

# Substances use and its association with sociodemographic, family and environment-related factors among technical and vocational education and training College students in Ataye, Ethiopia, 2019.

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## Research article

**Keywords:** prevalence, lifetime, last month, substance use, college students

**Posted Date:** April 17th, 2020

**DOI:** <https://doi.org/10.21203/rs.3.rs-15681/v2>

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**Version of Record:** A version of this preprint was published on November 11th, 2020. See the published version at <https://doi.org/10.1186/s12889-020-09797-w>.

# Abstract

**Background:** Legal substances use is prevalent in Ethiopia. Substance use can have several health problems that are potentially harmful in educational performance, social issues, psychological and physical wellbeing. This study aimed to know prevalence of lifetime and last month substances use and its associated factors among technical and vocational education and training College students in Ataye town.

**Methods:** an institution based cross-sectional study conducted from 1 March to last May 2019. Participants selected by using simple random sampling technique. Chi-square with its p-value used to identify correlates for each legal/illegal substance use. Bivariate and multivariate binary logistic regression analysis performed to identify associated factors. Backward logistic regression method used. Odds ratio with their 95% confidence interval, and p value less than 0.05 used to declare the statistical significance of associated factors.

**Results:** Four hundred eighty three individuals participated in the study, which was a response rate of 94%. The prevalence of lifetime legal substances use was 32.5% (95% CI: 28.2, 36.5). The prevalence of last month's legal substances use was 21.9% (95% CI= 18.2, 25.5). Among lifetime legal substance users, the majority (25.5%) chewed khat. The others, (19.5%) drunk alcohol, and, 15.3% smoked cigarette. Cannabis and cocaine users were 2.5%, and 7.2% respectively. Among last month's legal substance users, (21.9%) chewed khat followed by alcohol drinking (16.6%), and cigarette smoking (15.3%). In the last month, 1.2% and 3.3% of students used cannabis and cocaine respectively. Multivariate logistic regression showed that, being male, having divorced family, living greater than twenty years in the town, having substance user family member, having intimate friend substance user, and easily availability of substances were independent predictors of lifetime legal substances use.

**Conclusions:** The prevalence of last month and lifetime legal substance use at Ataye technical and vocational education and training (TVET) College students were analogous with most studies done in Ethiopia. Cannabis and cocaine are illegal drugs in Ethiopia. Nevertheless, the reported proportion of these illegal drug uses informs us there may not be under reporting of legal substances use. It is advisable if furthers emphasis is given for TVET students with the predictor variables.

## Background

Substance use has the capability of affecting the state of the body and the mind by either depressing or stimulating the central nervous system or producing other biochemical harmful effect (1-3). An estimated five percent of the global adult population use drugs at least once in their lifetime as studied in 2015. The more worrisome fact is about 0.6% of the global adult population suffer from drug use disorders (4).

World drug report revealed that more than a quarter of a billion people use drugs globally. Roughly almost half million people died because of drug use in 2015, according to the World Health Organization (WHO).

Of those deaths, nearly one hundred seventy thousand (2.7%) deaths directly associated with drug use disorders (mainly overdoses), (5)

According to the Ethiopian Demographic and Health Survey (EDHS) report, one third of women and about half of men reported drinking alcohol at some point in their lives. The proportion of legal substances use is increasing every year in both sexes. The use of tobacco increases with age of men. There is wide regional variation in cigarette smoking in Ethiopia (6).

Drug use is associated with adverse health consequences. Problems of substance use seem to be rapidly growing concern globally. It is also a major threat among youth in college and university. Some of the researchers have shown that the use of drugs by school-going youth does not only decreases their academic performance; but also makes them vulnerable to crime. Furthermore, drug use exposes them to health risks among other numerous problems (7-13).

Substances use a common phenomenon among students in Ethiopia. It has also been noted that family background, student pocket money, peer pressure, accessibility of substances and customs of society contribute to the increased rate of substance use among college students. Most students, staffs at an institution of higher education and youths in the community considered are high risk of substance use, (14-20).

The problem of substance use has historically linked to Ataye town due to the accessibility of substances. Khat use is a common phenomenon in the study area (17). Despite the fact that such problems are one of the top health risks among college students, there are no adequate studies conducted to explore the prevalence and associated factor of substance use in technical and vocational education and training (TVET) college students. The findings of this study will be useful to the education bureau and school administrations to develop strategies to mitigate students' substance use behavior. The study findings also may help curriculum developers in formulating and incorporating psycho-education programs in TVET College that address the risk of substance use. School managers also may benefit from findings so that they may come up with policies and strategies for controlling this potentially dangerous habit.

**General objective:** The main aim of this study was to determine the prevalence of substance use and its association with sociodemographic, family and environment-related factors among technical and vocational education and training college students in Ataye, Ethiopia, 2019.

## Methods

### Study Area, design and period

The study conducted in Ataye TVET College, North Showa zone that found in Amara Regional state of Ethiopia. The study area located 272 km from Addis Ababa and 130 km from Debre Berhan town. Orthodox, Muslim, and protestant followers are the major inhabitants found in the study area. At Ataye

TVET College, there are 1,433 students enrolled in the academic year. Out of these, 683 were male, and 750 were female students. An institution-based cross-sectional study conducted to assess the prevalence of last month and lifetime substance use and associated factors among TVET college students from 1 March to last May 2019.

## Population

Source population: All regular Ataye TVET college students

Study population: All regular Ataye TVET college students, and who were available during the study period considered as the study population.

## Sample size and Sampling procedure

The sample size calculated using a single population proportion formula. A 15.36% rate of substance use was taken from the related study (17), with a margin of error 5%, confidence level 95%, and non-response rate 10%. The final sample size became 514 students. Ataye TVET College has 1,433 students enrolled in the study academic year. There are nine departments from the first year to the third year. The departments are Agriculture, hotel kitchen operation, Electricity, Auto engine service, Garment, Surveying, Construction, Metalwork, and Road construction. Five departments selected by using lottery method among nine departments of the Ataye TVET College. The total sample size distributed proportionally to the selected department based on the total number of students in each year. The study participants selected by using simple random sampling technique by generating numbers using Open EPI software.

## Eligibility criteria

Inclusion criteria: All students at Ataye TVET College included in the study.

Exclusion criteria: Students could not reached in three visits during the data collection period excluded from the study.

## Study variables

Dependent variables: Lifetime and last month substance use

Independent variables: Socio-demographic characteristics: (age, sex, residence, economic status, education status, religion, ethnicity, and, living status, mother education level, father education level, and having substance user friend, lack of family supervision, family conflict, family history of substance use, family income, availability of substance, source of money, grade level, peer pressure, marital status of the family.

## Operational definitions

Lifetime legal substance Use: Use of one or more legal substances (Ethiopia context) for nonmedical purposes (alcohol, khat, and cigarette) after joining the Ataye TVET College

Last month legal substance use: Use of one or more legal substances (Ethiopia context) for nonmedical purposes (alcohol, khat, and cigarette) in the past 30 days prior to the data collection period

Legal substances: Drugs not prohibited to selling, buying, and using among above 18 years old persons (alcohol, khat, and cigarette) during the study period.

Illegal drugs: Drugs, which prohibited to selling, buying, and using among all age groups (cocaine and cannabis) during the study period

Data collection, processing, and analysis

Data collected by using a structured and pretested self-administered questionnaire.

The questionnaire included variables like substance use, socio-demographic, and economic factors, the practice of substance use, the reason for substance use, and family history of substance use. The questionnaires were prepared in English then translated to the local language (Amharic). Out of nine departments, five departments (55%) selected by using the lottery method. The study participants selected by using simple random sampling technique. To keep the quality of data, data collectors and supervisors trained for one day regarding the necessary explanation about the current research. Data collected by five trained diploma nurses with close supervision. A pre-test was conducted on 5% (n=24) students among similar study populations from non-participating departments before two weeks of the actual data collection period. The collected data reviewed and checked for completeness before data entry. The data properly coded and entered to Epi Info 3.5.1 and exported to SPSS V. 21 for analysis. Chi-square with its p-value used to identify correlates for each legal/illegal substance use. Bivariate and multivariate binary logistic regression analysis performed to identify associated factors. Backward logistic regression method used. Odds ratio with their 95% confidence interval, and p value less than 0.05 used to declare the statistical significance of associated factors.

Ethical consideration

Ethical clearance obtained from the Debre Berhan University ethical review committee. Letter of cooperation wrote to each study institution, and a permission letter taken from the study institutions. The data collectors took oral informed consent from each study participants, whose age is 18 years and above. Moreover, the data collectors took assent from participants whose age was less than 18 years. Written informed consent taken from participants' family/legal guardian whose age was less than 18 years.

## Results

### Prevalence's of substances use

Four hundred eighty three individuals participated in the study, which was a response rate of 94%. The prevalence of lifetime legal substances use was 32.5% (95% CI: 28.2, 36.5). The prevalence of last month's legal substances use was 21.9% (95% CI= 18.2, 25.5). Among lifetime legal substance users, the majority (25.5%) chewed khat. The others, (19.5%) drunk alcohol, and, 15.3% smoked cigarette. Cannabis and cocaine lifetime users were 2.5%, and 7.2% respectively. Among last month's legal substance users, (21.9%) chewed khat; followed by alcohol drinking (16.6%), and cigarette smoking (15.3%). In the last month, 1.2% and 3.3% of students used cannabis and cocaine respectively.

### **Sociodemographic characteristics of students**

Four hundred eighty three students participated in the study, which was a response rate of 94%. The median age of the students were 20 years with an interquartile range of three, (Q1=18, Q3=21 years). Among the socio-demographic variables, the nearly equal proportion observed in terms of sex (49.7% male and 50.3% female). The majority, (71.6%) students were orthodox in religion and the remaining (28.4%), and (4.1%) were Muslim and protestant respectively. The higher proportion, (60.5%) of students were from the Amhara region and the remaining were from Tigray, (18%) and, (12%) from Oromia region. Almost half of the students, (47%) were level-I in academics. The remaining (14.7%), (26.3%), and (12%) of students were Level, II, III, IV in academic level respectively. Almost, a similar proportion of students lived alone (42.4%), and with family (40.2%). Others, (17.4%) lived with peers. Almost sixty-nine percent of students, (68.5%) earn average monthly pocket money of greater than 200 ETB (Ethiopian Birr) and the left earn less than 200 ETB. The highest proportion of students, (95.4%) were from an urban area and, (4.6%) from a rural area.

### **Family-related factors of lifetime legal substances use**

Almost half, (57.4%), and (52%) of student's mother and father not attended modern education respectively. Sixty percent of student's parents lived in an urban area, and (44%) were a farmer in occupation. Nearly eighty percent of students' parents were married and nearly forty percent, (43.1%) of student's parent lived for 1-5 years in the Ataye town (Table 1).

### **Environmental factors of substances use**

There are many substances use houses opened by merchant in the study area. The majority, (90%) of TVET students reported, "They used both the legal and illegal substances at substance use houses." The remaining reported they use the substances with their family at their own living houses. Among the total students, (61.5%) reported that they start to use legal substances in lifetime due to easily availability in their hometown. Similar proportions (40%) of both lifetime and last month legal substance users reported "They started substance use due to need of energy to read" academic issues. Students reported additional environmental factors for their lifetime and last moth legal substance use (fig 1).

### **Lifetime and last month legal substance use and its correlates**

The lifetime prevalence of legal substance use was 32.5% (95% CI: 28.2, 36.5). Among lifetime users, the majority (25.5%) chewed Khat; followed by alcohol drinking (19.5%). The prevalence of lifetime use of cannabis and cocaine was 2.5% and 7.2% respectively.

Students in different age group did not equally experience legal substance use in a lifetime. Being from urban and rural area had not contribution for both lifetime and last month legal substance use. However, other predictor variables were statistically significant with the association of lifetime alcohol, khat, and cigarette use. This implied that students in different categories of the variables were not equally practiced the use of the listed legal substances in a lifetime.

The prevalence of last month's substance use was 21.9% (95% CI= 18.2, 25.5). Among last month's substance users, the same proportions (21.9%) chewed khat; followed by alcohol drinking, (16.6%) and cigarette smoking, (15.3%). Additionally, 1.2% and 3.3% of students used cannabis and cocaine in the last month respectively.

Alcohol, khat, and cigarette use in the last month and its variation across study subjects' characteristics compared using chi-square with its p-value. The result of this study showed that being in different age groups had contribution for prevalence of last month licit substance use. Being from urban and rural in residency was statistically insignificant for all the three listed drugs (alcohol, khat, and cigarette). This means students in these subcategories equally practiced substances use in the last month. Living alone and living with others had a contribution to the variation of last month's prevalence of alcohol drinking (p-value=0.02) and Khat chewing (p-value=0.001), but not for cigarette smoking (p-value=0.2). All the reported predictor variables of the students were statistically significant correlates with last month's substance use. This indicated that students with different predictor variables were not equally practiced drugs in the last month (Table 2).

### **Lifetime and last month illegal substance use and its correlates**

Variation across lifetime cannabis use observed in students' living status and family monthly income. For lifetime cocaine use, variation observed in sex, academic level, and living alone, with family, or peers cannabis and cocaine are illegal drugs in Ethiopia. Age difference had no variation for last month's use of cannabis and cocaine (p-value= 0.11 vs. 0.6). All students with their different characteristics were equally practiced cannabis in the last month (p values were insignificant). Students' residence, academic level, currently living status, and family monthly income were not statistically significant in association with last month's cocaine use. This showed students with these predictor variables equally practiced cocaine use in the last month, (Table 3).

### **Associated factors of lifetime legal substance use**

During bivariate analysis, a cut point of p-value less than 0.20 used to export variables to multivariate analysis. These variables exported to multivariable binary logistic regression. During multivariate

analysis, six predictor variables became statistically significant factors of lifetime legal substances use (P-value <0.05).

Among sociodemographic variables of the students, being male had a statistically significant association with lifetime legal substances use (AOR=2.2 (95% CI: 1.23, 3.84)). Males were two times more likely to use legal substances in a lifetime (after joining college) as compared with females. Living more than 20 years in the town (Ataye) was almost four times more likely to use legal substances at least once in a lifetime as compared with who lived 1-5 years, (AOR=3.45, 95%CI: 1.18, 10.1). Students from divorced parents were four times more likely to practice lifetime legal substance use as compared with married parents, (AOR=4.1, 95%CI:1.78, 9.30). Having substance user family was a predictor of lifetime legal substances use. The odds of experiencing lifetime legal substance use were 2.5 times higher among students, who had substance user family than who don't have, (AOR=2.5, 95%CI: 1.1, 5.8). Having an intimate friend who uses substance and easily availability of drugs in the Ataye town were also had a contribution to experience legal substances use in a lifetime, (AOR=5.3, 95% CI: 2.6, 10.9), and (AOR=2.3, 95% CI: 1.2, 4.4) respectively, (Table 4).

## Discussion

Four hundred eighty three individuals participated in the study, which was a response rate of 94%. The prevalence of lifetime legal substances use was 32.5% (95% CI: 28.2, 36.5). The prevalence of last month's legal substances use was 21.9% (95% CI= 18.2, 25.5). Among lifetime legal substance users, the majority (25.5%) chewed khat. The others, (19.5%) drunk alcohol, and, 15.3% smoked cigarette. Cannabis and cocaine users were 2.5%, and 7.2% respectively.

Among last month's legal substance users, (21.9%) chewed khat followed by alcohol drinking (16.6%), and cigarette smoking (15.3%). In the last month, 1.2% and 3.3% of students used cannabis and cocaine respectively.

Only two studies; one from Hawassa University (18) and another study from Gondar University (19) reported similar prevalence (around 24%) of lifetime khat chewing.

Prevalence of lifetime khat chewing in the current study was lower than studies from Haramaya (21), and Jimma (22) universities. The possible reason might be due to the availability of khat in Haramaya and Jimma town is more prevalent than the current study area. Especially, Haramaya dwellers linked khat to the economy of the household and chewed khat as a habit (23). This allows students to be easily exposed and practiced khat. Prevalence of lifetime khat chewing was higher than studies done among Addis Ababa University, and Debre Berhan University. A possible explanation for the high prevalence of lifetime khat chewing in Ataye extends to social and environmental differences. First, khat is cultivated around Ataye town that could make it easy to access by students. All these factors can contribute to the practice of khat chewing among Ataye TVET students.

Last month khat chewing prevalence was lower than the study from the same study area (17) and Hawassa University (14). Except for the study from south Iran (24), both last month and lifetime drinking of alcohol was lower than the studies from Jimma, Gondar, Debre Berhan, Hawassa University, and Woreta town (22, 25-27). This might be due to social desirability bias, and increased abstinence rate in the past 30 days. In addition, since the data collections done inside the teaching classroom, those students with addiction behaviors may remain outside the classroom because of their academic and living lifestyle. This can potentially introduce sampling bias and result in a lower estimate of alcohol drinking (18).

Lifetime and last month smoking of cigarette were lower than studies from southern Iran (24) and Jimma University (22). The possible explanation might be due to the health behavior of the students and the target population's age difference.

Male students were two times more likely to use legal substances in lifetime (after joining college) as compared with female students. The association is in agreement with studies done in Haramaya University (20), and Jimma University (22). In fact, male students use legal substances than females due to cultural and hormonal differences.

Having substance user friends and family were more likely to be exposed for legal substances use in a lifetime as compared with who have no legal substances user friend and family. The association is supported by studies done in Addis Ababa University (26), Debre Berhan University (28), Hawassa University (18), Grate Accra metropolis (29), and Woreta Town (27). This might be due to, they may let students to familiarize substances and adopt utilization thereby reducing the subjective norm and perceived risk perception of students (30). Being from a divorced family also had a significant contribution to lifetime legal substance use as compared with students from married families. The study from Kuwait supports this association (31). Many factors increase a young person's likelihood of substance use. Among them, parental divorce is the main factor. Parental conflicts and lack of supervision from parents is a known factor for young's health problem (32-35).

Easily availability of the substances was a statistically significant factor for lifetime substance use as compared with students from less substance accessibility areas. The possible reason might be, increased substance availability is associated with increased use (30). In the study area, licit drugs are easily available; but not known about illicit drugs (cannabis and cocaine). At the study area (Ataye) and catchment areas, the community cultivates khat and this may put the study subjects to a greater risk of exposure.

Living 20 years and above in Ataye town was more likely to be exposed to the lifetime legal substances as compared with those who lived 1-5 years. This might be due to; living more years in one town might increase the exposure of the study participants to substances. In fact, more years needed to assimilate the community habit of substance use; even if it is two decades.

Generalizability: The external validity of the study managed during a sample size calculation, sampling procedures, and techniques, training of data collectors and data quality control sections.

### **Limitations of the study**

The current study did not assess substance abuse and substance use disorder. There is no validity assurance for underreporting of substance use. Students are more likely to deny their utilization behavior because of social desirability bias. Cross-sectional nature of the study, difficult to show causal association between dependent and independent variables.

## **Conclusions**

The prevalence of last month and lifetime legal substance use among Ataye TVET College students were analogous with other studies done in Ethiopia. Cannabis and cocaine are illegal drugs in Ethiopia. Nevertheless, the reported proportion of these illegal drug uses informs us there may not be under reporting of last month/ lifetime legal substances use. It is advisable if furthers emphasis is given for TVET students with the predictor variables.

**Recommendations:** It is advisable if the college administrators work together with town administrators to mitigate the problem including closing substance use houses around the school. Overall, Substance use among adolescents should get further emphasis to lower the prevalence.

## **Abbreviations**

TVET= technical and vocational education and training

## **Declarations**

Authors' Contribution: AD: Analyze, and write up the thesis report. WN and SG: select the title, develop the proposal, and collect the data of the study. All the authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Availability of data and material: the datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate: Ethical clearance obtained from the Debre Berhan University ethical review committee. Ethical clearance obtained from the Debre Berhan University ethical review committee. Letter of cooperation wrote to each study institution, and a permission letter taken from the study institutions. The data collectors took oral informed consent from each study participants, whose age is 18 years and above. Moreover, the data collectors took assent from participants whose age was less than 18 years. Written informed consent taken from participants' family/legal guardian whose age was less than 18 years.

Consent for publication: the manuscript did not contain individuals' person detailed data in any form.

Competing Interest: The authors declare that they have no conflicts of interest.

Funding: any funder does not fund the research. The total cost of the design of the study, data collection, analysis, interpretation of data, and writing the manuscript covered by the study authors.

Acknowledgment: It is our pleasure to acknowledge Debre Berhan University, study health institutions, and the study participants.

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## Tables

Table 1. Family-related factors of lifetime legal substances use among Ataye TVET students, north Shoa zone, Ethiopia, 2019.

Variables		Lifetime substance use		P-value Of X2
		Yes (%)	No (%)	
Mother's educational level	No education	75(15.6)	202(41.8)	0.001
	Grade 1-12	42(8.6)	71(14.8)	
	College	40(8.2)	53(11)	
Father's educational level	No education	65(13.5)	186(38.5)	0.003
	Grade 1-12	39(8.1)	68(14)	
	college	53(11)	72(14.9)	
Family residency	Rural	70(14.5)	123(25.5)	0.150
	Urban	87(18)	203(42)	
parents job	Government	47(9.7)	122(25.3)	0.004
	Farmer	63(13)	149(31)	
	Merchant	47(9.7)	55(11.4)	
Family monthly income (ETB)	<1000	21(4.4)	87(18)	0.001
	1001-1500	26(5.4)	90(18.6)	
	1501-2000	17(3.5)	60(12.5)	
	>2000	93(19.3)	89(18.4)	
Parent marital status	Married	88(18.2)	208(43.1)	0.001
	Widowed/widower	11(2.3)	19(3.9)	
	Divorced	58(12)	19(3.9)	
Living years in the town	1-5	70(14.5)	138(28.6)	0.001
	6-10	19(3.9)	77(16)	
	11-15	7(1.5)	33(6.8)	
	16-20	29(6)	63(13)	
	>20	32(6.6)	15(3.1)	
Having substance user family	Yes	72(14.9)	20(4.1)	0.001
	No	85(17.6)	306(63.4)	

Key:  $\chi^2$ = chi-square

Table 2. Lifetime and last month legal drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019

Variables		Lifetime alcohol use			Lifetime khat use			Lifetime cigarette use		
		Yes	No	P-value Of $\chi^2$	Yes	No	P-value Of $\chi^2$	Yes	No	P-value Of $\chi^2$
Age	<18 years	3	41	0.001	1	43	0.001	1	43	0.001
	18-19.9 years	21	170		30	161		15	176	
	20-21 years	43	120		61	102		38	126	
	>21 years	13	72		14	71		76	9	
Sex	Male	1	18	0.001	80	160	0.001	49	191	0.001
	Female	62	178		26	217		14	229	
Residency	Urban	76	385	0.80	102	359	0.70	60	401	0.90
	Rural	4	18		4	18		3	19	
Living years in the town	1-5 years	33	175	0.006	43	165	0.001	24	184	0.004
	6-10 years	10	86		15	81		7	89	
	11-15 years	4	36		5	35		4	36	
	16-20 years	17	75		19	73		14	78	
	>20 years	16	31		24	23		14	33	
Academic level	level one	16	211	0.001	16	211	0.001	8	219	0.001
	level two	13	58		29	42		17	54	
	level three	28	99		38	89		20	107	
	level four	23	35		23	35		18	40	
Currently living	Alone	38	167	0.02	52	153	0.001	30	175	0.20
	with family	22	172		26	168		19	175	
	with peers	20	64		28	56		14	70	
Family monthly income (ETB)	< 1000	8	100	0.001	8	100	0.001	5	103	0.001
	1001-1500	15	101		14	102		8	108	
	1501-2000	3	74		13	64		4	73	
	> 2000	54	128		71	111		46	136	
Variables		Last month alcohol use			Last month khat use			Last month cigarette use		
		Yes	No	P-value Of $\chi^2$	Yes	No	P-value Of $\chi^2$	Yes	No	P-value Of $\chi^2$
Age (quartile)	<18 years	3	41	0.001	2	42	0.001	2	42	0.001
	18-19.9 years	27	164		36	155		19	172	
	20- 21 years	45	118		67	96		43	120	
	>21 years	19	66		18	67		10	75	
Sex	Male	74	166	0.001	92	148	0.001	56	184	0.001
	Female	20	223		31	212		18	225	

Residency	Urban	90	371	0.90	119	342	0.400	71	390	0.80
	Rural	4	18		4	18		3	19	
Living years in the town	1-5 years	41	167	0.01	50	158	0.001	29	179	0.01
	6-10 years	12	84		15	81		7	89	
	11-15 years	4	36		5	35		4	36	
	16-20 years	18	74		24	68		19	73	
	>20 years	19	28		29	18		15	32	
Academic level	level one	23	204	0.001	22	205	0.001	11	216	0.001
	level two	17	54		33	38		21	50	
	level three	28	99		44	83		23	104	
	level four	26	32		24	34		19	39	
Currently living	Alone	43	162	0.01	58	147	0.001	33	172	0.05
	with family	27	167		33	161		22	172	
	with peers	24	60		32	52		19	65	
Family income	< 1000 ETB	8	100	0.001	8	100	0.001	5	103	0.001
	1001_1500 ETB	17	99		21	95		13	103	
	1501_2000 ETB	9	68		14	63		5	72	
	> 2000 ETB	60	122		80	102		51	131	

Key:  $X^2$ = chi-square

Table 3. Lifetime and last month illegal drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019

Variables		Lifetime cannabis use			Lifetime cocaine use		
		Yes	No	P-value Of X <sup>2</sup>	Yes	No	P-value Of X <sup>2</sup>
Age (quartile)	< 18 year	0	44	0.44	0	44	0.08
	18-19.9 years	1	190		4	187	
	20-21 years	3	160		10	153	
	>21 years	2	83		2	83	
Sex	Male	4	236	0.40	15	225	0.001
	Female	2	241		1	242	
Residence	Urban	6	455	0.60	15	446	0.74
	Rural	0	22		1	21	
Living years in the town	1-5 years	2	206	0.60	3	205	0.03
	6-10 years	2	94		3	93	
	11-15 years	1	39		1	39	
	16-20 years	0	92		4	88	
	>20 years	1	46		5	42	
Academic level	level one	2	225	0.40	3	224	0.06
	level two	1	70		6	65	
	level three	1	126		7	120	
	level four	2	56		0	58	
Currently living	Alone	4	201	0.40	12	193	0.01
	with family	2	192		1	193	
	with peers	0	84		3	81	
Family income	< 1000	1	107	0.50	1	107	0.20
	1001_1500	1	115		3	113	
	1501_2000	0	77		5	72	
	> 2000	4	178		7	175	
Variables		Last month cannabis use			Last month cocaine use		
		Yes	No	P-value Of X <sup>2</sup>	Yes	No	P-value Of X <sup>2</sup>
Age	<18 years	2	42	0.11	1	43	0.05
	18.19.9 years	1	190		11	180	
	20-21 years	7	156		19	144	
	>21 years	2	83		4	81	
Sex	Male	8	232	0.20	31	209	0.001
	Female	4	239		4	239	
Residence	Urban	32	429	0.24	12	449	0.44
	Rural	3	19		0	22	
Living years in the	1-5 years	2	206	0.20	16	192	0.20

town	6-10 years	2	94		6	90	
	11-15 years	2	38		1	39	
	16-20 years	3	89		5	87	
	>20 years	3	44		7	40	
Academic level	level one	4	223	0.06	4	223	0.001
	level two	3	68		12	59	
	level three	1	126		13	114	
	level four	4	54		6	52	
Currently living	Alone	9	196	0.05	17	188	0.02
	with family	3	191		7	187	
	with peers	0	84		11	73	
Family income	< 1000	1	107	0.05	2	106	0.08
	1000-1500	2	114		9	107	
	1501- 2000	0	77		6	71	
	> 2000	9	173		18	164	

Key:  $X^2$ = chi-square

Table 4. Bivariate and multivariate backward logistic regression analysis to identify associated factors with lifetime drug use among Ataye TVET students, Ethiopia, 2019

Variables		Lifetime use		COR (95%CI)	AOR (95% CI)	AOR P-value
		Yes	No			
Sex	Male	112	128	3.85(2.55,5.81 )	2.2 (1.23,3.84)	0.008*
	Female	45	198	1.00	1.00	
Living year in the town	1-5 years	70	138	1.00	1.00	
	6-10 years	19	77	0.49(0.27, 0.87)	0.81(0.33,2.00)	0.644
	11-15 years	7	33	0.42(0.18, 0.99)	0.5(0.15,1.66)	0.260
	16-20 years	29	63	0.91(0.54,1.54)	0.53(0.21,1.33)	0.180
	>20 years	32	15	4.21(2.14, 8.28)	3.45 (1.18,10.1)	0.024*
Parent marital status	Married	88	288	1.00	1.00	
	Widowed/widower	11	19	1.90(0.87,4.13)	1.13(0.37,3.44)	0.830
	Divorced	58	19	9.99(5.65,17.67)	4.1(1.78,9.3)	0.001*
Having substance user family	No	85	306		1.00	
	Yes	72	20	12.96(7.47,22.48)	2.5(1.1,5.8)	0.032*
Having intimate friend substance user	No	69	300	1.00	1.00	
	Yes	88	26	14.72(8.84, 24.5)	5.3(2.6,10.9)	0.001*
Easily availability of substances	No	43	261		1.00	
	Yes	114	65	10.65(6.83,16.59)	2.3(1.2,4.4)	0.013*

Key: \*= significant factors (p-value <0.05), COR= crude odds ratio, AOR=adjusted odds ratio

## Figures

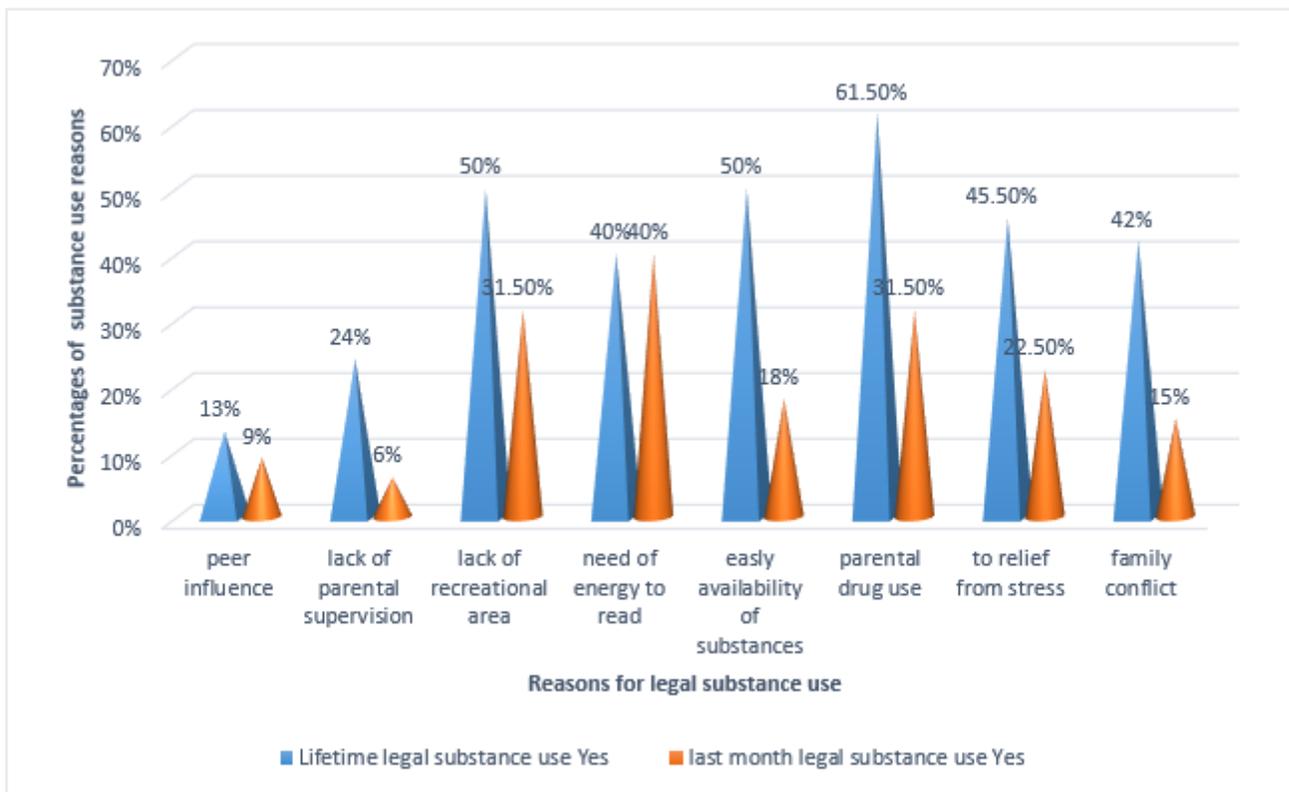


Figure 1

Self-reported environmental reasons for lifetime and last month legal substance use among Ataye TVET students, Ethiopia, in 2019