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# Prevalence, patterns, and associated factors for substance use among university students in Maseru, Lesotho

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**ABSTRACT**

Psychoactive substance use among students has implications for early substance dependence. This study aimed to determine the prevalence, patterns, and reasons for substance use among university students in Maseru, Lesotho. There were 302 students who participated in this descriptive, cross-sectional survey. Descriptive statistics summarized the findings obtained from a self-administered online questionnaire. The prevalence rate for alcohol (44.4%), dagga (6%), and cigarette smoking (6%) was statistically significantly higher among males than females ($p<0.05$). Alcohol was consumed to feel good by 26.1% of the participants, 38.9% smoked cigarettes to handle stress, and 22.2% used dagga because it is easily available (22.2%). This study identified a unique pattern of substance use among university students, which is limited to alcohol, cigarettes, and dagga, with the exclusion of hard drugs. Effective and comprehensive health promotion programs should be implemented in Lesotho to prevent the introduction of hard-core psychoactive substances.



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## 1. INTRODUCTION

The use of psychoactive substances continues to be a common public health issue in the Sub-Saharan region and among university students globally, with a significant impact on their academic performance, mental health, social, and overall long-term well-being. United Nations Office on Drugs and Crime (UNODC) reports that drug use among people aged 15–65 rose to 284 million in 2020, marking the rise to 26% within the past ten years, particularly with the majority of youth under 35 disproportionately affected in treatment settings across Africa [1]. Similarly, the World Health Organization Africa reported cannabis as the most prevalent substance among young individuals, with a usage rate reaching up to 13.5% in West and Central Africa [2]. Southern Africa has documented the highest prevalence of substance use among sub-regions, with rates reaching up to 46.6% for any substance [3]. This emphasizes the fact that substance use is a major contributor to the burden of disease.

Initiation into alcohol and substance use often begins in early adulthood, coinciding with the transition to university. This period is marked by both liberation and challenges, including unfamiliar environments, time management demands, financial constraints, social pressures, and academic stressors [4]. In the absence of adequate psychosocial support and prevention infrastructure, university students are at heightened risk of exposure to substances such as cannabis, tobacco, and alcohol [5].

Lesotho lacks nationally representative data on the use of psychoactive substances among university students, even though UNICEF has reported substance use as a growing threat to youth health, exacerbated by a

lack of mental health services and economic hardships [6]. One of the first recent glimpses into youth substance use in the country was conducted among individuals aged 10-17 years in a rural setting, and the study reported 3% of the sample met clinically relevant substance use problems, rising to 5% among older teens [7]. This underscores the need for Lesotho context-specific data for university students.

To better understand substance use among university students in Lesotho, South Africa can be used as a mirror since it has socio-political ties, geographically surrounds and landlocks Lesotho, and often serves as a benchmark to provide a critical comparative lens. A study carried out in South Africa among university students in the Western Cape reported 62.7% of substance use, with alcohol and cannabis being the most common at 80.6% and 46% respectively [8]. Findings from another university in the Eastern Cape, South Africa, show that 50% of the students consume alcohol at a harmful level, raising concerns of substance use on campus [9].

The consequences of substance use among university students extend beyond decreased academic performance and substance dependence, but pose a multifaceted health ramification encompassing increased exposure to both communicable diseases, such as HIV, and non-communicable diseases, such as mental health disorders and complications in reproductive health [10], [11]. These risks are magnified in Lesotho, where HIV prevalence is at 25% among adults aged 15-49 years, underscoring the need to include substance use interventions with broader youth health and disease prevention policies [12]. The lack of empirical data is a gap both in academia and public health planning, which delays institutional response and also hinders the integration of substance use prevention into broader line prevention. The study addresses that gap by examining the prevalence, patterns, and associated factors of substance use among university students in Maseru, Lesotho.

## 2. RESEARCH METHOD

### 2.1. Study design

A quantitative and cross-sectional study design was used to determine the prevalence, patterns, and associated factors for substance use among university students in Maseru, Lesotho. This study was conducted during the COVID-19 pandemic. Data collection occurred online, adhering to the country's pandemic-era restrictions and leveraging the accessibility of digital platforms for university students [13]-[15].

### 2.2. Study setting

Data collection occurred in a cosmopolitan university in the Maseru district, which accommodates and is limited to only undergraduate students from all 10 districts of Lesotho. Only one university was purposely selected to be part of the study because of limitations on movement and contacts during the COVID-19 pandemic. However, given that Maseru serves as Lesotho's academic and economic hub [16], this facilitated efficient recruitment. All faculties of the university were included to allow comprehensive coverage.

### 2.3. Sample size and sampling

The study population consisted of all male and female registered students, who were residing on or off campus, and those who volunteered to participate. Students who were not registered and those who wished not to participate in the study were excluded. To determine the minimum required sample and ensure ethical transparency, an online Raosoft sample size calculator was used [17], [18]. With an estimated population size of 1200 registered students identified through the official records of the university, a 5% margin of error and confidence interval of 95%, a minimum sample size of 292 was calculated. This sample was increased to at least 300 to compensate for incomplete data [19]. A dual sampling approach of convenience and snowball sampling technique was utilized, considering the limitations imposed by the pandemic as well as the nature of the online study. Participants were first recruited from school online platforms, such as Zoom classes, and were then invited to share the link with their peers within the same university.

### 2.4. Instrument

The structured online questionnaire was adapted from the UNODC GAP toolkit module 3 [20] framework, which is one of the validated frameworks that has been previously applied in studies of substance use among school-based youth [21]. Prior to the full deployment of the tool, a pilot study was conducted among 10% of the university population to assess the tool's clarity and contextual applicability. At the end of the study, students we asked to provide feedback on the clarity and contextual relevance, and appropriateness of the tool in the feedback section, which was embedded. No modifications were required following the completion of the pilot study. The adapted tool consisted of closed-ended questions and was in English, which is the language of instruction at the university. The questionnaire was divided into three sections of demographic information, substance use history, and reasons for substance use.

### 2.5. Data collection procedure

The study information leaflet, which provided participants about the purpose, significance, and benefits of the study leaflet was distributed during participant recruitment on the university's online platforms. Participants responded anonymously to the self-administered online questionnaire via a secure link provided. The link shared, and the time required to complete the questionnaire, as well as a questionnaire with a digital statement of consent that read: "Do you wish to participate in the study?" which participants had to fill through a selecting "OK" to confirm their consent to take part in the study. Participants who selected "OK" were automatically considered to have agreed to take part in the study [22]. To safeguard the privacy of participants and address ethical concerns with internet-based research, IP addresses and personal identifiers were not collected. Data was further stored on encrypted servers to align with ethical standards of online research [23].

### 2.6. Data analysis

Data, which was automatically downloaded in Microsoft Excel due to the nature of the online study, was first cleaned and imported to STATA version 16.0 for analysis. Descriptive statistics in the form of frequencies, means, and percentages/proportions were used to determine the prevalence, patterns, and reasons of substance use. Bivariate analysis was carried out using the Pearson Chi-square test statistics to test the association between various demographic characteristics and substance use ($p \leq 0.05$). To identify independent predictors of substance use, multiple logistic regression was conducted with results presented as adjusted odds ratios, 95% confidence intervals, and corresponding p-values [24].

## 3. RESULTS

A total of 302 students consented to participate in the study. All participants completed the questionnaires in full, resulting in a 100 percent response rate. The entirety of the collected data was subsequently incorporated into the analysis.

### 3.1. Socio-demographic characteristics of students

Results from the study indicated the majority (77.8%) of the participants were between the ages of 18 and 24 years, with the mean age of 22.6 and the median of 22 years. The majority were females (70.2%), and most were single (87.1%). Nearly all students (98%) were staying off campus, as shown in Table 1.

Table 1 Socio-demographic characteristics of study participants (n = 302)

| Variable | Value | Frequency (%) |
|---|---|---|
| Age (mean 22.6; median 22.0; range 18-37 years) | 18-24 | 235 (77.8) |
| | 25-29 | 50 (16.6) |
| | 30-37 | 17 (5.6) |
| Gender | Female | 212 (70.2) |
| | Male | 90 (29.8) |
| Marital status | Single | 263 (87.1) |
| | Married | 35 (11.6) |
| | Divorced | 4 (1.3) |
| Program enrolled for | Journalism/broadcasting/media | 122 (40.4) |
| | Tourism/hospital management | 86 (28.5) |
| | International studies/business studies | 49 (16.2) |
| | Professional com/public relation | 31 (10.3) |
| | Business Entrepreneurship | 10 (3.3) |
| | Did not answer the question | 4 (1.3) |
| Place of residence | Off campus | 296 (98.0) |
| | On campus | 2 (0.7) |
| | Did not answer the question | 4 (1.3 |

### 3.2. Prevalence of substance use

Table 2 shows lifetime substance use among study students**.** More than half (54.0%) of the study participants have never used any substance (i.e., alcohol, cigarettes, or dagga) in the last 30 days or last 12 months before the study. Among the participants, 37.1% reported having used only alcohol in their lifetime. In total, 46% reported having used at least one of the different substances presented in the questionnaire in the last 30 days or last 12 months before the study. The study participants were also asked if they were using other substances like nyaope, cocaine, ecstasy, heroin, and other illegal drugs, and they all reported that they were not using any other substances apart from the three substances (alcohol, cigarettes, and dagga).

Table 2. Lifetime substance use among study participants (n=302)

| Category | Sub-category | Frequency (%) |
|---|---|---|
| Lifetime substances that were used | Have not used any substances | 163 (54.0) |
| | Never drank any alcohol | 168 (55.6) |
| | Drinking alcohol only | 112 (37.1) |
| | Drinking alcohol and smoking cigarettes | 8 (2.7) |
| | Drinking alcohol and smoking dagga | 7 (2.3) |
| | Not smoking cigarettes | 284 (94.0) |
| | Smoking cigarettes only | 1 (0.3) |
| | Smoking cigarettes and dagga | 2 (0.6) |
| | Not smoking dagga | 284 (94.0) |
| | Smoking dagga only | 2 (0.6) |
| | Drinking alcohol and smoking cigarettes, and dagga | 7 (2.3) |
| Illegal drugs that were used | Nyaope | 0 (0) |
| | Cocaine | 0 (0) |
| | Ecstasy | 0 (0) |
| | Heroin | 0 (0) |
| | Crack | 0 (0) |
| | Others illegal drugs | 0 (0) |

Among the 302 students surveyed, 134 (44.4%) reported consuming alcohol at least once in the past 30 days. The most frequently reported groups were using twice (13.58%) and once (12.25%), suggesting that occasional consumption is more prevalent than habitual drinking, with only 2.65% of the students reporting drinking ten or more times, as shown in Figure 1.

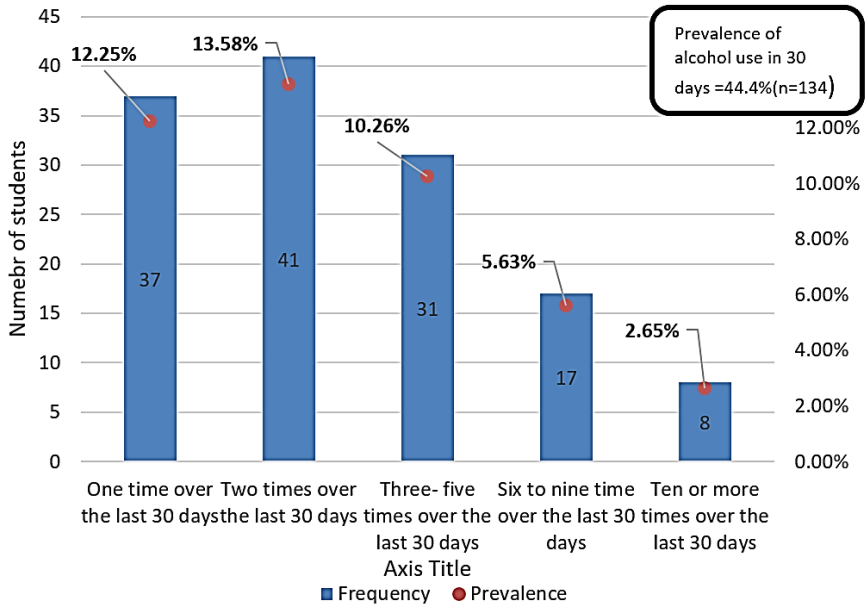


Figure 1. Prevalence of alcohol use

Figure 2 reveals that 18 (5.96%) of the 302 students reported cigarette use in the past 30 days. The most prevalent pattern was smoking 1–5 cigarettes per day, indicating a tendency toward low-level daily use followed by 1.32% who smoked less than one cigarette per week. Only 0.99% reported smoking 6–10 cigarettes daily.

Hence, of the total sample, 18 (5.96%) reported any use, with most (5.3%) using it only once or twice during the past year. A smaller proportion (0.7%) reported moderate use (3–5 times). The detail of the data is presented in Figure 3.

Furthermore, in terms of age and substance used for the first time, for 87.8% of the study participants, alcohol was the first substance ever tried, while 10.8% smoked cigarettes and 1.4% smoked dagga as their first substance ever tried. The age of first-time use of substances and the substance used were significantly associated. The complete data is presented in Table 3.

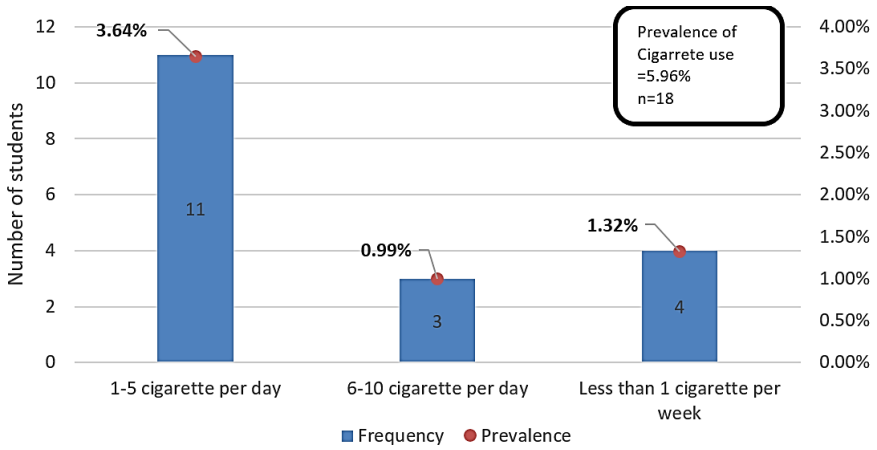


Figure 2. Prevalence of cigarette smoking

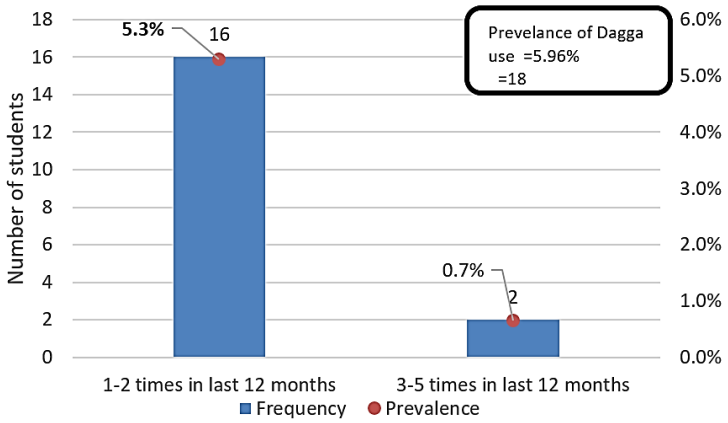


Figure 3. Prevalence of dagga use

Table 3. Association between age and first substance used (Fischer's test)

| First substance used | Alcohol n (%) 122 (87.8) | Cigarettes n (%) 15 (10.8) | Dagga n (%) 2 (1.4) | p-value |
|---|---|---|---|---|
| Age group | | | | |
| <14 years | 1 (0.7) | 0 | 0 | <0.001 |
| 14-16 years | 18 (14.8) | 6 (40.0) | 0 | |
| 17-19 years | 65 (53.3) | 6 (40.0) | 0 | |
| ≥20 years | 38 (31.1) | 2 (13.3) | 0 | |
| No answer | 0 (0) | 1 (6.7) | 2 (100.0) | |

### 3.3. Comparison of alcohol, cigarette smoking, and dagga use with socio-demographic variables

Table 4 shows the comparison of alcohol, cigarette smoking, and dagga use within the sociodemographic variables. In this study, the alcohol drinking prevalence rate was statistically significantly higher for the males than for the females (54.4% vs. 40.1%, $X^2$ = 5.2709, p = 0.022). There were no statistically significant associations between the prevalence rate of drinking alcohol and any of the other variables except gender.

Hence, the cigarette smoking prevalence rate was statistically significantly higher for the males than for the females (16.7% vs. 1.4%, $X^2$ = 26.2195, p = <0.001). There was no statistically significant association between the prevalence rate of cigarette smoking and any of the other variables except gender. The dagga use prevalence rate was statistically significantly higher for the males than for the females (12.2% vs. 3.3%, $X^2$ = 8.9693, p = 0.003). There was no statistically significant association between the prevalence rate of dagga use and any of the other variables. The use of alcohol, cigarettes, and dagga was statistically higher for males than for females (54.4% vs. 40.1%, $X^2$ = 5.2709, p = 0.022), (16.7% vs. 1.4%, $X^2$ = 26.2195, p = <0.001), and (12.2% vs. 3.3%, $X^2$ = 8.9693, p = 0.003).

Table 4. Associations between socio-demographic variables with substance use

| Variabel | Alcohol use | | Cigarette smoking | | Dagga use | |
|---|---|---|---|---|---|---|
| | "Yes" n (%) | "No" n (%) | "Yes" n (%) | "No" n (%) | "Yes" n (%) | "No" n (%) |
| Gender | $X^2$ 5.2709 | P 0.022* | $X^2$ 26.219 | P<0.001* | $X^2$ 8.9693 | P 0.003* |
| Male | 49 (54.4) | 41 (45.6) | 15 (16.7) | 75 (83.3) | 11 (12.2) | 79 (87.8) |
| Female | 85 (40.1) | 127 (59.9%) | 3 (1.4) | 209 (98.6) | 7 (3.3) | 205 (96.7) |
| Age | $X^2$ 1.4338 | P 0.488 | $X^2$ 3.1640 | P 0.206 | $X^2$1.6987 | P 0.239 |
| 18-24 | 101 (42.9) | 134 (57.0) | 11(4.7) | 224 (95.3) | 12 (5.1) | 223 (94.9) |
| 25-29 | 26 (52.0) | 24 (48.0) | 5 (10.0) | 45 (90.0) | 4 (8.0) | 46 (92.0) |
| 30-37 | 7 (41.2) | 10 (58.8) | 2 (11.8) | 15 (88.2) | 2 (11.8) | 15 (88.2) |
| Marital status | $X^2$4.0147 | P 4.0147 | $X^2$2.8384 | P 0.242 | $X^2$0.7102 | P 0.574 |
| Single | 111 (42.2) | 152 (57.8) | 18 (6.8) | 245 (93.2) | 15 (94.3) | 248 (94.3) |
| Married | 21 (60.0) | 14 (40.0) | 0 (0.0) | 35 (100.0) | 3 (8.6) | 32 (91.4) |
| Divorced | 2 (50.0) | 2 (50.0) | 0 (0.0) | 4 (100.0) | 0 (0.0) | 4 (100.0) |
| Courses enrolled for | $X^2$2.1085 | P 0.716 | $X^2$ (7.1840 | P 0.126 | $X^2$ 5.2525 | P 0.262 |
| Journalism/broadcasting/media | 50 (41.0) | 72 (59.0) | 3 (2.5) | 119 (97.5) | 5 (4.1) | 117 (95.9) |
| Tourism/hospital management | 43 (50.0) | 43 (50.0) | 7 (8.1) | 79 (91.9) | 7 (8.1) | 79 (91.9) |
| International Studies/business studies | 20 (40.8) | 29 (59.2) | 3 (6.1) | 46 (93.9) | 2 (4.1) | 47 (95.9) |
| Professional communication/public relations | 13 (41.9) | 18 (58.1) | 2 (6.4) | 29 (93.6) | 2 (6.4) | 29 (93.6) |
| Business Entrepreneurship | 5 (50.0) | 5 (50.0) | 2 (20.0) | 8 (80.0) | 2 (20.0) | 8 (80.0) |
| Place of residence | $X^2$ (2.4980) | P 0.114 | $X^2$ 0.1294 | P 0.719 | $X^2$ 0.1294 | P 0.719 |
| Off campus | 131 (44.3) | 165 (55.7) | 18 (6.1) | 278 (93.9) | 18 (6.1) | 278 (93.9) |
| On campus | 2 (100.0) | 0 (0.0) | 0 (0.0) | 2 (100.0) | 0 (0.0) | 2 (100.0) |

### 3.4. Reasons for substance use

While most (38.9%) of cigarette smoking respondents reported that they smoked cigarettes to help them handle stress. There were 26.1% of alcohol drinkers reported that they used the substance because it makes them feel good. In contrast, dagga is used because it is easily available in their neighbourhood, as shown in Table 5.

Table 5. Reasons for substance use

| Substance | Reason for use | Frequency (%) |
|---|---|---|
| Alcohol | It makes me feel good | 35 (26.1) |
| | I was curious | 15 (11.2) |
| | My friends wanted me to use alcohol | 15 (11.2) |
| | Help me deal with my problems | 14 (10.4) |
| | Help me handle stress | 14 (10.4) |
| | I was lonely | 8 (6.0) |
| | Easily available in my neighbourhood | 7 (5.2) |
| | Help me deal with my family problems | 7 (5.2) |
| | I had nothing else to do | 7 (5.2) |
| | I wanted to try something stronger | 7 (5.2) |
| | Help me deal with my financial situation | 2 (1.5) |
| Cigarettes | Help me handle stress | 7 (38.9) |
| | Easily available in my neighbourhood | 4 (22.2) |
| | My friends wanted me to use a cigarette | 2 (11.1) |
| | I was curious | 2 (11.1) |
| | It makes me feel good | 1 (5.6) |
| | Help me deal with my problems | 1 (5.6) |
| | Help me deal with my family problems | 1 (5.6) |
| Dagga | Easily available in my neighbourhood | 4 (22.2) |
| | My friends wanted me to use drugs | 3 (16.7) |
| | I was curious | 2 (11.1) |
| | I was lonely | 2 (11.1) |
| | Help me handle stress | 1 (5. 6) |
| | It makes me feel good | 1 (5.6) |
| | I wanted to try something stronger | 1 (5.6) |
| | I had nothing else to do | 1 (5.6) |

## 4. DISCUSSION

### 4.1. Prevalence of substances used by students

Findings from this study indicated that the most commonly used substance by students in the last 30 days or last 12 months is alcohol (44.4%), which concurs with published literature from Botswana [25]. This prevalence figure is comparable to published literature from universities in Botswana and South Africa, where alcohol was documented to be the most commonly used substance at a prevalence rate of 31.9% and

37.1% respectively [26], [27]. The prevalence rates of this study are also in line with findings from Nigeria (43.5%) [28].

As for cigarette smoking, the prevalence was 6% in the last 30 days. It was lower than university students in Botswana (12%) and South Africa (20%) [29], [30]. However, the findings were consistent with African literature from North-eastern Ethiopia (7.9%) [31], Kenya (8.9%) [32], and Egypt (8.9%) [33].

The prevalence of dagga among students in this study was 6%. This finding is considerably less compared to the prevalence of 24% of lifetime marijuana use among university students in neighbouring South Africa [34]. Hence, it is also less compared to the 8% among cannabis use among students in a university in Kenya [35].

Variations in the prevalence of alcohol, cigarette smoking, and cannabis largely reflect differences in research methodologies, particularly sampling. Cultural norms and institutional environments across countries also shape these outcomes. Together, methodological and contextual factors must be considered when interpreting and comparing prevalence data.

### 4.2. Prevalence trends

The findings showed that alcohol, cigarette smoking, and cannabis use were the most common substances used among the sample of students, which was consistent with studies conducted in other African countries such as South Africa, Kenya, Tanzania [36]-[38]. The trend is similar globally, where alcohol, cigarette smoking, and cannabis are amongst the most common substances of choice by learners [39]. Alcohol was the most commonly used substance in this study. This is explained by the wide accessibility of alcohol, its legal status, and its acceptability in many societies [40], including Lesotho. Moreover, this can also be attributed to informal alcohol vendors that offer alcohol at an affordable price. The accessibility could also be the reason for cigarette use in this study.

Although cannabis use has been reported as one of the commonly used drugs in the study, it is not surprising that it is underreported because it carries cultural stigma and is illegal for recreational use in Lesotho. A unique finding in this study is that none of the sampled students reported the use of cocaine, ecstasy, heroin, nyaope, crack, or any other drugs, which supports the view that substance use is socially influenced [41], and that, because the use of these substances is not the 'in' thing, they do not engage in it. On the other hand, it could be because they are not easily accessible and/or affordable to university students in Lesotho or widely used in the general population.

### 4.3. Patterns of substance use

The findings of this study indicate that there were no statistically significant associations between substance use and age, place of residence, courses enrolled in, and marital status. Gender was the only characteristic that was statistically significantly associated with all three substances, i.e. cigarette, alcohol, and dagga. This could be attributed to the fact that the study participants had similar characteristics or uneven sample size, where more single participants (87.1%) participated as compared to married (11.6%) and divorced (1.3%).

### 4.4. Age of initiation

Global data reports that substance use often starts between the ages of 14 and 15 years [42], which is the adolescence period of transition in which individuals seem to be more impulsive, reckless, and non-conforming than during other developmental stages of their lives [43]. Although using drugs at any age can lead to addiction, the problem is that the earlier that drug use begins, the more likely it will progress and escalate into more serious abuse [44]. The study findings revealed that about half (51.1%) of those who reported the use of substances started using the substances when they were between 17 and 19 years old, which is probably the time when they registered at the university. This is supported by Welsh [45], who reported that university students are in the age stratum that is marked by experimentation with substance use.

### 4.5. Gender differences

In this study, male students reported higher prevalence rates across all three substances. This finding has been supported by previous studies, which documented notable statistical disparities in substance use with males presenting higher rates than females [46], [47]. Being male is believed to increase the risk of substance use because of higher risk-taking behaviour and exposure to peer pressure among male students. Males tend to be more adventurous and prone to a range of risk-taking behaviours, including substance abuse.

Substance use by males is also normalized in most societies, while use by females is taboo in many societies. Although the above-mentioned findings indicate that males are more likely to use alcohol than females, the gap in alcohol use between females and males is slowly closing due to the increase in the availability of alcohol, as well as the relaxation of cultural views [48]. In many social gatherings, alcohol is

socially acceptable and widely used, and due to the rapid industrialization and economic globalization, women who were once excluded from alcohol use now constitute a large proportion of consumers of alcohol [49].

### 4.6. Reasons for substance use

Similar to other published literature, this study found various reasons for substance abuse among university students, which include physical, mental, psychological, and social reasons, and these include pleasure, depression, mental gain, and physical strength [50], [51]. The rise of substance usage has been attributed to easy availability and accessibility [52]. In this study, among those that were smoked dagga, their two main reasons were that they took it because it is very easily available in their neighbourhood (22.2%), and because their friends wanted them to use it (16.7%). The study also revealed that 11.2% drank alcohol because their friends wanted them to use it. This has been consistent with findings from [53]-[55] indicating that peer pressure is one of the reasons for substance use. This could be because friends who use alcohol easily offer it to the youth around them. The study further documented that 10.4% were drinking alcohol to handle stress, and the main reason for smoking was to handle stress (38.9%). This agreed with the study conducted by a university in South Africa, where students used substances as a means to escape from life stressors [56].

## 5. CONCLUSION

To the best of our knowledge, no prior research has examined substance use among university students in Maseru, Lesotho. This study provides context-specific evidence, showing relatively low prevalence of alcohol, cigarette, and cannabis use, though males remain at higher risk due to social normalization and peer dynamics. Gender-sensitive prevention strategies, mental health promotion, and campus-based interventions are urgently needed, while the absence of harder drugs in self-reports should be interpreted cautiously, as stigma and social desirability bias may obscure actual use.

Alcohol, cigarettes, and dagga may act as gateways to harder drug use. As digital access expands in Lesotho, the drug landscape and availability trends are likely to shift, making timely prevention strategies essential; universities should adopt proactive policies to anticipate emerging threats. A coordinated approach involving government, academic institutions, and communities is needed to restrict substance access near students, while future research should examine longitudinal patterns and their links to academic performance and mental health, complemented by qualitative studies that capture students' lived experiences to inform responsive interventions.

This study is subject to several methodological limitations. Firstly, the study relied on self-reported data, which may be subject to social desirability and recall bias. Secondly, the results may not be widely generalizable due to the specific characteristics of the sampled university population. Lastly, the cross-sectional design of the study limits the ability to infer causal relationships between demographic characteristics and substance use behaviors.

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## AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

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C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

## CONFLICT OF INTEREST STATEMENT

The authors state no conflict of interest.

## INFORMED CONSENT

Written informed consent was obtained from all individuals who participated in this study.

## ETHICAL APPROVAL

Ethical approval was obtained from the research and ethics committee of Sefako Makgatho Health Sciences University (SMURECH/341/2019: PG). Permission to conduct the study was received from the Ministry of Health Institution Review Board of the Mountain Kingdom of Lesotho, as well as the administration of the Lesotho University. The participants provided informed consent, which was required before they could proceed to the study questions. The questionnaire ensured anonymity by not requiring any personal identifiers or names. Unique codes were used as the participants' identifiers, and the researcher ensured that confidentiality was maintained by not sharing the participants' information with anyone.

## DATA AVAILABILITY

Data can be made available on request from the corresponding author, [PK], as guided by the principles of data sharing of the Sefako Makgatho Health Sciences University

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