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Opioid Use Disorder in Brazil: Emerging Patterns, Critical Gaps, and Implications for Public Health Policy - A Systematic Review

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Opioid Use Disorder in Brazil: Emerging Patterns, Critical Gaps, and Implications for Public Health Policy — A Systematic Review

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Abstract

Background: Opioid Use Disorder (OUD) has become a major global public health concern, yet its epidemiological and clinical profile in Brazil remains insufficiently characterized. This systematic review aimed to synthesize the available evidence on OUD in the Brazilian context.

Methods: Following a protocol registered in PROSPERO (CRD420250656485), we searched PubMed, BVS/LILACS, Scopus, and Web of Science from inception to April 30, 2025. Studies conducted in Brazil and involving individuals with OUD were eligible. Methodological quality was assessed using standardized critical appraisal tools.

Results: Twelve studies met inclusion criteria, with 58% rated as high methodological quality. Most studies reported low absolute numbers of opioid users. Illicit opioid use was rare (<0.5%), whereas non-medical use of prescription opioids was considerably more prevalent. Health care professionals showed a higher risk. No randomized controlled trials (RCTs) were identified.

Conclusions: Brazil faces a distinct opioid landscape characterized by low prevalence of illicit opioid use but notable misuse of prescription opioids. The absence of RCTs evaluating treatment effectiveness represents a significant evidence gap. Urgent research is needed to assess the feasibility and effectiveness of Medication for Opioid Use Disorder (MOUD) within the Brazilian health care system (SUS).

Keywords: opioid use disorder; Brazil; systematic review; prescription opioids; public health

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1. Introduction

Opioid Use Disorder (OUD) is a chronic and relapsing condition that represents a contemporary and severe global public health crisis.[1] Defined by the persistent and harmful use of opioids, OUD leads to clinically significant impairment and is associated with high rates of morbidity and mortality.[2] Currently, OUD is responsible for more than 120,000 deaths annually and affects over 26 million people worldwide.[3,4] The epidemic is most pronounced in the United States, which alone accounts for more than 100,000 overdose deaths per year and where a pronounced rise in opioid prescriptions for chronic pain in the late 1990s triggered widespread misuse, OUD, and a subsequent wave of overdose deaths fueled by illicitly manufactured fentanyl.[5-7] Although less intense, a related pattern has also emerged in parts of Europe. This has evolved into a major public health emergency, with opioids now representing the leading cause of accidental death in high-income countries (HICs).[6,8-10]

In contrast, the landscape of opioid use and related harms in Brazil had been characterized by limited access to prescription opioids and low rates of illicit opioid consumption.[11] However, recent evidence suggests a significant epidemiological shift is underway. Echoing the early stages of the North American crisis, Brazil has witnessed a marked increase in the prescription and consumption of pharmaceutical opioids.[12] Between 2009 and 2020, opioid prescriptions grew nearly 500%, driven predominantly by increases in codeine dispensing. A 2015 national survey found that approximately 3% of the population had engaged in the non-medical use of prescription opioids—a prevalence higher than that of crack cocaine.[12,13] This pattern suggests that Brazil's primary opioid-related challenge may not be the interdiction of

illicit supply, but rather the regulation, prescription monitoring, and management of pharmaceutical opioids, representing a "silent epidemic" that demands urgent attention.

Medication for Opioid Use Disorder (MOUD)—including agonists such as methadone and buprenorphine—remains the gold-standard treatment, proven to reduce opioid use, prevent overdose, and improve quality of life.[14,15] Nonetheless, global access to these treatments remains critically limited, and in Brazil, structural, regulatory, and training barriers continue to restrict their implementation and availability.[11] Evidence from HICs shows that untreated OUD is associated with substantial healthcare costs[16], reinforcing concerns that Brazil may face similar pressures. This treatment gap, combined with rising prevalence, signals a likely future strain on the public health system (Sistema Único de Saúde - SUS) if corrective actions are not implemented.

Despite growing awareness, a major knowledge gap persists regarding the epidemiology, clinical characteristics, and treatment outcomes for OUD in low- and middle-income countries (LMICs) such as Brazil. While isolated studies and consumption data highlight the magnitude of the problem, a comprehensive synthesis of the national literature is lacking.[11] Therefore, it is essential to map the current state of research, identify key vulnerabilities and care gaps, and guide the development of awareness, effective public health policies and clinical guidelines tailored to the Brazilian context.

In this context, this systematic review aims to analyze and synthesize the Brazilian scientific literature on OUD, focusing on its epidemiological, clinical, and therapeutic aspects, to construct a comprehensive overview of the disorder within the national context.

2. Methods

This systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement.[17] The review protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) under the registration number PROSPERO 2025 CRD420250656485.

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2.1. Research Question and PICO Framework

The review was guided by the following research question: "What is the epidemiological profile and clinical characteristics of OUD in Brazil?" To operationalize this question, we used the Population, Intervention/Exposure, Comparator, and Outcomes (PICO) framework. Population: Individuals residing in Brazil with a diagnosis or evidence of OUD, opioid misuse, abuse, or dependence, according to established diagnostic criteria —such as the DSM, ICD—or validated screening tools. No age restrictions were applied. Intervention/Exposure: Not applicable as a strict inclusion criterion. We included studies assessing prevalence, incidence, risk factors, clinical characteristics, treatment outcomes, and health impacts related to OUD. Comparators: Not required for inclusion. When present (e.g., non-users, placebo, standard care), they were included in the analysis. Outcomes: The primary outcomes were the prevalence and incidence of OUD. Secondary outcomes included mortality, healthcare service utilization, treatment efficacy, quality of life, and associated harms.

2.2. Information Sources and Search Strategy

A comprehensive literature search was conducted in four electronic databases: PubMed/MEDLINE, Scopus, Web of Science, and the Virtual Health Library (VHL), which includes LILACS. All databases were searched from their inception to April 30, 2025, and the search was conducted on that date. No publication date limits were applied, and studies in Portuguese, English, and Spanish were eligible for inclusion.

The search strategy combined controlled vocabulary (i.e., MeSH and DeCS terms) with free-text keywords. The core concepts were "Opioids," "Opioid-Related Disorders," and "Brazil." The full search strategy is presented in Table 1.

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Table 1. Search Strategy

Pubmed: 108	((("analgesics, opioid"[MeSH Terms] OR "opioid"[All Fields] OR "opioids"[All Fields]) OR ("opiate alkaloids"[MeSH Terms] OR "opiate"[All Fields] OR "opiates"[All Fields]) OR ("opium"[MeSH Terms] OR "opium"[All Fields])) AND (("behavior, addictive"[MeSH Terms] OR "addiction"[All Fields]) OR ("dependency, psychological"[MeSH Terms] OR "dependence"[All Fields]) OR ("substance related disorders"[MeSH Terms] OR "abuse"[All Fields]) OR "misuse"[All Fields] OR "disorder"[All Fields] OR "prescription"[All Fields])) AND ("brazil"[MeSH Terms] OR "brazil"[All Fields] OR "Brasil"[All Fields])
Scopus: 133	(TITLE-ABS-KEY (opioids OR opioid OR opiate OR opium) AND TITLE-ABS-KEY (addiction OR addictions OR dependence OR dependences OR abuse OR abuses OR misuse OR disorder OR disorders OR prescription) AND TITLE-ABS-KEY (brazil OR brasil)) AND (LIMIT-TO (DOCTYPE , "ar"))
Web of science: 65	Opioids OR Opioid OR Opiate OR Opium (Topic) and Addiction OR Addictions OR Dependence OR Dependences OR Abuse OR Abuses OR Misuse OR Disorder OR Disorders OR Prescription (Topic) and Brazil OR Brasil (Topic)
BVS: 76	(opioids OR opioid OR opiate OR opium) AND (addiction OR addictions OR dependence OR dependences OR abuse OR abuses OR misuse OR disorder OR disorders OR prescription) AND (brazil OR brasil) AND type_of_study:("risk_factors_studies" OR

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"observational_studies" OR "prevalence_studies" OR "guideline" OR "diagnostic_studies" OR "etiology_studies" OR "clinical_trials" OR "qualitative_research" OR "prognostic_studies" OR "screening_studies" OR "evaluation_studies" OR "health_economic_evaluation" OR "incidence_studies" OR "health_technology_assessment") AND instance:"lilacsplus"

2.3. Eligibility Criteria and Selection Process

Eligible study designs included randomized controlled trials, non-randomized trials, and observational studies (cohort, case-control, and cross-sectional). We excluded non-original research (e.g., reviews, editorials, commentaries), studies conducted outside of Brazil, and pre-clinical or animal studies. After the initial screening and quality assessment, studies were also excluded if they did not directly assess OUD.

All records identified through the database searches were imported into a reference management software Rayyan, where 170 duplicates were removed and 8 records removed for other reasons (e.g., retracted articles) were excluded, resulting in 204 unique articles. Subsequently, two reviewers M.C.O and H.A.B. independently screened the titles and abstracts of all unique records for potential eligibility. The full texts of all potentially relevant articles were then retrieved and assessed independently by the same two reviewers against the pre-defined eligibility criteria. Any disagreements at either the screening or full-text assessment stage were resolved through discussion and, if necessary, consultation with a third reviewer J.M.C.M.

After full-text assessment, five studies were excluded: two did not assess OUD as a primary outcome and three had very small sample sizes (N=1, N=3, and N=8, respectively) that would have limited their contribution to the synthesis. The final sample comprised twelve studies meeting all inclusion criteria. The results of the selection process are detailed in the PRISMA flow diagram (Figure 1).

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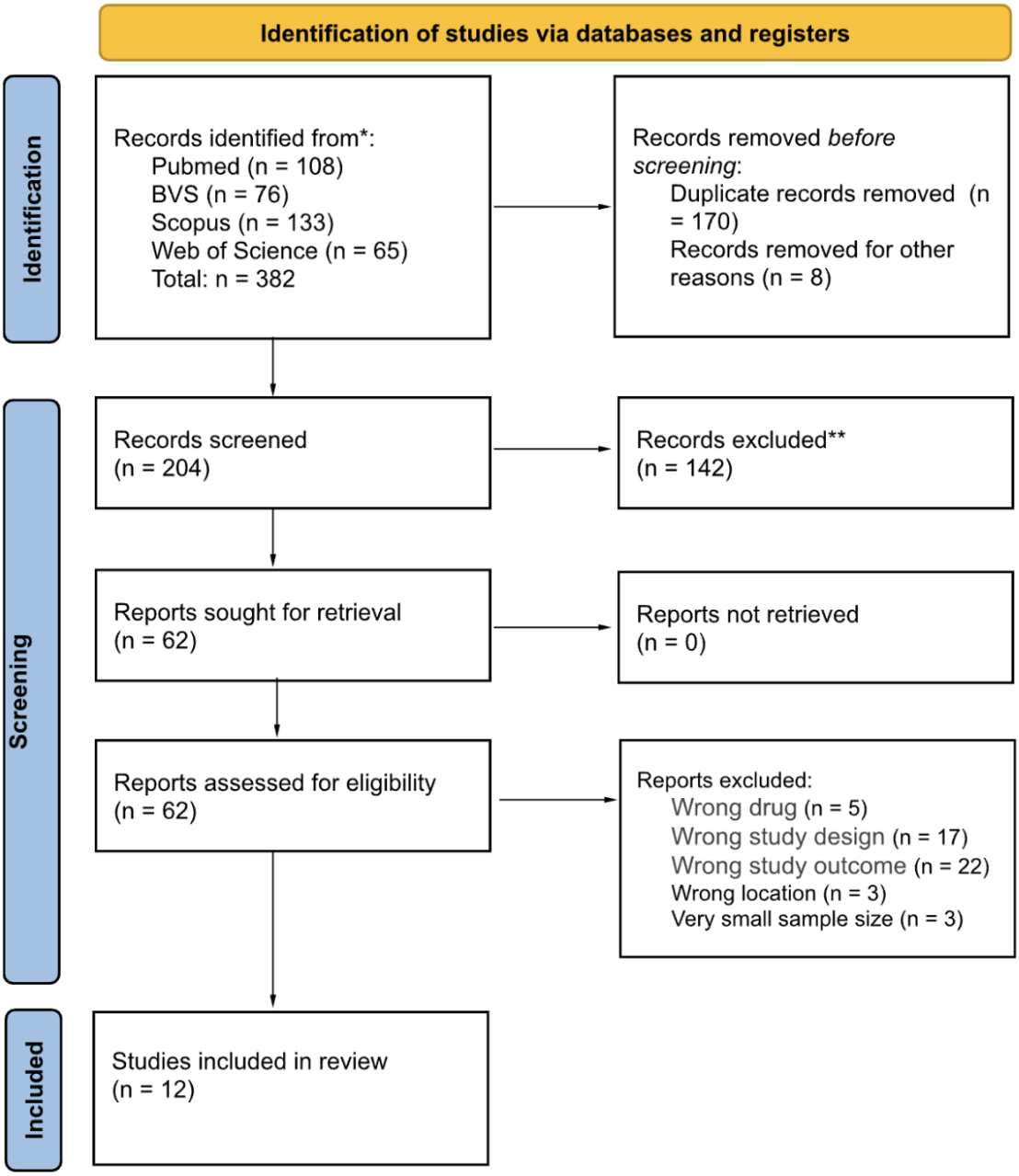


Figure 1 - PRISMA Flow

2.4. Data Collection Process and Data Items

The extracted variables included study identification details (author(s) and year of publication), study characteristics (design, setting, and geographic location within Brazil), participant characteristics (sample size, age, sex, and the diagnostic criteria used for OUD), and opioid-related data (types of opioids analyzed, prevalence or incidence estimates, measures of effect such as odds ratios or hazard ratios with 95% confidence intervals, and the main findings reported by the authors).

2.5. Risk of Bias Assessment

The methodological quality and risk of bias of each included study were independently assessed by two reviewers using the appropriate Joanna Briggs Institute (JBI) critical appraisal tool for the study design: Analytical Cross-Sectional Studies: JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies; Prevalence Studies: JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data; Cohort Studies: JBI Critical Appraisal Checklist for Cohort Studies; Case Series and Retrospective Studies: JBI Critical Appraisal Checklist for Case Series.[18]

Each study was rated as having "high," "moderate," or "low" methodological quality based on the proportion of criteria met. Disagreements were resolved through discussion. The results of the risk of bias assessment are presented in Table 2 and were used to inform the narrative synthesis and to assess the overall strength of the evidence.

2.6. Synthesis of Results

Given the heterogeneity in study designs, populations, and outcomes, a formal meta-analysis was not feasible. Instead, a structured narrative synthesis was conducted, as the epidemiological profile of OUD in Brazil is still being clarified. Findings were organized chronologically to illustrate the evolution of OUD research over time, and the results of the risk of bias assessment were incorporated to contextualize the strength and reliability of the evidence.

3. Results

3.1. Study Selection and Characteristics

Sixty-two articles were assessed for eligibility. A total of fifty full-text articles were excluded, resulting in twelve studies that met the inclusion criteria and were included in the narrative synthesis. The included studies were published between 2006 and 2025. The majority were cross-sectional in design (n=6; 50%), followed by retrospective analyses of administrative data (n=3; 25%), one national survey analysis (n=1; 8.3%), one prospective cohort study (n=1; 8.3%), and one ecological study (n=1; 8.3%) (Table 2).

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3.2. Methodological Quality

The methodological quality of the included studies was heterogeneous. Seven studies (58.3%) were rated as having high quality, four (33.3%) as moderate, and 1 (8.3%) as low-to-moderate. The main methodological limitations were the use of non-probabilistic convenience samples and the potential for selection bias in several studies.

3.3. Synthesis of Findings: A Chronological Perspective

Early Insights (2006-2012)

Early research into opioid use in Brazil was sparse and focused on specific subpopulations. A 2006 school-based survey in Southern Brazil found a lifetime prevalence of opiate use of 0.8% among 5,006 adolescents, providing one of the first quantitative estimates in this demographic.[19] A decade later, a study of 57 treatment-seeking anesthesiologists reported that 59.6% abused opioids.[20] This high prevalence, however, should be interpreted with caution, as the study's use of a convenience sample of treatment-seeking individuals likely resulted in a significant overestimation due to selection bias.

The Rise of National Data (2015-2021)

A new phase of research emerged with the availability of large-scale national data. The Brazilian Household Survey on Substance Use (BHSU-3) conducted in 2015, provided the most robust national prevalence estimates to date.[21] Krawczyk et al. (2020) analyzed this data, reporting a lifetime prevalence of non-medical use of opioid analgesics of 2.9% (95% CI: 2.3-3.4) and a much lower lifetime prevalence of heroin use at 0.3% (95% CI: 0.2-0.4). The study also highlighted significant demographic and socioeconomic disparities: past-year non-medical use was significantly higher among females (PR: 0.54 for males), individuals aged 25-44, and those in lower-income brackets. Specifically, the prevalence was lower among males, younger individuals (12-24 years), and those with higher family incomes (> R$1,501 per month). These findings suggest a distinct epidemiological profile for non-medical opioid use in Brazil, with a notable concentration among women and middle-aged adults in lower socioeconomic strata. [13]

Another analysis of the BHSU-3 found a 12-month opioid use prevalence of 1.7% among people living with HIV/AIDS (PLWHA), compared to 1.4% in HIV-

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negative individuals (p=0.93).[22] Despite the non-significant difference in opioid use, PLWHA demonstrated distinct demographic characteristics and higher rates of other substance use. They were more likely to identify as homosexual (16% vs. 0.8%, p<0.01), had lower educational attainment (57% with less than fundamental education vs. 36%, p<0.01), and showed significantly higher 12-month prevalence of tobacco (45.3% vs. 15.3%, p<0.01), crack-cocaine (5.3% vs. 0.3%, p<0.01), and inhalants (3.6% vs. 0.2%, p=0.03). PLWHA also reported substantially worse self-rated health (83.5% reporting regular or poor health vs. 26%, p<0.01), highlighting the need for integrated HIV and substance use treatment services. [22]

During this period, research also began to examine other high-risk groups. A recent internet-based survey of 1,295 anesthesiologists highlighted a notable pattern of opioid-related vulnerability: opioids accounted for 67% of the substances involved in abuse, 82% of respondents knew a colleague with a substance use disorder, and 4.4% reported illicit opioid use themselves. Despite this, only 1.3% worked in settings with routine drug testing.[23] While this estimate is more reliable than the 2012 figure, its reliance on a non-probabilistic online sample warrants a moderate quality rating. Without evidence-based interventions, this burden is likely to continue rising, mirroring patterns observed in HICs.

Recent Evidence on Morbidity, Mortality, and Clinical Profiles (2021-2025)

The most recent wave of research has leveraged large administrative databases and rigorous diagnostic methods to quantify the severe consequences of OUD. Two studies analyzed national mortality data over two decades (2000-2020). Bianco et al. (2023) identified 267 opioid-related deaths, accounting for 1.25% of all drug-related fatalities. This figure is likely a substantial underestimate, as 76.7% of overdose death records did not specify the drug involved.[24] Guimarães et al. (2023), in a large prospective cohort of over 1.2 million psychiatric admissions, found a significantly elevated risk of suicide among patients with OUD (adjusted hazard ratio [aHR]: 2.71; 95% CI, 2.00–3.67), with this risk being particularly high among female patients (aHR 4.04; 95% CI 2.19–7.44).[25]

The Global Burden of Disease study provided a comprehensive measure of disease burden, estimating that OUD accounted for 82 disability-adjusted life years (DALYs) per 100,000 population in Brazil in 2019, it reflects a concerning upward trajectory over the past three decades. From 1990 to 2019, the age-standardized

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DALY rate for OUD in Brazil increased by 53.8%, from 52 to 80 DALYs per 100,000 population. This increase was primarily driven by a substantial rise in years lived with disability (YLDs), which grew by 53.8% over the same period. By 2019, Brazil had the highest OUD DALY rate in South America, surpassing countries like Peru (70 DALYs per 100,000) and Argentina (52 DALYs per 100,000). When compared to other substance use disorders in Brazil, OUD demonstrates a disproportionately high burden. The DALY rate for OUD (82 per 100,000) was nearly double that of cocaine use disorder (45 DALYs per 100,000) and more than four times higher than cannabis use disorder (19 DALYs per 100,000). This escalating burden, coupled with a 465% increase in prescription opioid consumption between 2009 and 2015, emphasize the urgency of addressing non-medical opioid use as a growing public health challenge in Brazil.[26]

Table 2. Characteristics of Included Studies (N=12)

Author, Year	**Study Design**	**Sample**				**OUD**	**Quality (JBI)**	**Key Findings**
		N	Age, Mean (SD) Years	Gender (M)	Setting			
Ribeiro et al., 2021[27]	Retrospective chart review	109	37.5 (8.87)	90%	O	36.7% heroin users	Moderate	Non-Brazilian patients showed a high prevalence of heroin use.

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Author, Year	Study Design	Sample				OUD	Quality (JBI)	Key Findings
Castaldelli-Maia et al et al., 2023[26]	Ecological study (GBD 2019)	365.8 million	0–19 (38.6%), 20–39 (31.8%), 40–59 (19.7%), 60–79 (8.5%),	49.3%	C	Brazil had the highest OUD DALY rates in South America by 2019 (82 per 100,000).	High	SUD substantially increased the GBD in South America from 1990 to 2019, with OUD emerging as the leading contributor.
Guimarães et al et al., 2022[25]	Prospective cohort	1,228,784	Most 18–39	64.7 %	I	1.41% of all suicides were from OUD	High	OUD associated with highest suicide risk (aHR 2.71), higher in females (aHR 4.04) than males (aHR 2.26)
Krawczyk et al et al., 2020[13]	National Survey Analysis	16,273	12-65	48.5%	C	2.9% non-medical lifetime use of opioids	High	Non-medical opioid use showed considerable prevalence (2.9%, 95% CI: 2.3-3.4), while heroin use remained low (0.3%, 95% CI: 0.2-0.4)
Palhares-Alves et al et al., 2012[20]	Retrospective chart review	57	36.1	77.2%	O	59,6%	Low to Moderate	OUD was highly prevalent among anesthesiologists seeking addiction treatment (59.6%)

BJP PRE-PROOF

Author, Year	Study Design	Sample				OUD	Quality (JBI)	Key Findings
De Boni et al., F. I. (2020)[22]	Cross-sectional survey	16,273	12–65	60.1%	C	OUD 1.7% (HIV-positive) vs. 1.4% (HIV-negative), p = 0.93.	High	Substance use patterns differ by HIV status. Higher prevalence of SUD among HIV-positive individuals
Vellozo EP et al. et al., 2020[29]	Cross-sectional survey	1,460	13.19	49.0%	S	Opiates use 11.5% (11.0% Experimental; 0.4% abusive; 0.1% OUD)	Moderate –High	Low prevalence of OUD among 1,460 students from public schools
Bianco et al et al., 2023[24]	Retrospective chart review	21,410	38.91	61.5%	F	5.36% Opioids	High	21,410 drug overdose deaths (2000-2020): 44.70% intentional, 76.72% lacked drug specification. Significant increasing trend over time
Sousa et al et al., 2021[23]	Cross-sectional survey	1,295	>40 (44.6%)	50.0%	H	67.05%	Moderate	High prevalence of OUD among Brazilian anesthesiologists
Castaldelli-Maia et al et al., 2018[30]	Cross-sectional	12,711	<22(38.93%) >22 (61.07%)	43.1%	S	Prescription opioids Mean age at Initiation was 21.33y / Prevalence of lifetime use 5.88	High	Significant risk of transition from cannabis first use to OUD

BJP PRE-PROOF

Author, Year	Study Design	Sample				OUD	Quality (JBI)	Key Findings
Da Silva Dal Pizzol et al. et al., 2006[19]	Cross-sectional survey	5,056	14.4	49%	S	0,8%	High	Minimal opioid use in adolescent students. Gender-specific substance use patterns identified
de Oliveira et al. et al., 2025[28]	Cross-sectional	314	39.44	75%	O	14.3%	Moderate	Healthcare professionals overrepresented (26.7%), chronic pain common (55.6%), increased service utilization

Abbreviations GBD, Global Burden of Disease; SUD, Substance Use Disorder; JBI, Joanna Briggs Institute; OUD, Opioid Use Disorder; DALYs, Disability-Adjusted Life Years.

N (Sample); Age (Mean); Gender (Male); Setting: O = Outpatient; I = Inpatient; ED = Emergency Department; F = Forensic; S = School-based; W = Workplace-based; C = Community/household survey.

Finally, studies in clinical settings have begun to provide a clearer picture of patients with OUD. Ribeiro et al. (2021), in a retrospective chart review, characterized a cohort of 40 heroin users in São Paulo, highlighting their social vulnerability.[27] The most recent study included (Oliveira et al., 2025), utilizing the gold-standard SCID-5 diagnostic interview, found that 14.3% of a clinical sample of 314 adult patients met the criteria for OUD, where 26.7% were healthcare professionals ($p < 0.001$; 95%CI 3.34 - 7.92), and there was a high incidence of chronic pain (55.6%) ($p < 0.001$; 95%CI 2.60 - 4.13), underscoring the importance of rigorous diagnostic assessment.[28]

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4. Discussion

Twelve studies were analyzed, offering a comprehensive and methodologically rigorous overview of OUD research in Brazil to date. The evidence portrays a heterogeneous and uneven landscape. Illicit opioid use, particularly heroin, remains remarkably low in the Brazilian population (~0.3%), contrasting sharply with the scenarios observed in HICs. In contrast, non-medical use of prescription opioids represents a growing concern, affecting approximately 3% of Brazilians.[13] Certain occupational groups, such as healthcare professionals, appear to bear a disproportionate burden, underscoring the need for targeted prevention and support strategies.[28] Perhaps most importantly, the complete absence of randomized controlled trials (RCTs) assessing treatment effectiveness for OUD in Brazil exposes a critical research gap.

These findings refine and expand upon previous integrative and narrative reviews.[11,31] While earlier studies primarily described patterns of opioid consumption, the present review systematically evaluates OUD itself—incorporating quality assessment and addressing clinical and public-health outcomes, including mortality and suicidality. This approach allows for a more nuanced understanding of Brazil's opioid landscape, situating it within global trends and highlighting areas requiring immediate policy and research attention.

The persistently low prevalence of heroin use suggests that Brazil has, for now, been spared a large-scale epidemic driven by illicitly manufactured opioids.[6,8] Unlike neighboring LMICs such as Argentina and Chile, where illicit fentanyl diversion has emerged[32], Brazil historically lacked an established illicit opioid market, largely because the drug trade has been dominated by cocaine. Against this backdrop, the rise in non-medical prescription opioid use demands attention, with prevalence comparable to early-2000s U.S. rates[2]. However, the first reported seizure of street fentanyl in a Brazilian state in 2023 signals a potential shift.[33] Taken together, these trends highlight insufficient monitoring of pharmaceutical opioids and limited public and professional awareness of their addictive potential, suggesting that Brazil's opioid challenge remains driven primarily by medical prescribing practices rather than illicit supply.

Occupational vulnerability is another pressing issue. High rates of opioid misuse among anesthesiologists and other medical professionals demand the development of structured prevention programs, systematic screening, and access

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to confidential mental-health and addiction support.[20,34,35] More broadly, the widespread availability of prescription opioids underscores the need for a national Prescription Drug Monitoring Program (PDMP) and continuing medical education focused on rational prescribing and risk mitigation in chronic pain management.[36]

Although Brazil lacks local RCTs, the international evidence base for MOUD is robust and consistent.[37,38] Expanding access to methadone and buprenorphine within the SUS should therefore be a national priority, accompanied by implementation research to assess feasibility, acceptability, and cost-effectiveness in local contexts.[39] Additionally, the strong association between OUD and suicide risk highlights the importance of integrated care models that jointly address substance use and mental health, as MOUD has demonstrated efficacy in reducing suicide-related mortality.[40]

4.1 Implications for Public Policy and Practice

Addressing these challenges requires coordinated, multisectoral action. Brazil currently lacks sufficient specialized treatment centers and clinicians trained to manage OUD, underscoring the need to expand multidisciplinary outpatient and inpatient services equipped to deliver evidence-based addiction care. Developing Brazilian-specific clinical guidelines and expanding access to MOUD—particularly methadone and buprenorphine—through regulatory simplification and training of primary care providers are also essential. Preventive strategies should prioritize high-risk groups, including healthcare professionals and individuals with chronic pain, through systematic screening, early intervention, and tailored educational programs. Enhancing epidemiological surveillance, improving toxicological reporting, expanding harm-reduction measures, and promoting public education to reduce stigma and encourage treatment seeking are equally important. Collectively, these measures would strengthen Brazil’s capacity to anticipate and mitigate opioid-related harms through coordinated, evidence-informed interventions.

4.2 Future Research Directions

Future research should include RCTs and longitudinal cohort studies to evaluate MOUD effectiveness, implementation, and long-term outcomes in Brazilian health settings. Improving surveillance and toxicological reporting is also essential to

BJP PRE-PROOF

address persistent gaps in mortality data and to generate reliable estimates of opioid-related harms.

4.3 Limitations

This review has several limitations. The included studies showed substantial heterogeneity in design, populations, and definitions of opioid use, which prevented meta-analysis and limits a precise understanding of OUD in Brazil. Although the search was comprehensive and PRISMA-compliant, restricting inclusion to peer-reviewed publications and excluding grey literature may have introduced publication bias. Study quality was uneven: while just over half were rated as high quality, many relied on convenience samples, reducing generalizability. Interpretation is further complicated by marked underreporting of opioid-related mortality due to nonspecific substance classification, suggesting that the true burden of OUD is likely underestimated—not least because individuals using prescription opioids often fail to recognize themselves as at risk for dependence. Finally, publication bias could not be formally assessed due to the small number of eligible studies, and overall certainty of evidence was not evaluated with frameworks such as GRADE, although individual study quality was appraised using JBI tools.

5. Conclusion

In conclusion, the current landscape of OUD in Brazil is characterized by low overall prevalence but significant and growing risk, driven mainly by the non-medical use of prescription opioids and a lack of evidence-based treatment research. While the country has not yet experienced an opioid crisis comparable to those seen in HICs, several warning signs suggest that the necessary conditions for one are already emerging. Preventive action is therefore imperative. Investment in rigorous treatment research—particularly RCTs evaluating MOUD—and the implementation of evidence-based public health and prescribing policies are urgently needed. Strengthening surveillance systems, attention to the risks faced by health care professionals, expanding access to multidisciplinary treatment, and improving professional training may collectively prevent an escalation of opioid-related harms.

BJP PRE-PROOF

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Author Contributions

Conceptualization: M.C.d.O., and J.M.C.-M.; methodology: M.C.d.O., H.A.B. and J.M.C.-M.; formal analysis: A.M.; writing—original draft preparation: M.C.d.O, H.A.B.; writing—review and editing C.C.A.P and A.M.; visualization: A.B.N.; supervision: J.M.C.-M and A.M. All authors have read and agreed to the published version of the manuscript.

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