


Research Article

Factors Associated with Drug Use Among Secondary and High School Adolescents

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Abstract

Introduction: Drug abuse is a significant public health concern among adolescents, who are a very susceptible group. This study aimed to identify the various factors associated with drug use among adolescents in secondary school. **Methodology:** Between October 2022 and April 2023, a cross-sectional and analytical study was carried out among adolescents in fourteen secondary schools in the city of Yaoundé the administrative capital of Cameroon. The sampling was consecutive and non-exhaustive. The SPSS software version 23.0 was used for data analysis. Multivariate analysis was achieved using the logistic regression model. An Odd Ratio with a 95% confidence interval was used to establish associated factors. The association between categorical variables was measured using Chi-square and Fisher's exact tests ($p < 0.05$). **Results:** Of the 1987 adolescents included, the prevalence of drug use was 27.5%, i.e. 546 pupils with an average age of 16.9 ± 1.4 years. The prevalence of drug use in the study was 27.5%. The risk factors identified were students aged 15 to 18, being in the first and final year of secondary school, being raised by either their father or grandparents only and having a bar at home. The protective factor was the absence of drug use by a household member. **Conclusion:** The high prevalence of drug use among teenagers at school means that preventive measures need to be instilled for school health and the community.

Keywords

Drugs, Teenagers, Risk Factors

1. Introduction

The World Health Organization (WHO) defines a drug as any substance with the capacity to modify its user's consciousness and behaviour [1]. Drug use is a genuine public health concern, which is growing and widespread in all regions of the world. Approximately 275 million people used

drugs in 2020, a figure that is expected to increase by 11% worldwide and by 40% in Africa alone by 2030 [2]. In Cameroon, the National Committee for the Fight against Drugs (CNLD) reported in 2018 that 21% of Cameroon's school-age population had already used drugs [3]. Adolescence, defined

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as the period between the ages of 10 and 19, is a time of transition and vulnerability, and initiation into drug use during this period increases the risk of facing social, legal and health-related repercussions [4]. Schools, which are teeming with teenagers, are therefore the ideal settings for understanding this phenomenon and preventing its spread. The general objective of this study was to identify the factors associated with drug use among adolescents attending school in the city of Yaoundé to generate data that would enable us to gain a better understanding of drug use among adolescents and contribute to better management of the latter.

2. Materials and Methods

This was a cross-sectional and analytical observational study carried out in classes from “6^{ème}” (first year) through “Terminale” (final year) in fourteen secondary schools in the city of Yaoundé between October 2022 and April 2023, otherwise, seven months. This period was chosen because it falls within the students' calendar year. The study population consisted of pupils in the selected public and public schools, aged between ten and eighteen years, whose consent had been obtained including that of their parents. The visually and hearing impaired were not included. The sample was non-exhaustive and consecutive. The choice of schools, private or public, was made randomly, covering the seven districts of Yaoundé and two schools were selected per district randomly, using the software package “RESEARCH RANDOMIZER” [5]. The sample size was calculated using the WINPEPI software according to the formula: $N = 10\% \frac{n + n}{n} = \delta [Z^2 P (1-P)] i^2$ obtaining a minimum required sample size of 338 pupils [6]. 1,987 pupils were selected for this study. After securing the various administrative authorisations and ethical clearance from the Institutional Ethics and Research Committee of the FMSB of the UYI (Ref.: N° 0107/UYI/FMSB/VDRC/DAARC/CSD of 12 May 2023), data was collected using an anonymous and detailed pre-tested questionnaire in compliance with ethics and confidentiality. The pre-tested questionnaire was shared with the

adolescents after a brief interview. The data collected were analysed using SPSS version 23.0 software. Multivariate analysis was done using logistic regression to identify the independent factors associated with drug use among adolescents attending school, with an Odd Ratio with a 95% confidence interval. The significance threshold was 5%. The Chi-square and Fisher's exact tests calculated associative measures between qualitative variables.

3. Results

Of the 1,987 teenage students selected, 546 were drug users, representing a prevalence of drug use of 27.5%. The average age of the drug-using pupils was 16.9 ± 1.4 years, with extremes of 11 and 18 years. Girls were in the majority (50.4%), with a sex ratio of 0.99 (Table 1).

Table 1. Breakdown of the population by age and gender.

Variables	Frequency	Percentage (%)
Age groups (years)		
[10-13]	3	0,5
[13-16]	89	16,3
[16-19]	454	83,2
Gender		
Male	271	49,6
Female	275	50,4

The average age of drug use initiation was 13.9 ± 2.5 years, with 33.2% of students aged between 14 and 15, as shown in Table 2.

Table 2. Breakdown of the sample population by age of onset of drug use.

Age of onset of consumption	Frequency	Percentage (%)
< 10 years	31	5,7
10-11 years	63	11,5
12-13 years	115	21,1
14-15 years	181	33,2
16-17 years	124	22,7
18 years old	32	5,9

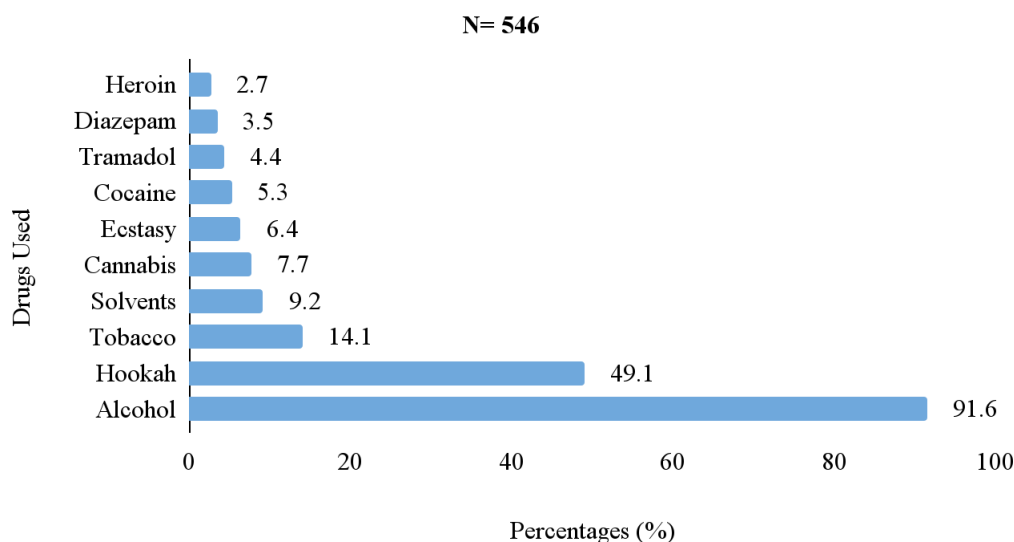


Figure 1. Distribution of the population according to drug use.

Figure 1 shows that the most widely used licit substances were alcohol and tobacco, with 91.6% and 14.1% respectively. Illicit drugs were hookah shisha (49.1%), organic solvents (9.1%) and cannabis (7.7%). Multiple drug use was found in half of the cases (51.5%), with a median of 2 drugs.

There were 16 factors associated with drug use at the 5% threshold in the univariate analysis. After binary logistic regression, the independent risk factors for drug use by pupils were: being aged between 15 and 18 years and over

(ORa=1.62; adjusted p=0.015), being enrolled in the first or final year (ORa=2.04; adjusted p < 0.001), having attended a boarding school (ORa=2.02; p=0.001), having been brought up solely by the father (ORa=1.78; adjusted p=0.007) or grandparents (ORa=1.53; adjusted p=0.048) and having a bar at home (ORa=1.62; adjusted p < 0.001). The only protective factor was the absence of drug use by a household member (ORa=0.40; adjusted p < 0.001). (Table 3)

Table 3. Independent factors associated with drug use.

Variables	Drug users N=546; n (%)	Adjusted OR [95% CI]	p adjusted
[15-19[age group	501 (29,9)	1,62 [1,10-2,40]	0,015*
Male sex	271 (30,5)	1,21 [0,97-1,51]	0,084
Of Southern Cameroonian descent	58 (36,0)	1,37 [0,96-1,97]	0,084
Of Northern Cameroonian descent	26 (19,4)	0,70 [0,41-1,18]	0,176
Christian religion	511 (28,3)	0,82 [0,34-2,01]	0,668
Islam religion	26 (17,2)	0,52 [0,20-1,36]	0,184
Enrolled in final years (junior and senior high)	421 (32,8)	2,04 [1,56-2,67]	< 0,001*
Pocket money	453 (26,6)	0,82 [0,62-1,10]	0,182
Member of a school handball team	318 (25,2)	2,97 [0,64-13,87]	0,166
Member of a school football team	226 (31,8)	3,84 [0,82-17,97]	0,087
Previous boarding experience	49 (44,1)	2,02 [1,33-3,09]	0,001*
Being raised by both parents	248 (24,2)	0,88 [0,70-1,11]	0,277
Being raised by your father alone	50 (40,0)	1,78 [1,17-2,72]	0,007*
Being brought up by your grandparents	46 (36,5)	1,53 [1,01-2,34]	0,048*

Variables	Drug users	Adjusted OR [95% CI]	p adjusted
	N=546; n (%)		
No drug users in the household	109 (16,5)	0,40 [0,31-0,51]	< 0,001*
Home bar available	197 (36,4)	1,62 [1,30-2,03]	< 0,001*

4. Discussion

This study was performed in 14 secondary schools in Yaoundé. It sought to determine the prevalence of drug use and to identify the factors associated with it. A possible non-response bias due to the lack of participation of drug-using students was a limitation of the study. However, the methodology and sample size gave room for conclusion-making. The prevalence of drug use was 27.5%. Studies carried out in Ethiopia in 2013 and in Nigeria in 2020 found respective prevalences of drug use of 14.1% and 24.5% [7, 8]. The results of various studies carried out between 2013 and 2023 show an increase in the number of drug users among school children. The predominance of female drug use (50.4%) in this study was also observed in 2014 in the United States [9]. Cameroon currently has slightly more women than men, with higher school enrolment rates in urban areas [10] which could explain this predominance. The average age of onset of drug use was 13.9 ± 2.5 years, with most (33.2%) between 14 and 15 years. These figures are similar to those found in 2021 in the United States, where the average age of drug initiation is 15 years [11]. The 13-15 age group is the age when young people are most influenced by their peers; they believe themselves to be mature and often overestimate their abilities, hence their desire for what is forbidden [12]. The concomitant rise in consumption alongside age may be linked to the psychological development of adolescents, who become increasingly independent, developing relationships with peers and forming circles of friends who become role models. The whole group is thus exposed to bad habits and when adopted, they can be linked to a single person [13]. This study also found that attending boarding school (ORa=2.02; p=0.001) was an independent risk factor, supporting this group theory. The most widely used legal substance was alcohol (91.6%), followed by tobacco (14.1%). Multiple drug use was common (51.5%), with the majority of users taking at least two drugs. Alcohol and tobacco consumption are characteristically seen in Cameroonian television shows [14]. These results could be explained by the fact that the use of drugs such as alcohol and tobacco is culturally, socially and legally acceptable in Cameroon. They are also easily accessible, additionally having authorised advertisements in the media. Illicit drugs used hookah-shisha (49.1%), solvents (9.1%) and cannabis

(7.7%). These results are contrary to those observed in South Africa in 2017, which reported higher consumption of illicit drugs such as cannabis (81.3%), *nyaope*- a form of black tar heroin (52.3%) and organic solvents (20.2%) [15]. In recent years in Cameroon, hookah has become more widely available among young people; it is heavily coveted in bars and restaurants patronised by adolescents, given it is perceived as fashionable. On top of this, it is falsely described as harmless because of its pleasant aroma. The 15-18 age group was a risk factor for drug use. Adolescents, who are closer to adulthood than childhood, are constantly searching for an identity. Self-esteem and considerable risk-taking, including drug use, are seen as means of asserting their autonomy, their position, and their uniqueness within the group [13]. Similarly, students in the final years (junior and senior high school) have a 2.3 times greater risk of using drugs than students in other classes ($p < 0.001$), probably because these classes have adolescents who are closer to adults, as described above. The presence of a home bar increased the risk of drug use by 1.8 times ($p < 0.001$). In addition to the habits of parents, which can influence those of young people, the adolescent's exposure to these substances also comes into play. Students living solely with their father or grandparents were more likely to use drugs ($p < 0.001$). In South Africa, in 2017, it was seen that the tendency to use drugs was lower among respondents who stayed with both parents than among those from single-parent families or living with guardians other than their parents [15]. One explanation for this finding is that young adults who did not live with their mothers, whether as a result of death or divorce, may experience behavioural problems. Mothers are essential for exercising control over the behaviour of young adults, particularly in Cameroon, where the burden of parental responsibilities falls mainly on mothers [16]. The relationship between young people and their parents is crucial in terms of development, and the family structure is an important variable. When no member of a household used drugs, students were less likely to use drugs (OR: 0.40; $p < 0.001$). Another study carried out earlier in Cameroon showed that the presence of an alcohol consumer in the student's entourage did not influence their alcohol consumption [17]. This difference could be because the adolescents in their study lived on campus, unlike those in this study who still lived with their parents and were under their parents' influence.

5. Conclusion

The prevalence of drug use among adolescents attending secondary schools in Yaoundé was 27.5%. Being aged between 15 and 18, enrolled in the first or final year of secondary school, having attended boarding school, having been raised solely by their father or grandparents, and having a bar at home were risk factors for drug use. The absence of drug use by a household member was a protective factor. Through this study, targeted preventive measures can be implemented among adolescents in these schools.

Abbreviations

Ref: Reference

FMSB: Faculty of Medicine and Biomedical Sciences

UYI: University of Yaoundé I

VDRC: Vice Dean for Research and Cooperation

DAARC: Division of Academic Affairs, Research and Cooperation

CSD: Head of Diplomas Department

ORa: Odd Ratio Adjusted

SPSS: Statistical Package for the Social Sciences

Author Contributions

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Conflicts of Interest

The authors declare no conflicts of interest.

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