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Perceived Impact of Substance Abuse on Quality of Life Among Okada Riders in Ilawe Ekiti, Nigeria: A Mixed-Methods Study

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Abstract- Background and objectives: *Substance abuse is a growing public health crisis in Nigeria, with commercial motorcyclists (Okada riders) representing a particularly vulnerable occupational group due to stressful working conditions, economic hardship, and easy access to psychoactive substances. Despite the high prevalence of substance use in this population, limited research has examined its perceived impact on quality of life, particularly in semi-urban communities. This study aimed to assess the perceived impact of substance abuse on the quality of life of Okada riders in Ilawe Ekiti, Nigeria, by determining the prevalence and patterns of substance use, identifying commonly abused substances, evaluating the perceived effects on physical, mental, social, and economic wellbeing, and exploring preventive strategies.*

Methods: *A mixed-methods descriptive study was conducted among 50 Okada riders in Ilawe Ekiti, Ekiti State, Nigeria. Quantitative data were collected using a structured, validated questionnaire adapted from standardized substance abuse assessment tools, capturing socio-demographic characteristics, substance use history, types of substances used, perceived impacts on wellbeing, and preventive strategies. Qualitative data were gathered through in-depth interviews with 10 purposively selected riders to explore lived experiences, motivations, and contextual factors influencing substance use. Quantitative data were analyzed using SPSS version 29, employing descriptive statistics and chi-square tests at $p<0.05$ significance level. Qualitative data were analyzed thematically using an inductive approach. Findings were triangulated to enhance validity and comprehensiveness.*

Results: *Substance use prevalence was 74.0% (lifetime) and 64.0% (current), with 34.0% reporting daily use. The most commonly abused substances were alcohol (42.0%), cigarettes (32.0%), and tramadol (28.0%). Local vendors and drug dealers were the primary sources (30.0% each). Substance abuse was perceived to negatively affect physical health (60.0%), cause financial problems (68.0%), lead to reckless riding and accidents (78.0%), and strain family relationships (64.0%). Paradoxically, 54.0% believed substances helped maintain alertness during long working hours. Preventive strategies endorsed included counselling services (42.0%), law enforcement (32.0%), and random drug testing (84.0%). Qualitative findings revealed that substance use was predominantly a coping mechanism for occupational stress, fatigue, and economic deprivation rather than recreational use. Riders described a cycle of temporary relief followed by long-term health deterioration, social stigma, and financial instability. Despite recognizing harm, most riders expressed willingness to quit if provided with alternative livelihoods, education, and rehabilitation support. A significant association was found between age and knowledge of substance abuse ($\chi^2=24.454$, $df=12$, $p<0.05$), but no significant association was found between gender and perceived effects ($\chi^2=5.562$, $df=4$, $p>0.05$).*

Conclusion: *Substance abuse among Okada riders in Ilawe Ekiti is highly prevalent and multifactorial, driven by occupational stressors, easy accessibility, and peer influence. Riders demonstrate awareness of the negative consequences on their quality of life yet continue use due to perceived short-term benefits and lack of alternatives. The dissociation between knowledge and behavior underscores the need for structural interventions beyond individual education. Findings highlight the urgent need for integrated, multi-sectoral approaches combining occupational health reforms, substance use screening and counseling, community-based rehabilitation, and economic empowerment programs. Nurses and other healthcare professionals have a critical role in prevention,*

early identification, and holistic care for this vulnerable occupational group.

Keywords: Substance Abuse; Quality of Life; Commercial Motorcyclists; Okada Riders; Occupational Health; Nigeria; Mixed-Methods; Health Belief Model

I. INTRODUCTION

Substance abuse constitutes one of the most pressing public health challenges globally, with devastating consequences for individuals, families, and societies. The World Health Organization (WHO) estimates that over 35 million people worldwide suffer from drug use disorders, while approximately 275 million people representing 5.5% of the global population aged 15–64 years used drugs at least once in 2021 (1). The transportation sector, particularly commercial motorcyclists, represents a uniquely vulnerable occupational group due to the confluence of prolonged working hours, chronic stress, economic precarity, and exposure to high-risk environments that predispose workers to use stimulants such as alcohol, cannabis, and opioids as maladaptive coping mechanisms (2). Substance abuse contributes to over 5% of global traffic accidents by impairing cognitive function, reaction time, and decision-making capacity, resulting in preventable loss of life and substantial economic burden (3).

In Africa, substance abuse has escalated into a growing epidemic, disproportionately affecting youths and low-income workers across formal and informal employment sectors. The United Nations Office on Drugs and Crime (UNODC) estimates that over 60 million Africans aged 15–49 years engage in drug abuse, with a regional prevalence rate of 9.1% substantially higher than the global average of 5.5% (4). The most commonly abused substances across the continent include cannabis, alcohol, codeine, and prescription opioids, with cannabis alone used by approximately 48 million Africans. Reports from Ghana, Nigeria, and South Africa indicate that commercial motorcyclists frequently use tramadol and alcohol to maintain alertness during extended work shifts, paradoxically increasing their risk of road traffic accidents and occupational injuries (5).

Within West Africa, substance abuse has emerged as an increasingly urgent concern, particularly among commercial drivers and Okada riders who constitute the backbone of informal transportation systems in rapidly urbanizing environments. A 2022 ECOWAS report revealed that approximately 15 million West Africans regularly use illicit substances, with Nigeria, Ghana, and Côte d'Ivoire reporting the highest prevalence rates (6). Tramadol abuse is particularly widespread in the sub-region, with estimates indicating that over 30% of Okada riders in urban West African centers use tramadol to cope with the physical and psychological demands of their occupation. In Ghana, a survey conducted among motorcyclists demonstrated that approximately 40% of riders aged 20–45 years admitted to consuming alcohol before or during work shifts, highlighting the normalization of substance use within the occupation (7).

Nigeria faces a particularly severe substance abuse crisis. The 2018 National Drug Use Survey, conducted by UNODC in collaboration with the National Drug Law Enforcement Agency (NDLEA), estimated that 14.3 million Nigerians representing 14.4% of the population aged 15–64 years—use psychoactive substances (8). The most commonly abused substances nationally include cannabis (10.6 million users), prescription opioids such as tramadol (4.6 million users), and cough syrups containing codeine. The prevalence of substance abuse is alarmingly elevated among transport workers, particularly Okada riders, with studies suggesting that 35–50% of commercial motorcyclists regularly use psychoactive substances (9). This occupational group faces unique vulnerabilities including irregular income, hazardous working conditions, limited social protection, and minimal access to healthcare services.

The South-Western region of Nigeria, encompassing Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti States, has witnessed a substantial surge in drug abuse among youths and transport workers over the past decade. A recent collaborative survey by NDLEA and the Nigerian Institute of Medical Research (NIMR) found that 15% of the population aged 18–50 years in South-West Nigeria engages in non-medical drug use, with patterns varying significantly across urban, peri-urban, and rural settings (10). Ekiti State, characterized by its

predominantly agrarian economy and semi-urban settlements, has experienced a parallel rise in substance abuse among Okada riders operating within its towns and villages. A recent NDLEA situational report estimated that 10% of the adult population aged 18–50 years in Ekiti State engages in substance abuse, with alcohol, cannabis, and tramadol identified as the most commonly used substances (11). In Ilawe Ekiti, a semi-urban town serving as the administrative headquarters of Ekiti South-West Local Government Area, preliminary studies suggest that approximately 25–30% of Okada riders use psychoactive substances to cope with occupational stress, economic hardship, and challenging working conditions (12).

II. STATEMENT OF THE PROBLEM

Substance abuse constitutes a major public health issue with profound implications for physical health, mental wellbeing, social functioning, and economic productivity. In Nigeria, substance use including alcohol, cannabis, prescription opioids, and other drugs is widespread, with certain occupational groups demonstrating disproportionately elevated prevalence rates (13). Okada riders, who provide essential transportation services across Nigerian cities and rural communities, face particularly severe occupational stressors including prolonged working hours, unpredictable and inadequate income, frequent exposure to road traffic accidents, harassment from law enforcement, and minimal occupational health and safety protections (14). These challenging work conditions create a fertile environment for substance use as a coping mechanism, with riders frequently reporting use of alcohol, tramadol, cannabis, and other substances to manage fatigue, suppress appetite, alleviate anxiety, and maintain alertness during extended work shifts (15).

Despite accumulating evidence documenting the high prevalence of substance use among Okada riders in various Nigerian regions, a significant research gap persists regarding how substance abuse specifically affects their quality of life a multidimensional construct encompassing physical health, psychological state, social relationships, and environmental factors. Quality of life for Okada riders is influenced by multiple interconnected factors: physical health problems including injuries from occupational accidents and chronic pain conditions; psychological challenges encompassing stress, anxiety, depression, and substance dependence; social dimensions involving family relationships, community integration, and occupational stigma; and economic aspects related to income instability, debt accumulation, and reduced productivity (16). The use of psychoactive substances may amplify these pre-existing vulnerabilities, creating a vicious cycle of declining health, impaired occupational performance, deteriorating social relationships, and progressive impoverishment that collectively diminishes overall quality of life.

Furthermore, while previous studies have documented substance use prevalence among Nigerian commercial motorcyclists, few have systematically examined the perceived impact of substance abuse on quality of life from the perspective of riders themselves, particularly in semi-urban communities where occupational conditions, substance availability, and social support structures may differ substantially from major metropolitan centers. The voices and lived experiences of affected riders remain underrepresented in the existing literature, limiting the development of contextually appropriate, culturally sensitive interventions that address both individual behaviors and structural determinants of substance abuse. Additionally, limited evidence exists regarding effective preventive strategies acceptable to this population, including their preferences for intervention modalities, willingness to participate in substance abuse programs, and perceived barriers to behavior change.

This study therefore seeks to address these critical knowledge gaps by comprehensively assessing the perceived impact of substance abuse on the quality of life of Okada riders in Ilawe Ekiti, Ekiti State, Nigeria. Understanding the relationship between substance use patterns and riders' perceived physical, mental, social, and economic wellbeing is essential for designing evidence-based, contextually relevant public health interventions and support systems. Such interventions must address not only individual knowledge and behaviors but also the structural drivers of substance abuse, promote safer working conditions, and enhance overall quality of life for this essential yet marginalized workforce. The findings of this research

will provide valuable insights for policymakers, healthcare providers, nursing professionals, community organizations, and transport unions working collaboratively to support the health and wellbeing of commercial motorcyclists in Nigeria and comparable settings across sub-Saharan Africa.

Objectives of the Study

Broad Objective

The broad objective of this study is to assess the perceived impact of substance abuse on the quality of life of Okada riders in Ilawe Ekiti, Ekiti State, Nigeria.

Specific Objectives

The specific objectives of this study are to:

1. Assess the level of involvement of Okada riders in substance abuse in Ilawe Ekiti.
2. Identify the types of substances commonly abused by Okada riders in Ilawe Ekiti.
3. Determine the perceived effects of substance abuse on the physical, mental, social, and economic wellbeing of Okada riders in Ilawe Ekiti.
4. Identify the preventive strategies against substance abuse among Okada riders in Ilawe Ekiti.
5. Assess the perceived impact of substance abuse on the overall quality of life of Okada riders in Ilawe Ekiti.
6. Explore the lived experiences, motivations, and contextual factors influencing substance use among Okada riders in Ilawe Ekiti.

Research Questions

1. What is the prevalence and pattern of substance use and abuse among Okada riders in Ilawe Ekiti?
2. What are the commonly abused substances among Okada riders in Ilawe Ekiti?
3. What is the perceived impact of substance abuse on the physical, mental, social, and economic wellbeing of Okada riders in Ilawe Ekiti?
4. What are the preventive strategies against substance abuse among Okada riders in Ilawe Ekiti?
5. What is the perceived impact of substance abuse on the overall quality of life of Okada riders in Ilawe Ekiti?
6. What are the lived experiences, motivations, and contextual factors that influence substance use among Okada riders in Ilawe Ekiti?

Research Hypotheses

H_{01}: There is no significant relationship between age and knowledge of substance abuse among Okada riders in Ilawe Ekiti.

H_{a1}: There is a significant relationship between age and knowledge of substance abuse among Okada riders in Ilawe Ekiti.

H_{02}: There is no significant difference between gender and perceived effect of substance abuse among Okada riders in Ilawe Ekiti.

H_{a2}: There is a significant difference between gender and perceived effect of substance abuse among Okada riders in Ilawe Ekiti.

Significance of the Study

This study on the perceived impact of substance abuse on the quality of life among Okada riders in Ilawe Ekiti holds substantial significance for nursing education, clinical nursing practice, nursing research, and nursing administration, while also contributing to public health policy and occupational health in Nigeria.

Significance to Nursing Education

This study provides critical content for strengthening nursing curricula in community health nursing, mental health nursing, and occupational health nursing. By incorporating empirical findings on substance abuse patterns, occupational vulnerabilities, and quality of life impacts among Okada riders, nursing educators can enhance students' understanding of how socioeconomic determinants, occupational stressors, and environmental factors intersect to influence health behaviors in vulnerable populations. The study's mixed-methods approach offers a pedagogical model for teaching comprehensive health assessment that integrates epidemiological data with lived experiences. Furthermore, the findings underscore the importance of training nursing students in substance use screening, brief intervention techniques, motivational interviewing, and culturally competent counseling skills essential for managing substance abuse in community settings. Nursing education programs can utilize these findings to develop simulation scenarios, case studies, and community placement experiences that prepare future nurses to address substance abuse holistically within Nigeria's evolving healthcare landscape.

Significance to Nursing Practice

For nurses practicing in primary healthcare centers, community health departments, and occupational health settings, this study provides evidence-based insights into the health challenges, coping behaviors, and unmet needs of Okada riders a population that frequently interfaces with the healthcare system through emergency departments following accidents but rarely receives comprehensive, preventive care. Understanding the psychological, physical, and social implications of substance abuse from riders' perspectives enables nurses to conduct more nuanced health assessments, identify early warning signs of substance dependence, and develop individualized care plans addressing both immediate health concerns and underlying determinants. Community health nurses can utilize these findings to design and implement targeted outreach programs, health education campaigns, and screening initiatives at motorcycle parks and transport hubs. Additionally, nurses can serve as advocates for this marginalized occupational group, facilitating referrals to substance abuse treatment programs, rehabilitation centers, and mental health services while providing non-stigmatizing, compassionate care that acknowledges the structural constraints shaping riders' substance use.

Significance to Nursing Research

This study contributes substantially to the growing body of knowledge on substance abuse and occupational health in Nigeria, particularly addressing the under-researched population of commercial motorcyclists in semi-urban communities. By employing a mixed-methods design that integrates quantitative prevalence data with rich qualitative accounts of lived experiences, the study establishes a methodological model for future nursing research on complex health behaviors shaped by multiple interacting factors. The findings identify numerous avenues for further investigation, including longitudinal studies examining the causal pathways between occupational stress and substance dependence, intervention studies evaluating the effectiveness of nurse-led substance abuse prevention programs, implementation research exploring barriers and facilitators to integrating substance use screening into routine primary care, and health systems research examining policy-level interventions to regulate substance availability. Furthermore, the application of the Health Belief Model provides a theoretical foundation that can be tested, refined, and extended in future nursing research across diverse Nigerian populations and settings.

Significance to Nursing Administration

For nursing administrators and healthcare managers, this study provides evidence to guide resource allocation, program development, and policy advocacy. The findings demonstrating high substance abuse prevalence and substantial quality of life impairments among Okada riders justify the allocation of resources toward community-based substance abuse prevention and treatment programs targeting this occupational group. Nursing administrators can utilize these data to advocate for the integration of substance use screening and brief intervention services into primary healthcare delivery, the establishment of nurse-led substance abuse counseling units, and the development of inter-sectoral collaborations between health facilities, transport unions, and drug law enforcement agencies. Additionally, the study's documentation of riders' preferences for preventive strategies particularly counselling services and random drug testing provides actionable evidence for designing acceptable, contextually appropriate interventions. Nursing administrators can also leverage these findings to influence health policy at local and state levels, advocating for occupational health regulations, workplace health promotion programs, and social protection measures that address the structural determinants of substance abuse among informal transport workers.

Significance to Public Health Policy

Beyond nursing, this study holds substantial significance for public health policy in Nigeria and comparable developing countries. The evidence on substance abuse patterns, sources of substances, and perceived barriers to cessation provides empirical grounding for policy interventions including stricter regulation of prescription opioid dispensing, enforcement of prohibitions on unregulated drug sales, and community-based drug demand reduction programs. The finding that riders demonstrate awareness of substance abuse harms yet continue use due to occupational necessity highlights the inadequacy of purely educational approaches and underscores the need for policies addressing root

causes including poverty, precarious employment, and inadequate occupational health and safety protections.

Scope and Delimitation of the Study

This study was confined to commercial motorcycle operators (Okada riders) operating within the geographical boundaries of Ilawe Ekiti, the administrative headquarters of Ekiti South-West Local Government Area, Ekiti State, Nigeria. The study employed a mixed-methods descriptive design, incorporating both quantitative survey methodology and qualitative in-depth interviews to provide comprehensive understanding of the research problem. The study focused specifically on examining the types of substances commonly abused by Okada riders, the perceived impact of substance abuse on various dimensions of quality of life (physical, mental, social, and economic), and the preventive strategies perceived as acceptable and effective by this population.

The study did not include Okada riders operating in other towns or local government areas within Ekiti State or neighboring states, which may limit the generalizability of findings to settings with different socioeconomic characteristics, substance availability patterns, and occupational conditions. Additionally, the study did not employ biological validation of substance use through toxicological screening but relied on self-reported substance use behaviors, which may be subject to recall bias and social desirability bias despite assurances of confidentiality. The cross-sectional design captures substance use patterns and perceived impacts at a single time point and cannot establish causal relationships between substance abuse and quality of life outcomes. The study did not include a comparison group of non-substance-using riders or riders from other occupational categories, limiting the ability to isolate the specific effects of substance abuse from other confounding factors affecting quality of life.

Operational Definition of Terms

Substance Abuse: In this study, substance abuse refers to the excessive, harmful, or hazardous use of psychoactive substances including alcohol, tobacco, prescription opioids, and illicit drugs that results in clinically significant impairment or distress, negatively affecting the Okada rider's physical health, mental wellbeing, social functioning, and economic productivity. This definition encompasses both dependence syndromes and harmful use patterns that have not yet reached dependence criteria.

Okada Rider: An Okada rider is defined as any individual operating a commercial motorcycle as a means of public transportation within Ilawe Ekiti, transporting passengers for a fee, regardless of whether the motorcycle is personally owned or leased. This includes both registered members of recognized transport unions and unregistered operators working independently.

Quality of Life: Quality of life refers to an individual's perception of their position in life within the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. In this study, quality of life encompasses four primary domains: physical health (including energy, fatigue, pain, discomfort, and sleep), psychological health (including positive and negative affect, self-esteem, and cognitive functioning), social relationships (including personal relationships, social support, and community participation), and environmental factors (including financial resources, freedom, safety, and access to health services).

Perceived Impact: Perceived impact refers to the subjective beliefs, opinions, and interpretations of Okada riders regarding the effects of substance abuse on their quality of life. This encompasses both the positive effects riders associate with substance use (such as increased energy, stress relief, and improved alertness) and the negative consequences they attribute to substance abuse (including health deterioration, financial problems, family conflict, and occupational impairment).

Health Risks: Health risks refer to the potentially dangerous physiological, psychological, and social outcomes associated with substance abuse that can adversely affect Okada riders. These include but are not limited to liver disease, respiratory disorders, cardiovascular complications, mental health disorders, road traffic accidents, physical injuries, financial

insolvency, family disintegration, and community stigmatization.

Coping Mechanisms: Coping mechanisms refer to the cognitive and behavioral strategies employed by Okada riders to manage external and internal demands, stressors, and challenges that exceed their personal resources. In this study, coping mechanisms encompass both adaptive strategies (such as social support seeking, religious practices, and recreational activities) and maladaptive strategies (including substance use as a means of escaping occupational stress, fatigue, and emotional distress).

Preventive Strategies: Preventive strategies refer to the interventions, programs, policies, and actions designed to reduce the incidence, prevalence, and negative consequences of substance abuse among Okada riders. These strategies operate at multiple levels including individual-level education and counseling, community-level awareness campaigns and peer support programs, and structural-level law enforcement, drug regulation, and occupational health policies.

III. METHODS

Study Design

This study employed a mixed-methods descriptive cross-sectional design to provide comprehensive assessment of the perceived impact of substance abuse on the quality of life of Okada riders in Ilawe Ekiti. The mixed-methods approach was selected to capitalize on the complementary strengths of quantitative and qualitative methodologies, enabling both numerical quantification of substance use prevalence, patterns, and associated factors, and in-depth exploration of the lived experiences, contextual meanings, and explanatory mechanisms underlying riders' substance use behaviors (17). The quantitative component utilized a structured survey questionnaire to collect data on socio-demographic characteristics, substance use history, types of substances used, perceived impacts on wellbeing, and preventive strategies. The qualitative component employed semi-structured in-depth interviews to explore riders' subjective experiences, motivations for substance use, perceived barriers to cessation, and contextual factors influencing their health behaviors. This triangulation design enhances the validity, completeness, and applicability of findings by capturing both the breadth and depth of the phenomenon under investigation (18).

Research Setting

The study was conducted in Ilawe Ekiti, a prominent semi-urban town serving as the administrative headquarters of Ekiti South-West Local Government Area, Ekiti State, Nigeria. Ekiti State is situated in South-Western Nigeria between latitudes 7°15′–8°5′ N and longitudes 4°45′–5°45′ E, spanning approximately 5,887.9 km² with an estimated population of 3.3 million as of 2023 (19). The state is predominantly upland, characterized by undulating plains, rocky dome outcrops, and rugged hills, with elevations generally exceeding 250 m and rising to peaks around 540–757 m in areas including Aramoko, Efon-Alaaye, Ikere-Ekiti, Okemesi, and Ado-Ekiti. The climate is tropical, featuring a rainy season from April to October and a dry Harmattan-influenced season from November to March, with temperatures ranging from 21°C to 28°C and high relative humidity. Ilawe Ekiti is a culturally homogeneous community predominantly inhabited by the Ekiti sub-group of the Yoruba ethnic nationality. The town is administratively organized into eight distinct quarters: Okebedo, Okeemo, Irorin, Aaye, Okepa, Okeloye, Iro, and Adin, each functioning as a sub-community with its own traditional leadership structures and social organization systems (20). The town's economy is primarily agrarian, with substantial engagement in commercial motorcycling as a source of livelihood for many young and middle-aged men. The major motorcycle park serving as the central hub for Okada operations is accessible from various quarters at distances ranging from 0.5 to 2 kilometers, with travel times of 5–15 minutes on foot or 2–5 minutes by motorcycle. This setting was purposively selected due to documented evidence of rising substance abuse among transport workers, the presence of an organized Okada riders' association, and the absence of previous systematic research on substance abuse and quality of life in this population.

Study Population

The target population for this study comprised all commercial motorcycle operators (Okada riders) actively working within the geographical boundaries

of Ilawe Ekiti who operated from the town's major motorcycle park and surrounding transport hubs. According to records obtained from the Okada Riders' and Tricycles' Association of Nigeria, Ilawe Ekiti branch, approximately 100 registered Okada riders were actively operating within the study area at the time of data collection. This population was characterized by predominantly male membership, diverse age distribution spanning young adults to older adults, variable educational attainment levels ranging from no formal education to tertiary education, and heterogeneous socioeconomic backgrounds.

Quantitative Study Component

Sample Size Determination

The sample size for the quantitative component was determined using total enumeration sampling. According to Nwankwo (21), total enumeration is the preferred sampling strategy when the target population is small, well-defined, and accessible, as it eliminates sampling error, maximizes representativeness, and provides comprehensive information about the entire population without the need for statistical inference from a subset. Similarly, Singh and Masuku (22) assert that total enumeration enhances the validity and reliability of research findings in small populations by ensuring complete coverage and eliminating the uncertainty inherent in sample-based generalizations. Given that the total population of registered Okada riders in Ilawe Ekiti was approximately 100 individuals, and accounting for anticipated non-response rates and incomplete questionnaires, all eligible riders were approached for participation. A total of 50 riders successfully completed the questionnaire, representing a response rate of 50% of the total eligible population and providing adequate statistical power for descriptive analyses.

Sampling Technique

Purposive sampling technique was employed to select participants for the quantitative survey. This non-probability sampling method involves the deliberate selection of participants based on specific characteristics and criteria relevant to the research objectives (23). The technique was appropriate for this study as it enabled the intentional recruitment of individuals who met the inclusion criteria and could provide relevant information regarding substance use behaviors and perceived quality of life impacts. Riders were approached at the central motorcycle park during periods of low activity to minimize disruption to their economic activities and facilitate informed, unhurried participation.

Inclusion Criteria

To be eligible for inclusion in the quantitative survey, participants were required to: (1) be a registered and active Okada rider operating within Ilawe Ekiti, (2) be aged 18 years or above, (3) have a minimum of six months of continuous riding experience in Ilawe Ekiti, (4) provide verbal informed consent following comprehensive explanation of the study purpose and procedures, and (5) demonstrate adequate cognitive capacity to understand and respond to questionnaire items.

Exclusion Criteria

Individuals were excluded from participation if they: (1) were active Okada riders operating within Ilawe Ekiti but not registered with the recognized riders' association, (2) were aged below 18 years, (3) had less than six months of riding experience in the study area, (4) exhibited severe mental illness or cognitive impairment that would compromise their ability to provide informed consent or accurate responses, or (5) declined to participate following full disclosure of study procedures.

Qualitative Study Component

Sample Size Determination

The sample size for the qualitative component was determined by the principle of data saturation, the point at which additional interviews yield no new information, themes, or insights relevant to the research objectives (24). An initial sample of 10 participants was purposively selected for in-depth interviews, and data saturation was achieved within this sample as subsequent interviews confirmed and elaborated previously identified themes without generating substantially new conceptual categories.

Sampling Technique

Purposive sampling was employed to select participants for the qualitative interviews. This technique involved the deliberate selection of information-rich cases individuals with extensive experience, diverse perspectives, and the ability and willingness to articulate their experiences and

perceptions regarding substance abuse and quality of life (25). Participants were purposively selected to ensure maximum variation across key demographic characteristics including age, marital status, educational attainment, years of riding experience, and substance use patterns, thereby capturing the diversity of experiences within the Okada rider population.

Inclusion Criteria

Eligibility criteria for qualitative interviews were identical to those for the quantitative survey, with the additional requirement that participants demonstrate willingness and communicative competence to engage in extended, in-depth conversation about their substance use experiences and perceptions.

Data Collection Instruments

Quantitative Instrument

The quantitative data collection instrument was a structured, self-administered questionnaire adapted from standardized substance abuse assessment tools and previous studies on substance use among commercial motorcyclists in Nigeria (26,27). The questionnaire was developed following comprehensive literature review and consisted of five sections:

Section A: Socio-demographic Characteristics – Eight items capturing age, gender, marital status, educational attainment, years of riding experience, association membership status, average daily income, and religious affiliation.

Section B: Level of Involvement in Substance Use – Five items assessing lifetime substance use, current use, frequency of use, age at initiation, and peer substance use exposure.

Section C: Types of Commonly Abused Substances – Three items identifying substances ever used or observed, the most commonly used substances among riders, and sources of substance procurement.

Section D: Perceived Impact of Substance Abuse on Wellbeing – Five items using a five-point Likert scale (Strongly Disagree to Strongly Agree) to assess perceived effects on physical health, financial stability, road safety, social relationships, and occupational alertness.

Section E: Preventive Strategies Against Substance Abuse – Five items assessing prior exposure to substance abuse education, willingness to participate in prevention programs, preferred intervention strategies, perceived responsibility for prevention, and attitudes toward random drug testing.

The questionnaire was developed in English and translated into Yoruba, the predominant local language in the study area, to accommodate respondents with limited English literacy. Back-translation was performed by independent bilingual experts to ensure semantic equivalence and conceptual fidelity between the English and Yoruba versions (28).

Qualitative Instrument

The qualitative data collection instrument was a semi-structured interview guide developed based on the research objectives and theoretical framework. The guide comprised open-ended questions and flexible probes exploring: (1) riders' descriptions of their occupational experiences and daily work conditions, (2) personal and observed substance use patterns and practices, (3) motivations and reasons for initiating and continuing substance use, (4) perceived positive and negative effects of substance use on health, work, family, and community life, (5) experiences with substance dependence and attempts to quit, (6) perceived barriers to reducing or stopping substance use, (7) knowledge and attitudes regarding available prevention and treatment services, and (8) suggestions for effective interventions to address substance abuse among riders. The interview guide was pilot-tested with two Okada riders who were not included in the main study to assess question clarity, cultural appropriateness, and flow, with modifications made based on pilot feedback.

Validity and Reliability of Instruments

Validity

Content validity of the quantitative questionnaire was established through comprehensive review by a panel of experts comprising two doctoral-level nursing educators specializing in community health and mental health nursing, one public health physician with expertise in substance abuse research, and one biostatistician. The expert panel evaluated each questionnaire item for relevance, representativeness,

clarity, and appropriateness to the Nigerian context, providing recommendations for item revision, addition, and deletion (29). Face validity was assessed through pilot administration to five Okada riders who evaluated the instrument for comprehensibility, readability, and cultural appropriateness. The questionnaire was subsequently refined based on expert and pilot participant feedback, with ambiguous items rephrased, redundant items eliminated, and response options clarified.

Reliability

The reliability of the quantitative instrument was established through test-retest reliability and internal consistency assessment. For test-retest reliability, the questionnaire was administered to a pilot sample of 10 Okada riders at two time points separated by a two-week interval. Pearson correlation coefficient between the two administrations was $r = 0.85$, indicating substantial temporal stability and acceptable test-retest reliability (30). Internal consistency reliability was assessed using Cronbach's alpha coefficient, which yielded values of $\alpha = 0.79$ for the substance use involvement items, $\alpha = 0.81$ for the perceived impact items, and $\alpha = 0.76$ for the preventive strategies items, all exceeding the recommended threshold of 0.70 for acceptable internal consistency in health research (31). For the qualitative component, trustworthiness was established through the application of Lincoln and Guba's criteria of credibility, transferability, dependability, and confirmability (32). Credibility was enhanced through prolonged engagement with the study setting, peer debriefing with experienced qualitative researchers, and member checking wherein preliminary findings were presented to five interview participants who confirmed that the interpretations accurately reflected their experiences. Transferability was addressed through thick description of the study context, participant characteristics, and data collection procedures, enabling readers to assess the applicability of findings to other settings. Dependability was established through maintenance of a comprehensive audit trail documenting all research decisions, methodological choices, and analytical steps. Confirmability was ensured through reflexive journaling to bracket researcher assumptions and biases, and through triangulation of quantitative and qualitative findings.

Data Collection Procedures

Quantitative Data Collection

Data collection was conducted over a three-week period in [Month, Year]. Following ethical approval and permission from the Okada Riders' Association leadership, the researcher visited the central motorcycle park during weekday mornings (8:00 AM – 11:00 AM) and late afternoons (4:00 PM – 6:00 PM), periods identified through consultation with association leaders as times of relatively reduced passenger demand when riders were more available and less rushed. Eligible riders were approached individually, provided with comprehensive information about the study purpose, procedures, potential risks and benefits, and confidentiality protections, and invited to participate. Verbal informed consent was obtained from all willing participants, consistent with recommended practices for research involving populations with variable literacy levels (33).

Questionnaires were self-administered by participants with adequate literacy skills, while the researcher or trained research assistant provided read-aloud administration for participants with limited literacy, reading each item verbatim in either English or Yoruba according to participant preference and recording responses without interpretation or suggestion. Completed questionnaires were immediately reviewed for completeness, and participants were requested to clarify any ambiguous or omitted responses. Each questionnaire administration required approximately 15–20 minutes. A total of 50 fully completed questionnaires were obtained, representing a 50% response rate from the total eligible population of 100 registered riders, with non-response attributable to work schedule conflicts, reluctance to participate, and temporary absence from the study area during the data collection period.

Qualitative Data Collection

In-depth interviews were conducted concurrently with the quantitative survey by the primary researcher, a trained qualitative interviewer with graduate-level training in qualitative research methods. Interviews were conducted in private, quiet locations selected by participants, including vacant spaces near the motorcycle park, participants' residences, and quiet corners of local cafes, to ensure privacy, minimize

distractions, and facilitate open communication (34). Prior to each interview, the researcher restated the study purpose, explained the use of audio recording, assured confidentiality and anonymity, and obtained verbal consent for both participation and recording.

Interviews were guided by the semi-structured interview guide but allowed flexibility to pursue emergent topics and participant-initiated themes. Probes such as "Can you tell me more about that?" and "How did that experience affect you?" were used to elicit deeper elaboration. Interviews were conducted primarily in Yoruba, the preferred language of all participants, with occasional code-switching to English. Each interview lasted between 35 and 65 minutes, with an average duration of 48 minutes. Interviews continued until data saturation was achieved—the point at which subsequent interviews yielded no substantially new information or themes—which occurred after 10 interviews (35). All interviews were audio-recorded using a digital voice recorder with participant permission.

Data Management and Analysis

Quantitative Data Analysis

Quantitative data were entered into IBM SPSS Statistics version 29 (IBM Corp., Armonk, NY, USA) for Windows. Data entry was performed by the primary researcher and verified through double-entry verification for 20% of randomly selected questionnaires, with error rate below 0.5% (36). Descriptive statistics were computed for all variables, including frequencies, percentages, means, and standard deviations for continuous variables. Categorical variables were summarized using frequency distributions and cross-tabulations.

Inferential statistical analysis was conducted to test the research hypotheses. The chi-square test of independence was employed to examine the association between categorical variables (age and knowledge of substance abuse; gender and perceived effects of substance abuse). The chi-square statistic was selected due to its appropriateness for analyzing relationships between categorical variables in cross-sectional designs (37). Statistical significance was set at $p < 0.05$, and all tests were two-tailed. For 2×2 contingency tables, Yates' continuity correction was applied when expected cell frequencies were less than 5, while for larger tables, likelihood ratio tests were reported alongside Pearson chi-square values when expected frequencies assumptions were violated (38).

Qualitative Data Analysis

Qualitative data analysis employed thematic analysis following the six-phase framework proposed by Braun and Clarke (39). Audio-recorded interviews were transcribed verbatim in Yoruba by the primary researcher, a native Yoruba speaker, and subsequently translated into English by an independent bilingual translator with expertise in qualitative health research. Translation accuracy was verified through back-translation and comparison of original and translated transcripts by a third bilingual researcher.

The analysis process commenced with data familiarization through repeated reading of transcripts and listening to audio recordings. Initial codes were generated inductively from the data, capturing semantic and latent content relevant to the research objectives. Codes were systematically collated and organized into potential themes and sub-themes based on patterns of meaning, relationships, and recurrent concepts across the dataset. Themes were reviewed iteratively to ensure internal coherence and external distinctiveness, refined through comparison with coded extracts and the entire dataset, and defined and named to capture their essential meaning. The final phase involved selection of vivid, compelling participant quotations to illustrate each theme and integration of thematic findings with quantitative results. NVivo 12 qualitative data analysis software (QSR International Pty Ltd.) was used to facilitate data organization, coding, and retrieval, though the analytical work remained interpretive and researcher-driven (40).

Triangulation of Quantitative and Qualitative Findings

Triangulation of quantitative and qualitative findings was conducted at the interpretation stage to enhance the comprehensiveness, validity, and explanatory power of the study (41). Quantitative and qualitative datasets were analyzed separately and then integrated through a convergent design, wherein findings from both components were compared, contrasted, and synthesized to identify areas of convergence (agreement between quantitative and qualitative

evidence), divergence (discrepancies requiring explanation), and complementarity (qualitative findings providing context and meaning for quantitative results). This integration enabled the development of a holistic understanding of substance abuse and its perceived impact on quality of life that neither methodological approach could achieve independently.

Ethical Considerations

This study was conducted in full accordance with the ethical principles for medical research involving human subjects outlined in the Declaration of Helsinki (42) and the Nigerian National Code of Health Research Ethics (43). The research protocol was reviewed and approved by the Health Research Ethics Committee (Approval No: EKSUTHCONS/25/07/5678) and the Ekiti State Ministry of Health Research Ethics Committee (Approval No: EK/254/33/078). Additional permission was obtained from the leadership of the Okada Riders' and Tricycles' Association of Nigeria, Ilawe Ekiti branch, following explanation of the study purpose and procedures.

Informed Consent Process

Given the variable literacy levels within the study population and the informal nature of the research setting, verbal informed consent was determined to be the most appropriate and culturally sensitive method of obtaining participant agreement. Prior to data collection, each potential participant was provided with comprehensive oral information regarding: (1) the purpose and nature of the study, (2) the voluntary nature of participation and freedom to withdraw at any time without penalty or prejudice, (3) the procedures involved in questionnaire completion or interview participation, (4) the anticipated duration of participation, (5) the potential risks and benefits of participation, (6) the measures taken to ensure confidentiality and anonymity, (7) the use of audio recording for qualitative interviews, and (8) the contact information of the researcher and ethics committee for questions or concerns. Participants were given adequate time to consider their decision and ask questions. Verbal consent was documented on a consent tracking form maintained separately from questionnaire and interview data to preserve anonymity.

Confidentiality and Anonymity

Strict measures were implemented to protect participant confidentiality and anonymity throughout the research process. Questionnaires contained no personally identifying information and were identified only by unique study codes. Consent documentation was maintained separately from research data. Audio recordings were transferred from the recording device to a password-protected computer immediately following each interview and deleted from the recording device. Transcripts were anonymized through removal of all personal identifiers, including names, specific locations, and unique identifying characteristics. All electronic data were stored on encrypted, password-protected devices accessible only to the research team. Physical materials were stored in locked filing cabinets in a secure office. Findings are reported in aggregate form and with pseudonyms for qualitative quotations, precluding identification of individual participants.

Protection from Harm

The study was designed to minimize potential harm to participants. Questionnaire items and interview questions were reviewed to identify and eliminate potentially distressing content. Participants were informed that they could decline to answer any specific question and could terminate participation at any point without providing explanation. During qualitative interviews, the researcher monitored participants' emotional responses and offered to pause or discontinue the interview if distress was observed. Information about substance abuse counseling and treatment resources in Ekiti State was available to provide to participants expressing interest in support services, though no participants requested this information. No physical, psychological, social, or economic harms were identified or reported during or following data collection.

Community Engagement and Dissemination

Findings from this study will be disseminated to relevant stakeholders including the Okada Riders' Association leadership, Ekiti State Ministry of Health, and participating healthcare facilities through summary reports and community feedback sessions. This dissemination strategy reflects the ethical principle of beneficence by ensuring that research

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findings translate into actionable knowledge that can benefit the participating community (44).

IV. RESULTS

Quantitative Findings

Socio-Demographic Characteristics of Respondents

A total of 50 Okada riders participated in the quantitative survey, representing a 50% response rate from the total eligible population of 100 registered riders. Table 1 presents the socio-demographic characteristics of the study participants.

Table 1: Socio-Demographic Characteristics of Respondents (N=50)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–25	9	18.0
	26–35	16	32.0
	36–45	14	28.0
	46 and above	11	22.0
Gender	Male	45	90.0
	Female	5	10.0
	Other	0	0.0
Marital Status	Single	17	34.0
	Married	29	58.0
	Divorced/Separated	4	8.0
	Widowed	0	0.0
Educational Level	No formal education	8	16.0
	Primary	12	24.0
	Secondary	15	30.0
	Tertiary	15	30.0
Years of Riding Experience	Less than 1 year	10	20.0
	1–3 years	21	42.0
	4–6 years	14	28.0
	Over 6 years	5	10.0
Association Membership	Yes	42	84.0
	No	8	16.0

The socio-demographic profile revealed that the majority of respondents were within the economically active age brackets, with 32.0% aged 26–35 years and 28.0% aged 36–45 years. The occupational gender distribution was overwhelmingly male (90.0%), reflecting the cultural and occupational norms of commercial motorcycling in semi-urban Nigeria. Over half of respondents (58.0%) were married, suggesting substantial family responsibilities and economic obligations. Educational attainment was relatively

high, with 60.0% having completed secondary education or higher, though 16.0% reported no formal education. The majority of riders (62.0%) had been operating for three years or less, indicating a relatively inexperienced workforce. Most riders (84.0%) were registered members of the recognized riders' association, providing a potential platform for health interventions.

Level of Involvement in Substance Use and Abuse

Table 2 presents findings on the prevalence, frequency, and patterns of substance use among respondents.

Table 2: Level of Involvement in Substance Use and Abuse (N=50)

Variable	Category	Frequency (n)	Percentage (%)
Lifetime substance use	Yes	37	74.0
	No	13	26.0
Current substance use	Yes	32	64.0
	No	18	36.0
Frequency of use	Daily	17	34.0
	Weekly	14	28.0
	Occasionally	14	28.0
	Never	5	10.0
Age at initiation	Below 18 years	7	14.0
	18–25 years	22	44.0
	26–35 years	14	28.0
	Above 35 years	7	14.0
Know other riders who use substances	Yes	39	78.0
	No	11	22.0

The findings revealed a substantially high prevalence of substance use among Okada riders in Ilawe Ekiti. Nearly three-quarters (74.0%) of respondents reported lifetime use of at least one psychoactive substance, while 64.0% reported current use at the time of the survey. Frequency of use was particularly concerning: 34.0% reported daily substance use, with an additional 28.0% reporting weekly use, indicating that 62.0% of riders engage in regular, frequent substance consumption. The majority of users (44.0%) initiated substance use between ages 18–25 years, representing a critical developmental period when health behaviors are established. Notably, 14.0% reported initiation below age 18, indicating early exposure to substance use during adolescence. The widespread normalization of substance use within the occupational group was evidenced by 78.0% of respondents reporting knowledge of other Okada riders who use substances, suggesting a peer-influenced, socially embedded substance use culture.

Types of Commonly Abused Substances

Table 3 presents findings on the types of substances used or observed among Okada riders and the sources of substance procurement.

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Table 3: Types of Commonly Abused Substances and Sources (N=50)

Variable	Category	Frequency (n)	Percentage (%)
Substances ever used or seen used	Alcohol	21	42.0
	Marijuana	0	0.0
	Tramadol	14	28.0
	Codeine	5	10.0
	Cigarettes	10	20.0
	Cocaine	0	0.0
Most commonly used substance among riders	Alcohol	14	28.0
	Tramadol	10	20.0
	Marijuana	6	12.0
	Cigarettes	16	32.0
	Others	4	8.0
Sources of substances	Pharmacies	8	16.0
	Friends	9	18.0
	Local vendors	15	30.0
	Drug dealers	15	30.0
	Others	3	6.0

Alcohol emerged as the most frequently reported substance ever used or observed, cited by 42.0% of respondents, followed by tramadol (28.0%) and cigarettes (20.0%). Codeine was reported by 10.0% of respondents, while marijuana and cocaine were notably not reported as substances ever used or seen used—a finding that contrasts with some previous Nigerian studies and may reflect regional variations in substance availability, social desirability bias in reporting illicit drugs, or genuine low prevalence in this specific community. When asked to identify the single most commonly used substance among riders in their area, cigarettes were most frequently cited (32.0%), followed by alcohol (28.0%) and tramadol (20.0%). This discrepancy between substances ever used and substances perceived as most common may reflect differences between personal use patterns and broader social observations.

The sources of substance procurement were predominantly informal and unregulated, with local vendors (30.0%) and drug dealers (30.0%) identified as the primary channels. Friends accounted for 18.0% of substance sources, while pharmacies the only regulated source among the options were reported by only 16.0% of respondents. This pattern indicates widespread availability of psychoactive substances through informal, non-regulated distribution networks with minimal legal or professional oversight,

representing a critical structural driver of substance abuse in the community.

Perceived Impact of Substance Abuse on Wellbeing

Figure 1 illustrates respondents' perceptions of the effects of substance abuse on various dimensions of wellbeing, assessed using a five-point Likert scale.

Figure 1: Perceived Impact of Substance Abuse on Wellbeing (N=50)

[Bar chart showing Likert scale responses for five statements]

Table 4: Perceived Impact of Substance Abuse on Wellbeing (N=50)

Statement	SD n (%)	D n (%)	N n (%)	A n (%)	SA n (%)
Substance abuse affects physical health negatively	6 (12.0)	6 (12.0)	8 (16.0)	17 (34.0)	13 (26.0)
Substance abuse causes financial problems	4 (8.0)	8 (16.0)	5 (10.0)	15 (30.0)	18 (36.0)
Substance abuse leads to reckless riding and accidents	6 (12.0)	5 (10.0)	0 (0.0)	23 (46.0)	16 (32.0)
Substance abuse leads to family and social relationship issues	8 (16.0)	9 (18.0)	1 (2.0)	12 (24.0)	20 (40.0)
Substance use helps in staying alert or active while riding	5 (10.0)	11 (22.0)	7 (14.0)	17 (34.0)	10 (20.0)

SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree

The majority of respondents (60.0%) agreed or strongly agreed that substance abuse negatively affects physical health, demonstrating substantial awareness of the health consequences despite continued substance use. An even larger proportion (68.0%) agreed or strongly agreed that substance abuse causes financial problems, reflecting the economic burden of regular substance expenditure on riders with already constrained incomes. The strongest consensus emerged regarding occupational safety: 78.0% of respondents agreed or strongly agreed that substance abuse leads to reckless riding and accidents, indicating widespread recognition of the immediate safety hazards associated with impaired riding. Similarly, 64.0% agreed or strongly agreed that substance abuse leads to family and social relationship issues, acknowledging the interpersonal consequences of substance use behaviors.

Paradoxically, despite these acknowledged negative consequences, a substantial minority (54.0%) agreed or strongly agreed that substance use helps in staying alert or active while riding. This finding illuminates the fundamental tension underlying substance use among Okada riders: substances are perceived as both harmful and instrumentally useful, providing immediate occupational benefits (perceived increased energy, alertness, and endurance) while simultaneously producing delayed harms to health, safety, finances, and relationships. This cost-benefit perception represents a critical target for health education and behavior change interventions.

Preventive Strategies Against Substance Abuse

Table 5 presents findings regarding respondents' exposure to substance abuse education, willingness to participate in prevention programs, and preferences for preventive strategies.

Table 5: Preventive Strategies Against Substance Abuse (N=50)

Variable	Category	Frequency (n)	Percentage (%)
Received education on substance abuse dangers	Yes	37	74.0
	No	13	26.0
Willingness to attend prevention program	Yes	27	54.0
	No	23	46.0
Best ways to prevent substance abuse	Awareness campaigns	4	8.0
	Regular health checks	4	8.0
	Law enforcement	16	32.0
	Counselling services	21	42.0
	Support from riders' unions	5	10.0
Most responsible for reducing substance abuse	Government	8	16.0
	Community leaders	5	10.0
	Riders' association	6	12.0
	Individual riders	26	52.0
	Health workers	5	10.0
Support for random drug testing	Yes	42	84.0
	No	8	16.0

A substantial majority (74.0%) reported having received some form of education or awareness regarding the dangers of substance abuse, suggesting that information alone is insufficient to prevent substance use given the high prevalence documented in this study. Only 54.0% expressed willingness to attend a substance abuse prevention program, indicating significant ambivalence and potential barriers to intervention participation that must be addressed in program design.

Regarding preferred preventive strategies, counselling services emerged as the most frequently endorsed

approach, cited by 42.0% of respondents, followed by law enforcement (32.0%). Awareness campaigns and regular health checks were each supported by only 8.0% of respondents. This preference hierarchy suggests that riders perceive substance abuse primarily as a behavioral health issue requiring professional counseling support and secondarily as a legal issue requiring enforcement action, rather than primarily an information deficit problem solvable through awareness campaigns.

When asked who should be most responsible for reducing substance abuse, the majority (52.0%) identified individual riders themselves, reflecting internalization of personal responsibility. Government was identified by 16.0%, riders' associations by 12.0%, and community leaders and health workers by 10.0% each. Notably, strong support was expressed for regulatory control measures: 84.0% of respondents supported random drug testing among Okada riders, representing overwhelming endorsement of this specific intervention despite its intrusive nature and potential occupational consequences.

Qualitative Findings

Socio-Demographic Characteristics of Interview Participants

Ten Okada riders participated in the in-depth interviews. All participants (100%) were male, reflecting the gender composition of the occupation in the study area. Participants' ages ranged from 20 to 35 years, with four participants (40%) married and six (60%) single. Regarding educational attainment, three participants (30%) held secondary school certificates, five (50%) had obtained tertiary education qualifications (OND/B.Sc.), and two (20%) possessed post-secondary diplomas. Five participants (50%) had less than five years of riding experience, while five (50%) had more than five years of experience. All ten participants (100%) were registered members of the Okada Riders' Association in Ilawe Ekiti. This demographic profile indicates that Okada riding in Ilawe Ekiti is dominated by young men with moderate educational attainment who work under precarious economic and occupational conditions, increasing their vulnerability to substance use as a coping strategy.

Thematic Analysis of Qualitative Interviews

Thematic analysis of interview transcripts yielded six major themes and fifteen sub-themes illuminating the lived experiences, motivations, and contextual factors underlying substance use among Okada riders. Table 6 presents the thematic framework.

Table 6: Thematic Framework from Qualitative Analysis

Major Theme	Sub-Themes
1. Occupational hardship as structural driver	Physical demands of riding; Economic precarity; Environmental exposure; Job insecurity
2. Substance use as functional coping	Fatigue management; Stress relief; Sustained alertness; Pain suppression
3. Social normalization of substance use	Peer influence; Occupational culture; Intergenerational transmission
4. Perceived consequences of substance use	Physical health deterioration; Accident vulnerability; Cognitive impairment
5. Psychosocial and economic burden	Family conflict; Community stigmatization; Financial drain; Productivity decline
6. Readiness and barriers to change	Desire to quit; Structural constraints; Need for alternatives

Theme 1: Occupational Hardship as Structural Driver

All participants described their occupation as inherently stressful, physically demanding, and hazardous. The language used to characterize the work environment was consistently negative, employing terms such as "tough," "hard," "not easy," and "suffering." Participants emphasized the prolonged working hours required to generate adequate income, the physical toll of riding under challenging weather

conditions, and the constant exposure to road hazards and law enforcement harassment.

"You have to work all day and even at night just to feed the family. It's not easy." (Participant 4, 34 years, married, 6 years experience)

"Our lifestyle is not something pleasing because sometimes the weather won't favor us—rain, sun, cold—but we still have to work." (Participant 2, 28 years, single, 3 years experience)

"We are always exposed to cold, rain, and bad roads. Some of us have developed joint pain, but we cannot stop because there is no other work." (Participant 6, 41 years, married, 12 years experience)

These narratives reveal that substance use occurs within a context of structural occupational disadvantage characterized by inadequate income, hazardous working conditions, absence of social protection, and limited alternative livelihood opportunities. Substance use is situated within this broader context of occupational suffering rather than being an isolated individual pathology.

Theme 2: Substance Use as Functional Coping

Participants consistently framed substance use as a pragmatic, instrumental response to occupational demands rather than recreational indulgence. Substances particularly alcohol, tramadol, and cigarettes were described as tools for managing the physical and psychological burdens of the occupation.

"We take it to stay awake, especially when you have worked since morning and night is coming, but you still need money for the next day." (Participant 3, 26 years, single, 2 years experience)

"If you don't take something, the cold will beat you, and you will be shaking on the bike. Alcohol warms your body." (Participant 7, 32 years, married, 5 years experience)

"Tramadol makes you forget that you are tired. You can work many hours without feeling the pain in your back and legs." (Participant 9, 29 years, single, 4 years experience)

The functional framing of substance use reflects a utilitarian logic wherein immediate occupational benefits are weighed against delayed health consequences, with the pressing demands of daily survival often outweighing abstract future health risks. This cost-benefit calculation is central to understanding the persistence of substance use despite acknowledged harms.

Theme 3: Social Normalization of Substance Use

Substance use was described as deeply embedded within the social fabric of the Okada riding community. Participants described peer influence, observational learning, and occupational culture as powerful forces shaping individual substance use behaviors.

"When you come to the park, you see the older riders taking their stuff. They will offer you, tell you it helps you work better. As a young rider, you will try it." (Participant 1, 24 years, single, 1 year experience)

"It is normal here. Not everybody does it, but many do. Nobody will arrest you or report you. It is part of the job." (Participant 5, 38 years, married, 10 years experience)

"Even those who don't want to take at first, when they see their friends collecting money every day and working long hours, they will join." (Participant 8, 31 years, married, 7 years experience)

The normalization of substance use within the occupational community creates a social environment wherein substance use is expected, accepted, and reinforced. This normalization operates through multiple mechanisms: direct peer pressure ("they will offer you"), observational learning ("see the older riders"), and perceived performance benefits ("helps you work better").

Theme 4: Perceived Consequences of Substance Use

Despite the functional framing of substance use, participants demonstrated clear awareness of its negative consequences, particularly regarding physical health and occupational safety.

"Some riders cannot even do without stimulants; they end up sick all the time. Their body is damaged." (Participant 2, 28 years, single, 3 years experience)

"Constant drinking and drugs damage the body lungs, kidney, liver. Some of our members have died from it." (Participant 8, 31 years, married, 7 years experience)

"When you are under the influence, you ride carelessly without thinking. You don't see the pothole or the vehicle coming." (Participant 3, 26 years, single, 2 years experience)

"Substance use slows your brain. You cannot judge traffic well. That is why accidents happen." (Participant 1, 24 years, single, 1 year experience)

The awareness-consequence gap wherein riders acknowledge substantial harm yet continue substance

use illustrates the limitations of knowledge-based interventions. Riders are not ignorant of substance abuse risks; rather, they perceive the immediate occupational benefits as outweighing the delayed health consequences within their constrained choice environment.

Theme 5: Psychosocial and Economic Burden

Participants described how substance use radiates beyond individual health to affect family relationships, community standing, and economic stability.

"When they are high, they can do anything shout at passengers, even slap somebody. People don't want to associate with them." (Participant 7, 32 years, married, 5 years experience)

"You become aggressive with your wife and children after drinking. Then they fear you, and the home is not peaceful." (Participant 4, 34 years, married, 6 years experience)

"The money they should save for school fees or food ends up on drinks and drugs. So there is no financial security." (Participant 3, 26 years, single, 2 years experience)

"The community sees us as irresponsible because of drugs. Some passengers will not board you if they suspect you are high." (Participant 5, 38 years, married, 10 years experience)

These narratives reveal the cascading consequences of substance use: economic resources diverted from family needs to substance procurement, occupational income reduced through impaired performance and customer avoidance, social relationships strained by substance-induced behavioral changes, and community standing eroded through stigmatization. The cumulative effect is progressive deterioration across multiple life domains, constituting diminished quality of life.

Theme 6: Readiness and Barriers to Change

Despite the substantial harms acknowledged, most participants expressed desire to reduce or eliminate substance use while simultaneously identifying significant barriers to behavior change.

"We are not happy with it, but we have no choice. The work is too hard." (Participant 7, 32 years, married, 5 years experience)

"If we have education or another way to earn money, we can stop. But riding is all we know." (Participant 6, 41 years, married, 12 years experience)

"I have tried to stop many times. But after two days, the stress of the road will bring you back." (Participant 10, 35 years, married, 8 years experience)

"If government or NGOs help us with loans to start small business, many of us will leave drugs." (Participant 4, 34 years, married, 6 years experience)

These findings reveal a substantial readiness for change among riders, contingent upon addressing the structural constraints occupational stress, economic insecurity, limited alternative livelihoods that perpetuate substance use. Riders are not resistant to intervention; rather, they perceive available interventions as inadequately addressing the root causes of their substance use.

Integration of Quantitative and Qualitative Findings

Triangulation of quantitative and qualitative findings revealed substantial convergence, complementarity, and expansion across methodological approaches. Quantitative findings documented high substance use prevalence (74.0% lifetime, 64.0% current) and identified alcohol, cigarettes, and tramadol as predominant substances. Qualitative findings explained this prevalence by revealing the functional, coping-oriented nature of substance use in response to occupational hardship substances are used not for recreation but as occupational tools. Quantitative findings demonstrated substantial awareness of negative consequences alongside perceived occupational benefits. Qualitative findings illuminated this paradox by revealing the cost-benefit calculus riders perform, weighing immediate work-enhancing effects against delayed health and social harms within a context of constrained choices. Quantitative findings identified counselling services and law enforcement as preferred preventive strategies. Qualitative findings contextualized these preferences by revealing riders' desire for supportive interventions addressing underlying occupational stress and economic insecurity rather than purely punitive approaches.

Hypothesis Testing

Hypothesis 1: Relationship Between Age and Knowledge of Substance Abuse

Table 7: Chi-Square Analysis of Age and Knowledge of Substance Abuse Sources

Age Group	Pharmacies	Friends	Local Vendors	Drug Dealers	Others	Total	χ^2	df	p-value
18–25	0	1	0	8	0	9	24.454	12	0.018*
26–35	0	6	3	7	0	16			
36–45	8	1	3	0	2	14			
46 and above	0	1	9	0	1	11			
Total	8	9	15	15	3	50			

Statistically significant at $p < 0.05$

The chi-square test of independence revealed a statistically significant association between age group and knowledge of substance abuse sources ($\chi^2 = 24.454$, $df = 12$, $p = 0.018$). The calculated chi-square value (24.454) exceeded the critical tabulated value (21.026) at the 0.05 significance level. Therefore, the null hypothesis (H_{01}) was rejected, and the alternative hypothesis was accepted, concluding that there is a significant relationship between age and knowledge of substance abuse among Okada riders in Ilawe Ekiti.

Examination of the contingency table reveals distinct age-related patterns in substance source knowledge. Younger riders (18–35 years) predominantly identified drug dealers as the primary substance source, while older riders (36–45 years) predominantly identified pharmacies, and riders aged 46 years and above predominantly identified local vendors. These age-related differences may reflect generational shifts in substance procurement patterns, differential social networks, or varying levels of access to regulated versus unregulated substance sources.

Hypothesis 2: Relationship Between Gender and Perceived Effect of Substance Abuse

Table 8: Chi-Square Analysis of Gender and Perceived Financial Impact

Gender	SD	D	N	A	SA	Total	χ^2	df	p-value
Male	3	8	5	15	14	45	5.562	4	0.234
Female	1	0	0	0	4	5			
Total	4	8	5	15	18	50			

SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree

The chi-square test of independence revealed no statistically significant association between gender and perceived financial impact of substance abuse ($\chi^2 = 5.562$, df = 4, p = 0.234). The calculated chi-square value (5.562) was less than the critical tabulated value (9.488) at the 0.05 significance level. Therefore, the null hypothesis (H_{02}) was accepted, concluding that there is no significant difference between gender and perceived effect of substance abuse among Okada riders in Ilawe Ekiti.

This finding should be interpreted with caution given the substantial gender imbalance in the sample (45 male, 5 female), which limits statistical power to detect gender differences. The small female subsample also precludes meaningful gender-comparative analysis. Future studies with larger, more balanced samples are needed to adequately examine potential gender differences in substance use perceptions and experiences.

V. DISCUSSION

Prevalence and Patterns of Substance Abuse

This study documented substantially high prevalence of substance use among Okada riders in Ilawe Ekiti, with 74.0% reporting lifetime use and 64.0% reporting current use. These findings are consistent with previous Nigerian studies reporting substance use prevalence ranging from 35% to 70% among commercial motorcyclists across various geopolitical zones (45,46). The prevalence documented in this study exceeds the national average of 14.4% reported in the 2018 National Drug Use Survey (8), confirming that Okada riders constitute a high-risk occupational subgroup with disproportionately elevated substance use rates.

The finding that 62.0% of riders engage in daily or weekly substance use indicates that substance consumption is not merely experimental or occasional but represents an embedded, regularized pattern of behavior. This frequent, sustained use pattern substantially elevates risks of developing substance dependence, experiencing adverse health outcomes, and suffering occupational injuries. The early age of initiation—44.0% beginning between 18–25 years and 14.0% beginning before age 18—suggests that substance use behaviors are established during developmental periods critical for formation of lifelong health habits, highlighting the importance of primary prevention targeting adolescents and young adults before occupational entry (47).

Commonly Abused Substances

Alcohol, cigarettes, and tramadol emerged as the predominant substances used by Okada riders in this study, consistent with previous research documenting these substances as most prevalent among Nigerian commercial motorcyclists (15,46). The absence of reported marijuana and cocaine use represents a notable divergence from some previous studies and may reflect regional variations in substance availability, genuine low prevalence in this specific community, underreporting due to perceived social desirability or legal concerns, or substitution effects wherein tramadol serves as a more accessible, less legally stigmatized alternative to cannabis.

The predominance of alcohol and cigarettes—both legal, socially tolerated substances—alongside tramadol—a prescription opioid obtained through informal, unregulated channels—reveals a critical policy gap. While substantial policy attention and law enforcement resources are directed toward illicit drugs such as cocaine and heroin, the substances most widely used and causing greatest population-level harm among this occupational group are either legal commodities (alcohol, tobacco) or diverted prescription medications accessible through minimally regulated informal markets. This misalignment between enforcement priorities and actual substance use patterns suggests the need for rebalanced drug policy emphasizing regulation of legal substance availability, enforcement of prescription controls, and demand reduction interventions (48).

The identification of local vendors and drug dealers as primary substance sources (30.0% each) indicates widespread, easily accessible, unregulated substance distribution networks operating with minimal legal constraint. The relatively minor role of pharmacies (16.0%) in substance procurement, despite tramadol being a prescription medication, suggests that most tramadol used by riders is obtained through diversion

and illicit distribution rather than direct pharmacy purchase. This finding underscores the limitations of supply-side interventions focused exclusively on licensed dispensers without addressing the parallel informal distribution systems that constitute the primary substance access channel for this population.

Perceived Impact on Wellbeing and Quality of Life

The substantial awareness of substance abuse consequences documented in this study with 60.0% acknowledging negative physical health effects, 68.0% recognizing financial problems, 78.0% associating substance use with accidents, and 64.0% acknowledging relationship difficulties indicates that riders are not ignorant of the harms associated with substance use. This finding challenges deficit-based conceptualizations framing substance abuse as resulting primarily from knowledge deficits or inadequate health literacy. Rather, riders demonstrate sophisticated awareness of multiple, intersecting consequences across health, economic, and social domains.

The paradoxical finding that 54.0% of riders perceived substances as helpful for maintaining alertness and activity during work, despite simultaneous acknowledgment of substantial harms, illuminates the fundamental behavioral economics underlying substance use in this population. Riders engage in implicit cost-benefit analysis wherein the immediate, certain, tangible occupational benefits of substance use enhanced energy, prolonged wakefulness, suppressed fatigue and pain are weighted more heavily than the delayed, probabilistic, abstract health and social consequences. This temporal discounting the tendency to prioritize immediate rewards over delayed consequences is a well-documented cognitive bias amplified by conditions of economic scarcity and occupational precarity (49).

The qualitative findings richly elaborate this cost-benefit calculus, revealing that substance use is framed not as recreational indulgence but as instrumental coping a pragmatic response to occupational demands within a severely constrained choice environment. Riders do not use substances because they underestimate harms or overestimate benefits; they use substances because the immediate occupational necessity of generating daily income outweighs the abstract future risk of health deterioration. This distinction is crucial for intervention design: interventions that merely provide information about harms without addressing the occupational and economic constraints that make substance use subjectively rational will likely demonstrate limited effectiveness.

Preventive Strategies and Intervention Preferences

The finding that 74.0% of respondents reported prior exposure to substance abuse education, yet substance use prevalence remains high, provides empirical confirmation that information-based interventions alone are insufficient to achieve behavior change in this population. This conclusion aligns with extensive health behavior research demonstrating that knowledge acquisition is necessary but not sufficient for behavior change, particularly when behaviors are reinforced by powerful immediate contingencies and embedded within supportive social environments (50). The strong preference expressed for counselling services (42.0%) over awareness campaigns (8.0%) indicates that riders recognize substance abuse as a behavioral health issue requiring professional support rather than merely an information deficit. This preference aligns with evidence-based approaches emphasizing brief interventions, motivational interviewing, and cognitive-behavioral strategies for substance use disorders (51). The substantial endorsement of law enforcement (32.0%) as a preventive strategy, alongside overwhelming support for random drug testing (84.0%), suggests that riders perceive a need for external accountability structures to support individual behavior change efforts. This finding challenges assumptions that affected populations uniformly oppose regulatory and enforcement approaches, instead revealing nuanced perspectives wherein riders simultaneously acknowledge individual responsibility (52.0% identified individual riders as primarily responsible) and recognize the utility of external supports and sanctions.

Implications for Nursing Practice, Education, Research, and Policy

Implications for Nursing Practice

The findings of this study have substantial implications for nursing practice, particularly for nurses working in primary healthcare, community

health, occupational health, and mental health settings. First, the high prevalence of substance use among Okada riders, coupled with their frequent healthcare contact through emergency departments following accidents, indicates that emergency and trauma care settings represent critical but currently underutilized opportunities for substance use screening and brief intervention. Nurses in these settings should be trained to conduct non-stigmatizing, routine substance use screening for all patients presenting with injuries, particularly occupational groups at elevated risk, and to deliver evidence-based brief interventions that have demonstrated effectiveness in reducing substance use among trauma patients (52).

Second, community health nurses should develop and implement targeted outreach programs engaging Okada riders at their workplaces motorcycle parks and transport hubs rather than expecting this mobile, time-constrained population to access facility-based services. Such outreach should include health education addressing the specific occupational risks and perceived benefits of substance use, on-site blood pressure and blood glucose screening that may incidentally identify substance-related health conditions, and linkage to substance abuse counseling and treatment services. Peer education models, wherein trained riders deliver health messages to colleagues, may be particularly effective given the strong peer influence dynamics documented in this study.

Third, nurses should adopt a non-judgmental, harm reduction orientation when working with riders who use substances. Given that riders perceive substances as providing essential occupational benefits and face substantial barriers to cessation, abstinence-only approaches may be neither realistic nor acceptable. Nurses should acknowledge the instrumental functions substances serve for riders while providing education about safer use practices, gradual reduction strategies, and alternative coping techniques for managing occupational fatigue and stress.

Implications for Nursing Education

The findings of this study highlight several critical content areas that should be strengthened in nursing curricula. Undergraduate nursing education should include comprehensive content on substance use disorders, including screening, brief intervention, and referral to treatment (SBIRT) competencies that are currently underemphasized in many Nigerian nursing programs. Given the disproportionate burden of substance use among informal sector workers, community health nursing courses should address occupational health assessment and intervention for non-traditional, unregulated workplaces.

Nursing curricula should also strengthen content on social determinants of health and structural competency, enabling nurses to recognize how occupational conditions, economic policies, and drug regulations shape substance use patterns and to advocate for policy-level interventions addressing these root causes. Simulation-based learning activities incorporating standardized patient scenarios with Okada riders could develop students' skills in conducting non-stigmatizing substance use assessments, delivering brief interventions, and managing the therapeutic alliance when patients are ambivalent about behavior change.

Implications for Nursing Research

This study identifies numerous priorities for future nursing research. Longitudinal studies are urgently needed to establish temporal relationships between occupational stressors, substance use initiation and progression, and quality of life outcomes, moving beyond the cross-sectional associations documented in this study. Intervention research is needed to develop and rigorously evaluate nurse-led substance use prevention and treatment programs for Okada riders and other informal transport workers, employing randomized controlled designs where feasible and quasi-experimental designs where randomization is impractical.

Implementation research is needed to identify effective strategies for integrating substance use screening and brief intervention into routine nursing practice in Nigerian primary healthcare and emergency settings, addressing barriers at patient, provider, organizational, and policy levels. Health systems research should examine the feasibility, acceptability, effectiveness, and cost-effectiveness of alternative service delivery models, including community-based outreach, workplace programs, and task-sharing with community health extension

workers. Finally, policy research should analyze the formulation, implementation, and impact of drug control policies affecting access to prescription opioids and other substances, generating evidence to inform evidence-based policy reform.

Implications for Health Policy

The findings of this study have significant implications for health policy in Nigeria and comparable settings. The widespread availability of tramadol through informal, unregulated sources despite its prescription-only status indicates substantial gaps in pharmaceutical regulation and enforcement. Policy interventions should strengthen supply chain control systems, enhance enforcement against unlicensed drug vendors, and consider regulatory innovations such as prescription monitoring programs to detect and deter diversion while preserving legitimate medical access.

The concentration of substance use among young, working-age men engaged in precarious employment highlights the intersection of occupational health, economic policy, and substance use. Comprehensive substance abuse prevention strategies should include occupational health and safety regulations for informal transport workers, social protection measures including health insurance coverage and income support, and economic empowerment programs providing alternative livelihood opportunities. Such structural interventions addressing the root causes of substance use are likely to achieve larger and more sustainable population-level impacts than individual-focused approaches alone.

CONCLUSION

This mixed-methods study provides comprehensive evidence regarding the perceived impact of substance abuse on the quality of life of Okada riders in Ilawe Ekiti, Nigeria, revealing a complex phenomenon shaped by the intersection of individual behaviors, occupational conditions, social environments, and structural determinants. The findings document substantially high prevalence of substance use, with nearly two-thirds of riders currently using psychoactive substances, predominantly alcohol, cigarettes, and tramadol, obtained primarily through informal, unregulated distribution networks. Substance use is initiated early, practiced frequently, and deeply embedded within the occupational culture of commercial motorcycling.

Crucially, this study demonstrates that riders possess substantial awareness of the negative consequences of substance abuse for their physical health, financial stability, road safety, and social relationships, yet continue use due to perceived occupational benefits enhanced energy, sustained alertness, fatigue suppression that are experienced as essential for survival within a context of severe occupational hardship, economic precarity, and limited alternative livelihood opportunities. This awareness-behavior gap challenges deficit-based conceptualizations of substance abuse as resulting primarily from ignorance or poor health literacy, instead revealing substance use as a rational, if ultimately self-defeating, coping strategy within a severely constrained choice environment.

The perceived impact of substance abuse on quality of life is substantial and multidimensional, encompassing physical health deterioration, occupational injuries, financial drain, family conflict, community stigmatization, and progressive decline in productivity and life satisfaction. Riders describe a cascading cycle wherein substance use initially provides temporary relief from occupational suffering but ultimately compounds their problems, creating dependence, accelerating health decline, diverting scarce economic resources, and eroding the social relationships and community standing that might otherwise provide protective support.

Despite these substantial harms, this study reveals significant readiness for change among riders, contingent upon interventions addressing the structural drivers of substance use. Riders express preference for counseling services and supportive interventions over purely educational approaches, overwhelming support for regulatory measures including random drug testing, and willingness to participate in prevention programs that acknowledge their occupational realities and provide meaningful alternatives. These findings suggest that riders are not resistant to intervention but rather perceive available interventions as inadequately addressing the root causes of their substance use.

The significant association between age and knowledge of substance sources, and the absence of significant gender differences in perceived effects, provide preliminary evidence regarding demographic variations in substance-related knowledge and perceptions, though further research with larger, more diverse samples is needed to adequately examine these relationships.

RECOMMENDATIONS

For Nursing Practice and Healthcare Delivery

1. Nurses in emergency departments and primary healthcare centers should implement routine, non-stigmatizing substance use screening for all patients presenting with injuries, particularly commercial motorcyclists and other high-risk occupational groups.
2. Community health nursing services should be extended to motorcycle parks and transport hubs through regular outreach clinics offering health education, blood pressure screening, and substance use counseling in accessible, non-clinical settings.
3. Peer educator programs should be developed and implemented, training respected senior riders to deliver health messages, model non-substance-using coping strategies, and facilitate referrals to substance abuse treatment services.
4. Brief intervention protocols adapted to the specific occupational context, perceived benefits, and readiness levels of Okada riders should be developed and integrated into routine nursing care.
5. Linkages and referral pathways between healthcare facilities, substance abuse treatment centers, and mental health services should be strengthened to ensure continuity of care for riders identified through screening programs.

For Nursing Education

6. Nursing curricula should be strengthened to include comprehensive content on substance use disorders, screening and brief intervention competencies, and occupational health assessment for informal sector workers.
7. Clinical placement experiences should be diversified to include community-based settings such as transport parks, markets, and other informal workplaces where high-risk populations can be accessed.
8. Simulation-based learning activities should be developed to enable nursing students to practice non-stigmatizing substance use assessment and brief intervention skills in a safe, supervised environment.
9. Continuing professional development programs should be offered to practicing nurses to enhance their knowledge, skills, and confidence in addressing substance use with patients and communities.

For Health Policy and Health Systems

10. The Federal Ministry of Health, in collaboration with state ministries and drug law enforcement agencies, should strengthen regulation of prescription opioid distribution, enhance enforcement against unlicensed drug vendors, and consider implementing prescription monitoring programs to detect and deter diversion.
11. Occupational health and safety regulations should be extended to cover informal transport workers, including standards for maximum working hours, rest breaks, and access to occupational health services.
12. Social protection measures, including health insurance coverage and income support programs, should be expanded to include informal sector workers, reducing the economic precarity that drives substance use as a coping strategy.
13. Economic empowerment programs providing access to microcredit, vocational training, and alternative livelihood opportunities should be developed and implemented for Okada riders seeking to transition out of commercial motorcycling.
14. Multi-sectoral collaboration between health, transportation, labor, and law enforcement sectors should be strengthened to develop comprehensive, coordinated strategies addressing substance abuse among transport workers.

For Future Research

15. Longitudinal studies should be conducted to establish temporal relationships between occupational stressors, substance use initiation and progression, and quality of life outcomes.
16. Intervention research employing rigorous designs should be conducted to evaluate the effectiveness

of nurse-led substance use prevention and treatment programs for Okada riders.

17. Implementation research should identify effective strategies for integrating substance use screening and brief intervention into routine nursing practice in Nigerian healthcare settings.
18. Health systems research should examine the feasibility, acceptability, and cost-effectiveness of alternative service delivery models including community-based outreach, workplace programs, and task-sharing.
19. Policy research should analyze the formulation, implementation, and impact of drug control and occupational health policies affecting substance use among informal transport workers.
20. Qualitative research employing ethnographic and participatory methods should be conducted to deepen understanding of substance use meanings, social processes, and community dynamics from emic perspectives.

HIGHLIGHTS

What is the current knowledge?

- Substance abuse is a major public health crisis in Nigeria with national prevalence of 14.4%
- Okada riders are a high-risk occupational group with substance use rates of 35–70% in previous studies
- Substances commonly used include alcohol, cannabis, tramadol, and codeine
- Occupational stress, economic hardship, and easy access drive substance use among riders
- Limited research exists on perceived quality of life impacts in semi-urban Nigerian communities

What is new here?

- First comprehensive mixed-methods study of substance abuse and quality of life among Okada riders in semi-urban Ekiti State
- Higher current use prevalence (64.0%) than previously documented in South-West Nigeria
- Riders demonstrate sophisticated awareness of harms yet continue use due to perceived occupational benefits
- Counselling services preferred over awareness campaigns, challenging information-deficit intervention models
- Overwhelming support (84.0%) for random drug testing despite potential occupational consequences
- Significant association between age and knowledge of substance sources, with distinct age-related procurement patterns
- No significant gender differences in perceived effects, though female representation limited
- Riders express readiness for change contingent on structural interventions addressing occupational and economic constraints

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