-urban areas (UNODC, 2018) <sup>[7]</sup>. The stigma associated with drug dependence discourages individuals from seeking treatment, while the lack of rehabilitation centers, often fewer than one per million residents, limits care availability.

Clinically, chronic tramadol misuse leads to dependence, neurological dysfunction, and withdrawal symptoms (Yorke *et al.*, 2019) <sup>[10]</sup>. Health systems already overburdened by infectious diseases face additional pressure from opioid-related admissions. Socially, communities experience declining productivity, family instability, and rising drug-related crime. The UNODC (2020) <sup>[8]</sup> highlights how the illicit opioid trade undermines social cohesion and economic security in fragile states.

### Health System and Policy Responses

African governments have begun addressing the opioid problem, but responses vary in scope and effectiveness. The regulatory framework remains heavily restrictive, prioritizing Control over access. Narcotics laws in many countries still reflect colonial-era conventions emphasizing prohibition rather than balanced regulation. Consequently, even when WHO guidelines promote morphine use for pain relief, hospitals face complex import and licensing barriers. The World Health Organization (2020) reports that morphine consumption in most African countries remains near zero, even for terminal cancer and HIV care.

In May 2018, the Nigerian National Agency for Food, Drug Administration, and Control implemented a nationwide ban on codeine-containing cough syrups due to widespread misuse among young people (NAFDAC, 2018) <sup>[5]</sup>. Production by major pharmaceutical companies was suspended, and licenses were revoked. Although the ban demonstrated government responsiveness, it triggered unintended consequences. Users substitute codeine with high-dose tramadol tablets smuggled through porous borders. UNODC (2020) <sup>[8]</sup> reported that tramadol seizures in Nigeria and neighboring states rose sharply after the ban, highlighting the substitution effect rather than a reduction in overall misuse.

The lack of coordinated regional policy remains a critical gap. ECOWAS has not yet established a unified pharmacovigilance network or shared opioid data platform. Without harmonized regulation, traffickers exploit inconsistencies between national laws, moving drugs through the weakest jurisdictions.

### Ethical and Access Issues in Pain Management

Beyond misuse, Africa faces a parallel crisis of untreated pain. Bhadelia *et al.* (2019) <sup>[3]</sup> report that the poorest half of the world's population receives only one percent of available opioid analgesics. The WHO (2020) <sup>[9]</sup> confirms that regulatory fear and inadequate supply chains restrict access to essential pain relief. Palliative care coverage is minimal, particularly in sub-Saharan Africa, where cancer and HIV

prevalence are high. Patients frequently die in avoidable pain due to administrative barriers or cultural misconceptions about opioids.

Brennan, Lohman, and Gwyther (2019) <sup>[4]</sup> argue that access to pain management is a fundamental human right embedded within the right to health. The ethical dilemma for African policymakers lies in reconciling drug control with compassion and empathy. Excessive fear of diversion has led to under prescription and institutional inertia. In Ghana and Nigeria, Yorke *et al.* (2019) <sup>[10]</sup> found that clinicians rely on tramadol as a substitute for morphine due to limited supply and complex importation processes. This practice highlights how policy deficiencies can distort clinical care, leading to both misuse and medical inadequacy.

A human-rights-based approach to opioid governance would promote equitable access while strengthening oversight. WHO (2020) <sup>[9]</sup> recommends integrating palliative care into primary health systems and training healthcare professionals in responsible opioid use. Regional cooperation under ECOWAS could also facilitate secure distribution channels and joint regulatory frameworks.

### Conclusion

Opioid misuse and mortality in West and Central Africa reflect a confluence of social, economic, and structural factors. The period between 2017 and 2020 saw a sharp increase in tramadol and codeine misuse, widespread trafficking, and fragmented policy responses. The 2018 Nigerian codeine ban highlighted government awareness but also exposed the unintended consequences of isolated interventions. At the same time, limited access to legitimate pain relief continues to cause preventable suffering across the continent.

Addressing these dual challenges requires a balanced public health strategy that combines regulation with empathy. Strengthening regional surveillance, expanding rehabilitation services, and ensuring equitable access to palliative care are critical priorities. Policymakers should shift from punitive approaches toward evidence-based governance that protects communities while upholding human dignity. Only through integrated health, social, and ethical frameworks can Africa effectively confront its evolving opioid crisis.

### Recommendations

A comprehensive and balanced strategy is urgently needed to tackle the intertwined crises of opioid misuse and inadequate pain management in West and Central Africa. Governments should establish national drug observatories and strengthen toxicovigilance systems to generate reliable, disaggregated data on opioid consumption, morbidity, and mortality.

Regional collaboration under ECOWAS should be prioritized to harmonize scheduling laws, streamline opioid procurement for medical use, and dismantle trafficking routes that exploit weak regulatory boundaries. Public health ministries must incorporate evidence-based substance use prevention and treatment programs within primary health care, ensuring the availability of methadone and psychosocial support services.

Education for health workers should emphasize safe prescribing practices, harm reduction, and the ethics of compassionate pain relief. At the same time, opioid access policies must be reformed to guarantee that morphine and other essential analgesics are affordable and consistently available in all tertiary and palliative care facilities.

International partnerships with the WHO, UNODC, and civil society should bolster these efforts through capacity building, research funding, and community awareness campaigns. By adopting coordinated, rights-based interventions, African health systems can reduce opioid misuse while fulfilling the moral and clinical imperative to alleviate pain.

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