

## Burden of Substance Abuse in Freetown, Sierra Leone and Its Implications for Public Health

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### ABSTRACT

**Background:** Substance abuse is an escalating public health crisis in Freetown, Sierra Leone, contributing to profound socioeconomic costs, domestic violence, and a heightened risk of sexually transmitted diseases (STDs). This study aimed to investigate the prevalence, characterize the types of substances abused, and identify the sociodemographic drivers of substance abuse among residents in the Western, Central, and Eastern parts of the city.

**Methods:** A mixed-methods approach was utilized, incorporating qualitative and quantitative research designs. Data were collected through structured questionnaires and personal interviews with 50 randomly selected respondents. Participants were primarily targeted at high-risk locations, including ghettos, entertainment centers, and psychiatric facilities across Freetown.

**Results:** The most commonly abused substances were alcohol (80%) and kush (80%), followed closely by cigarettes (66%) and cannabis (64%). Less frequently used substances included tramadol (34%), cocaine (14%), heroin (10%), amphetamines (6%), and inhalants (2%). The demographic profile revealed that usage peaked among young adults aged 15–24. Furthermore, 80% of users were single, 50% were unemployed, and men abused substances at a higher rate than women. A staggering 100% of respondents noted a recent surge in both the variety of available substances and the number of users. Risky sexual behaviors were highly prevalent, with 65% reporting they never use condoms and 68% having no regular sexual partner, highlighting a severe risk for spreading STIs like HIV/AIDS. Additionally, only 18% of users had sought treatment for their substance use.

**Conclusions:** The trend of substance abuse in Freetown is on a massive increase, particularly among unemployed youth, driven by the domestic production and affordability of substances like cannabis, kush, and alcohol. These findings underscore an urgent need for multifaceted public health interventions. Critical recommendations include nationwide education campaigns, the enforcement of stringent anti-drug policies, enhanced parental oversight, and the establishment and strengthening of rehabilitation facilities to safeguard public health.

**Key words:** Substance abuse, Public health, Freetown, Sierra Leone, Kush, Youth unemployment,

Sociodemographic drivers, Risky sexual behavior, Polysubstance use

## INTRODUCTION

Substance abuse represents a profound global challenge that is destructive to families, economically costly, and frequently fatal. Beyond the immediate physical and individual suffering, drug abuse precipitates a substantial loss of productivity, which places an exhaustive strain on both societal infrastructures and healthcare resources. Internationally, substance abuse is recognized as a critical public health threat, a situation that is particularly acute within the context of Sierra Leone (United Nations Office on Drugs and Crime, 2009). These substances serve as primary catalysts for broader social pathologies, including domestic violence, accidents, criminal activity, and the accelerated transmission of sexually transmitted infections. Research indicates that the majority of individuals initiate experimentation with substances at an early age (De Miranda, 1987; Jaffe, 1998). Globally, alcohol, tobacco, and cannabis remain the most widely abused due to their high availability (Madu & Matla, 2003).

Globally, cannabis remains the most consumed narcotic, with an estimated 192 million users; a 16% increase over the past decade, while other frequently abused substances include amphetamines, opioids, and cocaine (UNODC, 2018). From a clinical and academic perspective, substance abuse challenges the current understanding of neuroscience and necessitates an integrated approach across medical disciplines such as pharmacology,

neurobiology, and psychiatry. It is characterized by a repeated failure to fulfill essential social roles at home or work, leading to systemic job loss, impaired interpersonal relationships, and a heightened exposure to physically threatening situations as physiological tolerance drives increased consumption (APA, 2013). The global landscape reflects these escalating trends, with significant increases in opioid use in Asia and cocaine use in Europe (Degenhardt & Hall, 2012). In Africa, approximately 52% of the population utilizes cannabis or other illicit drugs, with a notable prevalence of "weekend binge drinking" among citizens aged 15 to 64 (Pasche & Myers, 2012b). Furthermore, the rise of polysubstance use for stress relief and recreational purposes has contributed to alarming mortality rates that can reach as high as 40% (WDR, 2014). In Sierra Leone, substance abuse has emerged as one of the most significant public health hurdles, impeding national development and disproportionately affecting the youth, who constitute the most energetic segment of the labor force. While cannabis, alcohol, and cigarettes have been historically prevalent, recent years have seen the introduction of "hard" substances such as cocaine and "kush" into the local market. It is now increasingly common to observe young adults, with a mean age of 25, under the influence of these substances on the streets of Freetown. Stakeholders frequently identify high rates of unemployment and peer pressure as the primary drivers compelling young people into cycles of addiction. This surge in abuse

is directly correlated with a rise in robbery and theft, creating a pervasive climate of insecurity within local communities. As the government remains the primary provider of psychiatric care, this escalating crisis places an urgent and unsustainable demand on national resources, risking the loss of a generation of potential leaders. The primary aim of this research was to investigate the nature and burden of substance abuse within Freetown, Sierra Leone. Specifically, the study sought to assess the prevalence of abuse, characterize and rank the types of substances utilized, and identify the underlying drivers and risk factors. This investigation is justified by a critical lack of existing data regarding the specific substances currently being abused in the country, their methods of consumption, and the associated public health risks (UNODC). Substance use in Sierra Leone remains significantly understudied, mirroring a broader data gap across much of Sub Saharan Africa (Boas and Hatloy, 2005). By providing empirical evidence on risk factors and drivers, this study intends to support educators, healthcare professionals, and policymakers in developing targeted, evidence based interventions to mitigate this crisis.

## METHODS

### Study Design and Setting

A mixed methods research design was utilized to investigate the burden of substance abuse in Freetown, Sierra Leone. This approach integrated both qualitative and quantitative strategies to provide a comprehensive understanding of the crisis.

The study focused on three primary urban regions: the Western, Central, and Eastern districts. Data collection was concentrated in locations with high concentrations of substance activity, including the Sierra Leone Psychiatric Hospital, community ghettos, and local entertainment centers. To ensure a deep understanding of the local drug landscape and supply chains, personal interviews were also conducted with key informants, such as drug suppliers and ghetto owners.

### Population and Sampling

The study population was selected using a random sampling technique to ensure broad representation. However, specific efforts were made to purposively target individuals and groups identified as being at high risk for substance abuse. These participants were primarily recruited from drug sales locations, entertainment hubs, and specialized clinical settings such as mental health and rehabilitation facilities. Participation was strictly limited to individuals who were observed or known to be consuming substances at the designated study sites during the period of data collection. A total of 50 respondents were included in the final sample.

### Data collection tool

The primary tool for data collection was a structured questionnaire designed to be both flexible and quantifiable. The instrument was divided into distinct sections to capture demographics, usage patterns, and associated risks. It featured two main types

of questions:

Open ended questions, which allowed respondents the opportunity to offer detailed personal perspectives and qualitative insights into their experiences.

Closed ended questions, which utilized multiple choice variables to facilitate the systematic categorization and quantification of data regarding frequency of use, types of substances, and sociodemographic drivers.

### Data Collection Procedures

Data were gathered through the direct administration of questionnaires and qualitative notes derived from personal interviews. The researcher engaged with respondents at their primary locations of use or treatment to ensure high response rates and authentic data. The collection process focused on capturing comprehensive information regarding the prevalence of substance use, the specific types of substances utilized, and the various risk factors associated with addiction. This methodology allowed for a rigorous assessment of the public health implications of substance abuse within the resource limited context of urban Freetown.

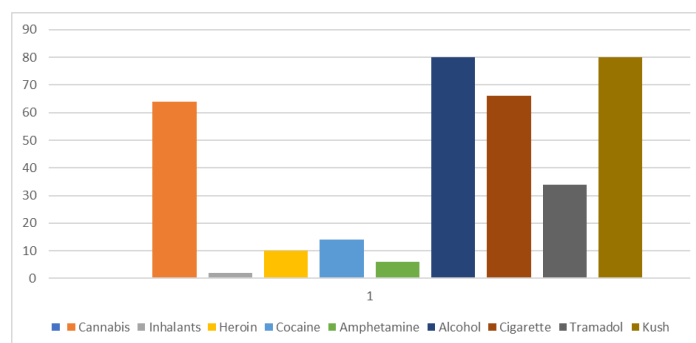
**Data Analysis** The data collected from the structured questionnaires and personal interviews were analyzed using descriptive statistics. Quantitative variables, including substance prevalence, frequency of use, and sociodemographic characteristics, were processed to determine frequency distributions and percentages. Qualitative data

derived from key informant interviews with drug suppliers and ghetto owners were themed and used to provide context to the quantitative findings. Cross tabulation was employed to identify trends and relationships between substance abuse patterns and variables such as geographic location, age of initiation, and employment status. All data were systematically organized to ensure a clear representation of the public health burden within the study area.

### RESULTS

We conducted a study on the burden and implications on public health in Freetown, Sierra Leone. The substances that were found to be consumed in the Western Area were Cannabis (64%), Inhalants (2%), Heroin (10%), Cocaine (14%), Amphetamine (6%), Alcohol (80%), Cigarette (66%), Tramadol (34%) and Kush (80%).

**Figure 1: Types of substances and percentage use**



Alcohol, Kush, Cannabis and Cigarette were the most consumed substances.

**Table 1: Trends of substance use by location**

| Substance   | West % Use | Central % Use | East % Use |
|-------------|------------|---------------|------------|
| Cannabis    | 72.59      | 68.33         | 48.67      |
| Inhalants   | 5.65       | -             | -          |
| Heroin      | -          | 14.53         | 15.48      |
| Cocaine     | 20.33      | 16.62         | 5.45       |
| Amphetamine | 4.65       | 1.53          | -          |
| Alcohol     | 85.35      | 78.87         | 75.59      |
| Cigarette   | 58.94      | 60.45         | 78.63      |
| Tramadol    | 36.87      | 33.64         | 31.48      |
| Kush        | 87.33      | 78.23         | 75.65      |

Table 1, shows the trends of substance use by location. Cannabis, Kush and Alcohol were more consumed in the West part of the city, compared to the Eastern and Central part. While Cigarette is more smoked in the Eastern part of the city compared to the West and Central part.

**Table 2: The trends among age groups**

| Age Group | % of 1 | % of 2 | % of 3 | % of 4 | % of 5 | % of 6 | % of 7 | % of 8 | % of 9 |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 15-24     | 65     | 2      | 6      | 10     | 3      | 90     | 50     | 65     | 80     |
| 25-34     | 60     | -      | 2      | 3      | 1      | 60     | 65     | 50     | 70     |
| 35-44     | 35     | -      | -      | -      | -      | 100    | 90     | 25     | 70     |

1 = Cannabis, 2 = Inhalants, 3 = Heroin, 4 = Cocaine, 5 = Amphetamine, 6 = Alcohol

7 = Cigarette, 8 = Tramadol, 9 = Kush

Youths between the ages of 15 – 24 years abused all the substances.

**Table 3: The trends of substance use by level of education**

| Level of Education | Total Number | Percentage (%) |
|--------------------|--------------|----------------|
| Secondary          | 22           | 44             |
| Tertiary           | 17           | 34             |
| Primary            | 3            | 6              |
| Illiterate         | 1            | 2              |

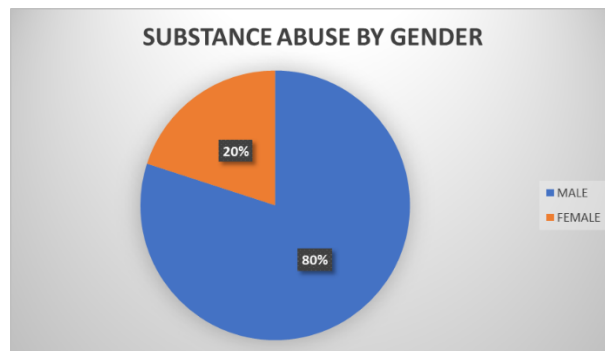
Secondary and Tertiary education respondents abused more substances than Primary education respondents and those whose are Illiterate.

**Table 4: The trend of substance use by occupation**

| Occupation            | Total Number | Percentage (%) |
|-----------------------|--------------|----------------|
| Unemployed            | 25           | 50             |
| Commercial sex worker | 4            | 8              |
| Labourer              | 1            | 2              |
| Hawker (petty trader) | 4            | 8              |
| Others                | 16           | 32             |

Unemployed youths are more engaged in substance use as shown in table 4.

**Figure 2: Trends by Gender**



Males are more involved in substance use as compared to females.

**Table 5: Trends by Marital Status**

| Marital Status     | Total number | Percentage (%) |
|--------------------|--------------|----------------|
| Married            | 8            | 16             |
| Single             | 40           | 80             |
| Divorced/Separated | 2            | 4              |

**Table 6: Trends by Gender for each substance**

| Substan | Gender |        |
|---------|--------|--------|
|         | Male   | Female |
|         |        |        |

| Substance   | Total number | %    | Total number | %  |
|-------------|--------------|------|--------------|----|
| Cannabis    | 25           | 62.5 | 7            | 70 |
| Inhalant    | 1            | 2.5  | -            | -  |
| Heroin      | 2            | 5    | 1            | 10 |
| Cocaine     | 3            | 7.5  | 1            | 10 |
| Amphetamine | 4            | 10   | -            | -  |
| Alcohol     | 30           | 75   | 7            | 70 |
| Cigarette   | 20           | 50   | 6            | 60 |
| Tramadol    | 18           | 45   | 4            | 40 |
| Kush        | 35           | 87.5 | 9            | 90 |

**Table 7: Trends by religion**

| Religion     | Total Number | Percentage (%) |
|--------------|--------------|----------------|
| Christianity | 26           | 52             |
| Islam        | 24           | 48             |

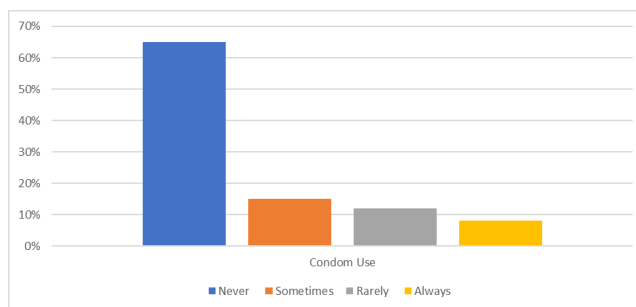
**Table 8: Trends of substance use by age of initiation**

| Substance   | Age of Initiation |
|-------------|-------------------|
| Cannabis    | 15-24             |
| Inhalants   | 15-24             |
| Heroin      | 15-24 and 25-34   |
| Cocaine     | 15-24 and 25-34   |
| Amphetamine | 15-24             |
| Alcohol     | 15-24             |
| Cigarette   | 15-24             |
| Tramadol    | 15-24             |
| Kush        | 15-24             |

**Table 9: Recent change**

| Recent | Total | Percentage |
|--------|-------|------------|
|--------|-------|------------|

| Change | Number | (%) |
|--------|--------|-----|
| Yes    | 50     | 100 |
| No     | -      | -   |



**Table 10: Addiction (Frequency) of different substances**

| Substance | % Frequency |    |    |    |   |   |   |
|-----------|-------------|----|----|----|---|---|---|
|           | 1           | 2  | 3  | 4  | 5 | 6 | 7 |
| Cannabis  | 90          | 10 | -  | -  | - | - | - |
| Alcohol   | 55          | 25 | 5  | 10 | 3 | 2 | - |
| Cigarette | 65          | 20 | 6  | 9  | - | - | - |
| Cocaine   | -           | 50 | 50 | -  | - | - | - |
| Heroin    | -           | 50 | 50 | -  | - | - | - |
| Tramadol  | 50          | 35 | 15 | -  | - | - | - |
| Kush      | 95          | 5  | 5  | -  | - | - | - |

KEY: More than once daily – 1, Once per day – 2, Once per week – 3, More than once weekly – 4, Once or twice per month – 5, Once every few month – 6, Once only – 7.

**Figure 3. Condom Use against % use of drug**

**Table 11: Regular Sexual Partner**

| Regular Partner | Total number | Percentage (%) |
|-----------------|--------------|----------------|
| Yes             | 16           | 32             |
| No              | 34           | 68             |

**Table 12: Treatment and arrest/convicted**

**Table 12a: Treatment**

| Treatment | Total number | Percentage (%) |
|-----------|--------------|----------------|
| Yes       | 9            | 18             |
| No        | 41           | 82             |

**Table 12b: Arrest/Conviction**

| Arrest/Conviction | Total number | Percentage (%) |
|-------------------|--------------|----------------|
| Arrest/Conviction |              |                |

|     |    |    |
|-----|----|----|
| Yes | 10 | 20 |
| No  | 40 | 80 |

**DISCUSSION**

The findings of this study provide a comprehensive assessment of the escalating substance abuse crisis in Freetown, revealing significant public health implications. The high prevalence of alcohol (80%) and kush (80%) highlights a shift in the local drug landscape, where synthetic and locally available substances have become the primary drivers of addiction. These results align with international observations that substance abuse is a major ongoing problem, particularly within the West African sub-region (United Nations Office on Drugs and Crime, 2009). The prevalence of cannabis (64%) remains consistent with its status as the most widely consumed narcotic worldwide (UNODC, 2018), largely due to its high availability and lower cost (Madu & Matla, 2003).

The demographic data underscores a critical vulnerability among youths aged 15 to 24, who are engaged in the use of all identified substances. This confirms that most individuals begin experimenting with substances at an early age (De Miranda, 1987; Jaffe, 1998). The data also suggests that socio-economic hardship is a major catalyst, as 50% of the respondents were unemployed. This relationship between joblessness and addiction is a significant

barrier to national development, as it disproportionately affects the most energetic segment of the labor force. Interestingly, the high rates of use among those with secondary and tertiary education suggest that the crisis is not limited to illiterate populations but is a pervasive social issue (UNODC, 2003).

The high frequency of use, particularly for kush (95%) and cannabis (90%) more than once daily, indicates a severe level of physiological and psychological dependency. This level of addiction often leads to a failure to fulfill social roles and heightens exposure to physically threatening situations (APA, 2013). Furthermore, the 100% consensus among respondents regarding a recent increase in substance availability and variety points toward an urgent need for stricter governmental policies and enhanced border controls to manage the influx of "hard" substances like cocaine and heroin.

Perhaps the most alarming implication for public health is the intersection of substance abuse and risky sexual behavior. With 68% of respondents having no regular partner and 65% reporting inconsistent or no condom use, the potential for an outbreak of sexually transmitted infections is high. This mirrors global concerns that substance abuse serves as a primary catalyst for the spread of STDs (Degenhardt & Hall, 2012). Despite these risks, the massive treatment gap where 82% of users have never received professional help—highlights a systemic failure in the current healthcare infrastructure. Addressing this burden requires an integrated approach

that combines psychiatric care, community education, and socio-economic support to mitigate the loss of a generation (WDR, 2014; Boas & Hatloy, 2005)

## CONCLUSION

This research provides a comprehensive investigation into the patterns and burden of substance abuse across the Western, Central, and Eastern districts of Freetown, revealing a rapidly escalating public health crisis. The findings indicate that alcohol and kush are the most prevalent substances of choice, followed closely by cigarettes and cannabis. The high consumption rates of these specific substances are largely driven by their domestic production, which makes them highly affordable and easily accessible. Conversely, substances such as inhalants and amphetamines represent the least consumed categories. The demographic profile of the predominant user is a single, unemployed male between the ages of 15 and 24, who has attained either secondary or tertiary education. The implications of these usage patterns are profound. The trend of substance abuse is experiencing a massive increase, characterized by the introduction of new substances and a growing number of involved individuals. Furthermore, the study highlights severe health risks associated with the substance-abusing population. There is a pronounced vulnerability to sexually transmitted infections, compounded by the fact that most users report not having regular sexual partners. Despite these escalating physical and social risks, there is a substantial

treatment gap; the vast majority of substance users have never received medical or psychiatric treatment for their addiction. Additionally, legal deterrence appears limited, as the number of users who have faced arrest remains disproportionately small compared to the overall population of individuals actively using substances. To effectively mitigate this growing crisis, a multifaceted public health and policy approach is urgently required. It is imperative to launch nationwide awareness and education campaigns targeting communities, parents, children, and adults to highlight the dangers of substance addiction. At the household level, parents must be empowered to exercise better control and proactively educate their children regarding the risks of substance use. From a policy and law enforcement perspective, the government must ensure the strict implementation of legislation against substance abusers, which should include severe sanctions for the unlawful possession of the aforementioned drugs. Finally, to address the glaring treatment gap, there is a critical need to establish new rehabilitation and treatment facilities, while concurrently strengthening the infrastructure and capacity of existing institutions to provide essential care..

## COMPETING INTERESTS

All the authors involved in writing the content of this manuscript and disclosed no conflicts of interest whatsoever.

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