

Adverse Work Environment and Substance Abuse Among Oil Exploration Workers

Micah Brother Igonieghe
Newcross Exploration and
Production Company Limited
(NEPL)

Abstract: Oil exploration workers operate in uniquely challenging environments characterized by physical isolation, demanding workloads, and hazardous conditions. These stressors may contribute to maladaptive coping behaviors, including substance abuse. However, little is known about the lived experiences of these workers in Nigeria, particularly how occupational stress influences substance use. This study explores how adverse work environments shape substance use behaviors among oil and gas workers in Rivers State, Nigeria, with attention to workplace stressors, coping strategies, and socio-demographic influences. A qualitative design was employed, utilizing 20 in-depth interviews and four focus group discussions with oil exploration workers. Participants were selected using purposive and snowball sampling. Data were collected using validated interview guides. Thematic analyses were conducted using Braun and Clarke's method, supported by NVivo software. Participants described their work environments as physically, mentally, and emotionally demanding. Long and irregular working hours, exposure to environmental hazards, and prolonged isolation offshore were commonly cited stressors. These adverse conditions often led to high levels of perceived stress, which many workers coped with by engaging in substance use, particularly alcohol, energy drinks, stimulants, and prescription painkillers. Substance use was widely normalized and reinforced by peer influence and workplace culture, with some participants admitting to using substances even during work hours. While many struggled with maladaptive coping, others, commonly older, married workers with strong social or religious support, reported more constructive strategies such as prayer, exercise, or maintaining regular contact with family. Age, marital status, family dynamics, and religious involvement were found to influence individual susceptibility to substance use and coping choices. Adverse work environments significantly influence substance use among oil and gas workers in Nigeria. The normalization of substance use, combined with poor mental health support, underscores the need for targeted workplace interventions, including counseling services, employee wellness programs, and culturally sensitive prevention efforts that involve families and faith-based supports.

Keywords: Oil Exploration Workers, Substance Abuse, Coping Mechanism, Work Environment, Stress

1. INTRODUCTION

Substance abuse is a major public health problem that has an adverse effect on individuals, families, and communities.^{1–3} They are major contributors to violence, crime, intentional and unintentional injuries, as well as to other social, health, and economic problems.⁴ The World Health Organization (WHO) defines substance abuse as the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs.⁵ It is a global epidemic with an estimated 2 billion alcohol users, 1.3 billion smokers, and 185 million illicit drug users worldwide.⁶ According to the 2002 World Health Report on global burden of disease, tobacco, alcohol, and illicit drugs contributed together 12.4% (8.8%, 3.2% and 0.4% respectively) of all deaths worldwide in the year 2000, with a DALY of 8.9%.⁶ The United Nations office on drugs and crimes (UNODC) stated that almost a quarter of a billion people aged 15 to 64 years used an illicit drug in 2013 giving a global prevalence of 5.2% and out of these about 27 million people (0.6% of the population age 15 to 64 years) were estimated to suffer from substance use disorder.⁷

Several studies have been carried out to assess the prevalence of substance abuse in different settings. In a descriptive national survey of substance use done in Nigeria, it was found that the prevalence rate of alcohol use was 39% lifetime, 30.3% 12-month, and 24.5% 30-day, and Cannabis use was found to be 6.6% lifetime, 2.6% 12-month, and 1.8% 30-day.⁸ In another study carried out among undergraduates in a Nigerian institution, a higher prevalence of substance abuse was found among the respondents with cigarette smoking (81%) and alcohol use (72%), as well as the use of coffee, energy drinks, and kola nut (69%).⁸

Several factors have been associated with substance abuse. In a study done in South Africa, it was discovered that age, gender, and easy availability of alcohol were predictors of alcohol use among high school students in this setting.⁹ Some epidemiological studies have linked an adverse work environment with the tendency to engage in substance abuse.¹⁰ Workers in the upstream oil and gas industry are faced with a wide array of stressors, strains, and health outcomes associated with unnatural living conditions

(physical and social isolation), physical conditions, unpredictability of work patterns, physical climate, work overload, safety issues, under stimulation, etc.¹⁰ In a study carried out in Canada, the prevalence of alcohol use among oil and gas workers was found to be significantly higher in the previous 12 months compared to the average for all other industries; 81.7% and 71.5% respectively.¹¹ A similar result was found for other psychoactive substance use in the same study.¹¹ In Nigeria, the prevalence of substance abuse among oil and gas workers is largely unknown.

Oil was discovered in Nigeria in 1956 at Oloibiri by Shell-BP in the Niger Delta after half a century of exploration and Nigeria joined the ranks of oil producers in 1958 when its first oil field came on stream producing 5,100 bpd. Petroleum production and export play a dominant role in Nigeria's economy and account for about 90% of its gross earnings.¹² The discovery and mining of crude oil and natural gas deposits in Nigeria over the past four decades has immensely increased the nation's wealth, but not without its devastating environmental impacts.¹³ Adverse work environments are the vast array of stressors, strains, and health outcomes, physical conditions, unpredictability of work patterns, physical climate, work overload, safety issues, under stimulation, etc, associated with the oil exploration industry.¹⁰

The association of adverse work environment and substance abuse was clearly demonstrated in a study carried out in Canada, in that study it was found that stressors associated with oil and gas work can lead to emotional problems, which in turn can lead to higher rates of substance abuse, accidents, absenteeism, drug and disability claims, and lower levels of performance and retention.¹⁰ Another study carried out in Italy on the prevalence of drug abuse among workers demonstrated that oil and gas workers are prone to substance abuse.¹⁴ There is, however, a dearth of studies of the role of adverse work environment on substance abuse in sub-Saharan Africa, especially Nigeria. While some studies carried out among oil and gas industry workers in Nigeria focused on the prevalence and patterns of hypertension and other diseases,¹⁵ others assessed the effects of the oil and gas industry on the communities.¹⁶ However, oil and gas workers are exposed to various adverse conditions and isolation, especially during the offshore periods, thereby resorting to substance abuse due to the effects of these challenges. The role that

sociodemographic factors and family relationships play in modifying the relationship of adverse work environment is also worth exploring.

The primary objective of this study is to explore how adverse work environments shape substance use behaviors among workers in the oil and gas industry in Rivers State, Nigeria. Guided by a qualitative approach, the study seeks to understand the lived experiences of oil and gas workers operating in physically and psychologically demanding environments and how these conditions may contribute to maladaptive coping mechanisms, particularly substance abuse.

Specifically, the study aims to investigate how workers perceive and respond to workplace stressors, such as isolation, fatigue, and hazardous working conditions, and how these experiences impact their mental health and behavioral choices. The study also seeks to examine how socio-demographic characteristics and family-related factors, including support systems, may shape individual coping strategies and substance use patterns. It is anticipated that the findings will provide compelling evidence on how adverse work environments influence harmful health behaviors and highlight the importance of designing supportive interventions, such as employee assistance programs and mental health services, that promote well-being and productivity in high-risk industries.

2. METHODS

Study Area and Design

This study was conducted in Rivers State, Nigeria—an oil-producing state in the Niger Delta region known for its concentration of oil and gas activities. Port Harcourt, the state capital, was chosen as the main site of participant recruitment due to its cosmopolitan nature and the high presence of multinational oil exploration companies.

A qualitative study design was adopted to explore the relationship between adverse work environments and substance abuse among oil and gas workers.

Study Population

The primary study population consisted of adult workers (18–64 years) employed in oil exploration companies in Rivers State.

Sampling Technique

Participants were recruited using purposive and snowball sampling. Initial participants were approached through organizational HR units and unions, after which referrals were obtained from participants' professional networks.

Data Collection Tools and Procedure

Data collection was conducted over six weeks using two instruments:

- **Key Informant Interview (KII) Guide:** Targeted supervisors, safety officers, and union leaders who could provide expert insight into organizational culture, mental health concerns, and observed behavioral patterns among staff.
- **Focus Group Discussion (FGD) Guide:** Explored group-level experiences of workplace stress, coping strategies, and substance use behaviors among frontline workers.

Both guides were developed based on existing, validated instruments: the World Health Organization (WHO)'s Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) for substance use screening,¹⁷ the Psychosocial Work Environment Questionnaire (PWEQ) for assessing workplace stressors,¹⁸ and the Family APGAR tool for evaluating family support.¹⁹

A total of 20 in-depth interviews and four FGDs (each with 6–8 participants) were conducted. All sessions were held in English, recorded with consent, and supported by field note documentation.

Ethical Considerations

Ethical clearance was obtained from the Rivers State Ministry of Health Research Ethics Committee. Written informed consent was obtained from all participants. Confidentiality and the voluntary nature of participation were emphasized throughout the study.

Data Analysis

All recordings were transcribed verbatim and analyzed using Braun and Clarke's six-step thematic framework. NVivo software was employed for data management. Triangulation

of data sources (KII, FGD, field notes) enhanced the credibility of findings.

3. RESULTS

This study assessed adverse work environments and substance abuse among oil and gas workers in Rivers State, Nigeria, utilizing qualitative data from 20 in-depth interviews (IDIs) and four focus group discussions (FGDs). Participants included a mix of offshore engineers, rig technicians, safety officers, administrative staff, and maintenance personnel from oil exploration companies. Thematic analysis revealed four major themes and multiple subthemes that reflect the perceptions, experiences, and behavioral responses of participants regarding their work environment and substance use.

Characteristics of the Work Environment

Participants in the oil and gas sector consistently described their work environment as physically, mentally, and emotionally demanding. Several subthemes emerged under this category (Figure 1):

- **Isolation and Loneliness:** Many respondents reported being stationed offshore or in remote locations for weeks or months, which significantly limited their contact with family and friends. This prolonged absence led to emotional disconnection and feelings of alienation. As one offshore technician said, *"It's not just the waves that hit you—it's the silence after the call ends with your family."*
- **Workload and Fatigue:** Long and irregular working hours, often extending to 12–16-hour shifts, were frequently mentioned. Workers cited *"mental exhaustion," "physical strain,"* and *"sleep deprivation"* as chronic challenges. The high operational demands, combined with safety-critical responsibilities, contributed to persistent stress levels.
- **Environmental Hazards and Lack of Amenities:** Exposure to hazardous chemicals, extreme heat, and poor sleeping quarters were reported, particularly in offshore settings. Limited recreational outlets, inadequate mental health resources, and the

monotony of the environment were additional stressors.

Perceived Stress and Coping Mechanisms

A dominant theme was the perception of work-related stress and the coping strategies employed by workers. Most oil workers associated their workplace stress with poor mental health outcomes such as anxiety, irritability, and depressive symptoms. Their coping mechanisms fell into two broad categories:

- **Maladaptive Coping:** Substance use emerged as a prominent coping strategy. Participants frequently described alcohol consumption, energy drink abuse, cigarette smoking, and use of painkillers or stimulants (e.g., tramadol or codeine) as ways to “take the edge off” after exhausting shifts or during offshore stays. A few respondents acknowledged using these substances during work hours to manage alertness or pain.
- **Adaptive Coping (Less Common):** A minority of participants mentioned constructive coping strategies such as prayer, physical exercise, journaling, and calling home. These methods, however, were more common among older, married workers who had greater social stability and religious engagement. (Figure 1)

Substance Use Patterns and Occupational Context

The use of substances, particularly alcohol and stimulants, was often viewed as an integral part of the oil work culture. Patterns of use varied in frequency, context, and severity:

- **Normalization and Peer Influence:** Many participants noted that substance use was normalized within their peer groups. Social drinking, especially during leave or offshore breaks, was considered acceptable and expected. “If you don’t drink, they call you boring or weak,” said one participant.
- **On-the-Job Usage:** Alarmingly, a few workers reported using substances such as tramadol or marijuana while on duty, particularly during night

shifts or high-risk maintenance operations. While some justified this by citing the need for alertness or pain relief, others acknowledged the long-term health consequences and the risk of addiction.

Substance Accessibility: Despite corporate drug policies, many respondents indicated that access to alcohol and prescription drugs was relatively easy, particularly during leave periods. Some noted that colleagues acted as informal suppliers, while others reported sourcing substances during offshore supply runs

Socio-Demographic and Family Influences

Personal background and social environment emerged as key determinants of substance use patterns:

- **Age and Marital Status:** Younger, unmarried men reported the highest levels of substance use. They attributed their behavior to peer pressure, freedom from familial obligations, and the need for social integration in an otherwise isolating work culture.
- **Family Dynamics and Support:** Married participants, particularly those with young children, often cited family responsibilities as a deterrent to substance use. Emotional support from spouses and children was described as a stabilizing factor. “When I think of my wife and kids, I don’t want to come back home high or sick,” one respondent shared.
- **Religious and Cultural Values:** Participants actively involved in religious communities were less likely to report substance use. They highlighted spiritual support as a source of resilience against occupational stress.

Interestingly, even within the same work environment, individual coping behaviors varied considerably based on personal values, social support systems, and length of service. Senior workers tended to have greater self-regulation, while newer recruits were more vulnerable to adopting unhealthy behaviors under peer pressure.

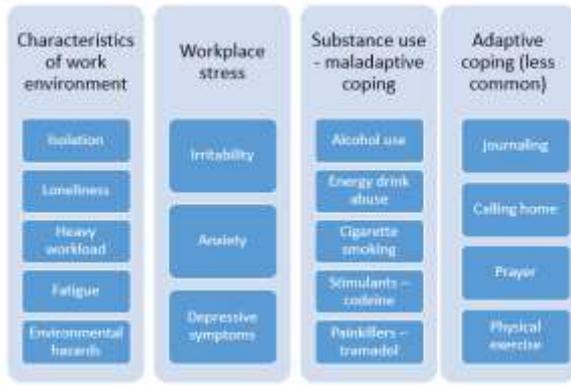


Figure 1: Overview of common themes and sub-themes regarding work environment and substance abuse

4. DISCUSSION

This study highlights the complex and multifaceted influence of adverse work environments on substance use behavior among oil and gas workers in Nigeria. Through in-depth interviews and focus group discussions, it was revealed that these workers are exposed to a unique blend of stressors—both physical and psychological—that contribute to maladaptive coping behaviors, particularly substance use. Oil workers reported living and working under harsh conditions marked by prolonged isolation, erratic work schedules, exposure to physical hazards, and a lack of supportive workplace structures. These findings are consistent with literature showing that high-risk occupational environments correlate with increased vulnerability to substance abuse.^{10,11}

A recurring theme from participant narratives was the normalization of substance use within oil industry settings. Alcohol, energy drinks, and stimulants were frequently mentioned as tools to either cope with the demands of the job or to conform to established social norms among workers. This is consistent with previous studies in other high-risk sectors, such as seafaring and mining, where the culture of work itself often encourages risky health behaviors as a form of group cohesion or stress relief.²⁰⁻²² The perception that substance use is a culturally tolerated or even expected behavior within such environments suggests a deeper systemic issue that goes beyond individual decision-making.

Participants also described varying personal and social influences that shaped their experiences. While some individuals acknowledged resorting to substances as a form of escapism or performance enhancement, others emphasized the

protective role of strong family ties, religious values, and structured routines during off-duty periods. These narratives underscore the importance of social context and interpersonal relationships in shaping behavioral outcomes, aligning with research that points to the social determinants of health and substance use.^{23,24}

Another critical insight from this study is the lack of institutional mechanisms to address the psychosocial needs of oil workers. Many participants expressed a sense of abandonment by their employers, citing the absence of mental health services, counseling, or recreational programs tailored to their lifestyle and stressors. These gaps reinforce calls by public health experts and occupational safety advocates for the development of Employee Assistance Programs (EAPs) and workplace wellness initiatives tailored to high-risk industries.^{25,26}

The implications of these findings are significant. Consequently, oil and gas companies in Nigeria and globally must prioritize occupational health strategies that address both physical hazards and psychosocial risks. Mental health should be treated as an integral component of worker safety, with specific investments in counseling services, stress management training, and early intervention for substance use. Organizational leaders and safety officers should be trained to recognize signs of mental distress and guide workers toward confidential support systems. Furthermore, prevention programs must extend beyond policy enforcement to include health education, peer support networks, and regular monitoring of substance use trends. There is also a need for culturally sensitive interventions that integrate family support and religious resources. Encouraging strong family connections through regular communication and collaborating with faith-based organizations to deliver mental health messaging may increase the effectiveness of behavioral interventions.

This study contributes new knowledge to the field by contextualizing substance use within the lived experiences of Nigerian oil and gas workers, a population that remains underrepresented in health behavior research. The findings support the need for multi-level interventions that incorporate organizational change, individual counseling, peer support

systems, and policy enforcement to mitigate substance use risks in this industry.

Although the qualitative nature of the study limits generalizability, the depth of the narrative offers valuable insights into the psychosocial aspects of occupational health. Future programs targeting substance abuse in similar work environments should therefore adopt a holistic, culturally sensitive approach grounded in the realities of affected workers. Notably, the use of purposive and snowball sampling may introduce bias and limit the generalizability of the findings. Nonetheless, the depth and triangulation of the data enhance the credibility of the findings. Future research should adopt a mixed-methods approach to quantify substance use prevalence and investigate causal pathways. Longitudinal studies would also be valuable in exploring how occupational stress and coping behaviors evolve over time.

Conclusion

This study highlights the adverse work environments and substance use among oil and gas workers in Nigeria. Workplace stressors, social norms, and personal coping resources interact in complex ways to influence health behaviors. By prioritizing mental health, promoting adaptive coping, and implementing systemic workplace interventions, stakeholders can reduce the burden of substance abuse and enhance the overall well-being and productivity of the oil and gas workforce.

5. REFERENCE

1. National Institute on Drug Abuse. Drug Abuse and Addiction: One of America's Most Challenging Public Health Problems. <https://archives.drugabuse.gov/publications/drug-abuse-addiction-one-americas-most-challenging-public-health-problems/magnitude>. Accessed September 15, 2018.
2. Van Demark BE. Prescription Drug Abuse is a Major Public Health Problem. *S D Med*. 2016;69(1):3. <http://www.ncbi.nlm.nih.gov/pubmed/26882574>. Accessed September 15, 2018.
3. National Institute of Health. Substance Abuse.
4. Neo Morojele, Charles Parry, Judith Brook CK. Alcohol and drug use. 2009:195-213.
5. WHO | Substance abuse. *WHO*. 2016.
6. WHO | The global burden. *WHO*. 2010.
7. UNODC. *World Drug Report*; 2015. https://www.unodc.org/documents/wdr2015/WDR15_Drug_use_health_consequences.pdf. Accessed September 15, 2018.
8. Adamson TA, Ogunlesi AO, Morakinyo O lufemi, et al. Descriptive national survey of substance use in Nigeria. *J Addict Res Ther*. 2015;06(03):1-10. doi:10.4172/2155-6105.1000234
9. Onya H, Tessera A, Myers B, Flisher A. Adolescent alcohol use in rural South African high schools. 2012:352-357. file:///C:/Users/user/Desktop/Alcohol and Substance abuse/Africa Adolescent alcohol use in rural South.pdf.
10. Group WR. *OCCUPATIONAL STRESS AND HEALTH IN THE OIL AND GAS INDUSTRY EXECUTIVE*. http://www.shepellfgi.com/EN-US/AboutUs/News/Research Report/pdf/ir_oilandgasindustry_en_report_SFGI2005.pdf. Accessed December 29, 2018.
11. Health Services A. *Alcohol and Drug Use in Alberta's Oil and Gas Industry*; 2017. <https://www.albertahealthservices.ca/assets/info/res/mhr/if-res-mhr-alcohol-drug-oil-gas-industry.pdf>. Accessed May 8, 2019.
12. Nigerian National Petroleum Corporation. Industry History. <http://nnpcgroup.com/nnpcbusiness/businessinformation/oilgasinnigeria/industryhistory.aspx>. Accessed December 29, 2018.
13. Chinweze C, Abiola-oloke G, Onyeri I, Kennedy-echetebu C, Jideani C. Oil and gas activities and the nigerian environment. In ; 2012:1-6.
14. Kazanga I, Tameni S, Piccinotti A, Floris I, Zanchetti G PA. Prevalence of drug abuse among workers: strengths and pitfalls of the recent Italian Workplace

- Drug Testing (WDT) legislation. *Forensic Sci Int.* 2012;215(1-3):46-50.
15. Obarisiagbon OE, Osayi D WV. Prevalence and Risk Factors of Hypertension among Workers of an Oil Palm Company in Edo State, Nigeria. *J Community Med Prim Heal Care.* 2018;30(2):62-74.
16. Zabbey N, Sam K OA. Remediation of contaminated lands in the Niger Delta, Nigeria: Prospects and challenges. *Sci Total Environ.* 2017;586:952-965.
17. WHO | The ASSIST project - Alcohol, Smoking and Substance Involvement Screening Test. *WHO.* 2018. https://www.who.int/substance_abuse/activities/assist/en/. Accessed February 19, 2019.
18. Clausen T, Madsen IE, Christensen KB, Bjorner JB, Poulsen OM, Maltesen T, Borg V, Rugulies R. The Danish Psychosocial Work Environment Questionnaire (DPQ). *Scandinavian Journal of Work, Environment & Health.* 2019 Jan 1;45(4):356-69.
19. Smilkstein G. The family APGAR: a proposal for a family function test and its use by physicians. *J fam pract.* 1978 Jun 1;6(6):1231-9.
20. Iversen RT. The mental health of seafarers. *International maritime health.* 2012;63(2):78-89.
21. Maloney WF. Substance abuse in construction. *Journal of construction engineering and management.* 1988 Dec;114(4):614-30.
22. Hystad SW, Eid J. Sleep and fatigue among seafarers: the role of environmental stressors, duration at sea and psychological capital. *Saf Health Work.* 2016;7(4):363–371.
23. Atoyebi OA, Atoyebi OE. Pattern of Substance Abuse among Senior Secondary School Students in a Southwestern Nigerian City. *Int J Educ Res.* 2013;4(2):54–65.
24. Yusuf F. Factors Influencing Substance Abuse among Undergraduate Students in Osun State, Nigeria. *African Res Rev.* 2011;4(4). doi:10.4314/afrrrev.v4i4.69233
25. National Institute on Drug Abuse. *Treatment Approaches for Drug Addiction.* U.S. Department of Health and Human Services; 2019.
26. United Nations Office on Drugs and Crime. *International Standards for the Treatment of Drug Use Disorders.* UNODC; 2016.