

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.

abate dargie wubetu (✉ abebechbayne100@gmail.com)

Debre Berhan University <https://orcid.org/0000-0002-8312-5719>

Sintayehu Getachew

Ataye general hospital

Wassie Negash

Debre Berhan University

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Abstract

Background: substance 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; especially on youth and adolescents. This study aimed to determine the prevalence of lifetime and last one-month substance use and its associated factors among technical and vocational education and training College Students (TVET) in Ataye town.

Methods: an institution based cross-sectional study was conducted. Participants were selected by using simple random sampling technique. Chi-square with its p-value was used to identify correlates for each substance use. Bivariate and multivariate binary logistic regression analysis was performed to identify associated factors after controlling confounding. Odds ratio with their 95% confidence interval, and $P < 0.05$ was used to declare the significance of associated factors.

Results: A total of 483 individuals were participated, which was a response rate of 94%. The prevalence of lifetime substance use was 32.5% (95% CI: 28.2, 36.5). The prevalence of last month's substance use was 21.9% (95% CI= 18.2, 25.5). Among lifetime users, the majority 98(25.5%) were chewed Khat; followed by alcohol drinking 75(19.5%). Cigarettes, cannabis, and cocaine users were 15.3%, 2.5%, and 7.2% respectively. Among last month's substance users, the same proportions (21.9%) chewed Khat; followed by alcohol drinking, (16.6%) and cigarette smoking, (15.3%). Of last month's substance users, 1.2% and 3.3% of students used Cannabis and cocaine respectively. Using multivariate binary logistic regression, Being male (AOR=2.2, 95%CI: 2.3, 3.84), Being from divorced family (AOR=4.1,95%CI: 1.1, 5.8), Living > 20 years in the town (AOR=3.45,95%CI: 1.18,10.1), had family member substance user (AOR=2.5, 95%CI: 1.1, 5.8), had intimate friend substance user (AOR=5.3,95%CI: 2.6,10.9), and availability of substances (AOR=2.3,95%CI: 1.2,4.4.) were independent predictors of lifetime substance use among TVET college students.

Conclusions: The prevalence of last month and lifetime substance use among Ataye TVET College students were analogous with other studies done in Ethiopia. Cannabis and cocaine are illegal drugs in Ethiopia. But, the reported proportion of these illegal drug use was significant and needs government attention. Overall, Substance use among adolescents should get further emphasis to lower the prevalence.

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 effects (1). An estimated 250 million people (around 5%) of the global adult population use drugs at least once in their lifetime as studied in 2015. The more worrisome fact is about 29.5 million drug users, or 0.6% of the global adult population suffer from drug use disorders (2).

World Drug Report (2018) revealed that more than a quarter of a billion people use drugs globally. The actual number of people who use drugs increased by 20 million people from 2015 to 2016. Roughly 450,000 people died as a result of drug use in 2015, according to the world health organization (WHO). Of those deaths, 167,750 were directly associated with drug use disorders (mainly overdoses), (3).

According to the 2016 Ethiopian demographic and health survey (EDHS) report, 35% of women and about half of men (46%) reported drinking alcohol at some point in their lives. The percentage of women who chewed Khat for 6 days or more in the last 30 days increased from 43% in 2011 to 65% in 2016. Among men, the proportion increased from 56–64%. The use of tobacco increases with age among men and reaches a peak at age 40–44 years. There is wide

regional variation in cigarette smoking ranging from less than 1% of men in Amara to 13% in Dire Dewa and 18% in Somali (4).

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 (5).

Substance use is a common phenomenon among college and university students in Ethiopia. Generally, substance use is one of the most serious health threats that potentially harm students of college and university in many countries and the general population at large (6). The use of drugs among adolescents can be harmful leading to failure in academic performance, increased risk of acquiring HIV/AIDS, and other STIs. Substance use can lead to lethargy, hopelessness and insomnia (7). It has also been noted that family background, student pocket money, peer pressure, accessibility of substances and customs of society at large contribute to the increased rate of substance use among college students. Most students, staff at an institution of higher education and youths in the community are considered at high risk of substance use (8).

The problem of substance use has historically been linked to Ataye town due to the accessibility of substances. Substance use habit is a common phenomenon in the study area. 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 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 which 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.

Specific objectives

To determine the prevalence of last month substance use among Ataye TVET college students

To determine the prevalence of lifetime substance use among Ataye TVET college students

To identify associated factors with substance use among Ataye TVET college students

Methods

Study Area, design and period

The study was conducted in Ataye TVET College, North Showa zone which is 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 was conducted to assess the prevalence of last month and lifetime substance use and associated factors among TVET College students from 1st 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.

Sample size calculation and Sampling procedure

The sample size was calculated using a single population proportion formula. A 15.36% rate of substance use was taken from the related study (9), 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 9 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. From the 9 departments, five departments were selected by using by lottery method. The total sample size was distributed proportionally to the selected department based on the total number of students in each year. The study participants were selected by using simple random sampling technique by generating numbers using Open EPI software.

Eligibility criteria

Inclusion criteria: all students at Ataye TVET College.

Exclusion criteria: Students could not be reached in 3 visits during the data collection period were excluded.

Study variables

Dependent variables: lifetime Substance use 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 friend use of substance, 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 family.

Operational definition

Lifetime substance Use: use of one or more substances for nonmedical purposes after joining the Ataye TVET College.

Last month Substance use: use of one or more substances for nonmedical purposes in the past 30 days prior to the data collection period.

Licit substances: drugs that are not prohibited to sell, buy and use among above 18 years old persons (i.e. alcohol, Khat, and cigarette) during the study period.

Illicit drugs: drugs which are prohibited to sell, buy and use among all age groups (rather than alcohol, Khat, and cigarette) during the study period.

Data collection tools and procedures

Data were collected by using a structured and pretested self-administered questionnaire. The questionnaire included variables like a habit of substance use, socio-demographic and economic variables, 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%) were selected by using the lottery method. Participants were selected by using simple random sampling technique.

Data Processing and Analysis

Data quality control

To keep the quality of data, data collectors and supervisors were trained for one day regarding the necessary explanation about the current research. Data were 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 2 weeks of the actual data collection period. The collected data were reviewed and checked for completeness before data entry. The data were properly coded, and entered to Epi Info 3.5.1 and exported to SPSS V. 21 for analysis.

Ethical consideration

Ethical clearance was obtained from the Debre Berhan University ethical review committee. A cooperation letter to each study health institution was written and a permission letter was taken. Oral informed consent was taken from each study participants who were aged 18 years and above. Assent was taken from participants who were aged less than 18 years. Written informed consent was taken from participants' family/legal guardian who aged < 18 years.

Results

Sociodemographic characteristics of students

A total of 483 students were participated, which was a response rate of 94%. The median age of the students was 20 years with an Interquartile range of 3, (Q1 = 18, Q3 = 21 years). Among the socio-demographic variables, the nearly equal proportion was observed in terms of sex (49.7% male and 50.3% female). The majority, 346 (71.6%) students were orthodox in religion and the remaining 137 (28.4%), and 20 (4.1%) were Muslim and protestant respectively. The higher proportion, 396 (60.5%) of students were from the Amhara region and the remaining were from Tigray, 87 (18%) and 58 (12%) Oromia region. Almost half of the students, 227(47%) were level-I in academics. The remaining 71(14.7%), 127(26.3%), and 58(12%) of students were Level, II, III, IV in academic level respectively. Almost, a similar proportion of students have lived alone (205 (42.4%)), and with family (194(40.2%)). Others, 84(17.4%) were lived with peers. Almost sixty-nine percent of students, 331(68.5%) earn average monthly pocket money of > 200 ETB (Ethiopian Birr) and the left earn < 200 ETB. The highest proportion of students, 461 (95.4%) were from an urban area and 22(4.6%) from a rural area.

Family-related factors

Almost half, 277 (57.4%), and 251 (52%) of student's mother and father were not attended modern education respectively. Sixty percent of student's parents were lived in an urban area, and 212 (44%) was a farmer in occupation. Nearly eighty percent of students' parents were married and nearly forty percent, 208 (43.1%) student's parent were lived for 1–5 years in the Ataye town (Table 1).

Table 1

Family-related factors of substance use among Ataye TVET students, north Shoa zone, Ethiopia, 2019.

Variables		Lifetime use		N (%)
		Yes (%)	No (%)	
Mother's educational level	No education	75(15.6)	202(41.8)	277(57.4)
	Grade 1–12	42(8.6)	71(14.8)	113(23.4)
	College	40(8.2)	53(11)	93(19.2)
Father's educational level	No education	65(13.5)	186(38.5)	251(52)
	Grade 1–12	39(8.1)	68(14)	107(22.1)
	college	53(11)	72(14.9)	125(25.9)
Family residency	Rural	70(14.5)	123(25.5)	193(40)
	Urban	87(18)	203(42)	290(60)
parents job	Government employee	47(9.7)	122(25.3)	169(35)
	Farmer	63(13)	149(31)	212(44)
	Merchant	47(9.7)	55(11.4)	102(21.1)
Family monthly income (ETB)	< 1000	21(4.4)	87(18)	108(22.4)
	1001–1500	26(5.4)	90(18.6)	116(24)
	1501–2000	17(3.5)	60(12.5)	77(16)
	> 2000	93(19.3)	89(18.4)	182(37.7)
Parent marital status	Married	88(18.2)	208(43.1)	296(61.3)
	Widowed/widower	11(2.3)	19(3.9)	30(6.2)
	Divorced	58(12)	19(3.9)	77(15.9)
Living years in the town	1–5	70(14.5)	138(28.6)	208 (43.1)
	6–10	19(3.9)	77(16)	96(19.9)
	11–15	7(1.5)	33(6.8)	40(8.3)
	16–20	29(6)	63(13)	92(19)
	> 20	32(6.6)	15(3.1)	47(9.7)
The family member substance user	Yes	72(14.9)	20(4.1)	92(19)
	No	85(17.6)	306(63.4)	391(81)

Environmental factors

Environmental factors were assessed by using a pretested checklist. Among the total students, 179 (37%) were reported substances are easily available in their hometown. Students also reported other driving environmental factors for their lifetime substance use. Half of lifetime substance users reported that the reason for their substance use was due to a lack of recreational area in the town. The minimum of students, 63 (13%) were started substance use due to

peer influence. Furthermore, students reported other driving environmental factors for their lifetime substance use (Fig. 1).

Prevalence of last month substance use and its correlates

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 respectively.

Alcohol, Khat and Cigarette use in the last month and its variation across study subjects' characteristics were compared by 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 were statistically insignificant for all the three listed drugs (alcohol, Khat, and Cigarette). This means a students in these subcategories were equally practiced substances used in the last month. Living alone and living with others had a contribution to the variation of last month's prevalence of alcohol drinking ($X^2 = 7.8$, p-value = 0.02) and Khat chewing ($X^2 = 16$, p-value = 0.00); but not for cigarette smoking ($X^2 = 3.3$, p-value = 0.2). Other students' characteristics 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).

Table 2

Last month licit drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019.

Variables		Alcohol use			Khat use			Cigarette use		
		Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)
Age	< 18 years	3	41	18.8(0.00)**	1	43	38.6(0.00)**	1	43	24.6(0.00)**
	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	69.7(0.00)**	80	160	36.1(0.00)**	49	191	22.9(0.00)**
	Female	62	178		26	217		14	229	
Residency	Urban	76	385	0.04(0.8)	102	359	0.2(0.7)	60	401	0.07(0.9)
	Rural	4	18		4	18		3	19	
How long live in the town	1-5 years	33	175	14.6(0.006)*	43	165	28.0(0.00)**	24	184	15.5(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	40.2(0.00)**	16	211	59.6(0.00)**	8	219	43.0(0.00)**
	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	7.8(0.02)*	52	153	16(0.00)**	30	175	3.3(0.2)
	with family	22	172		26	168		19	175	
	with peers	20	64		28	56		14	70	
Family income (ETB)	< 1000	8	100	39.2(0.00)**	8	100	52.0(0.00)**	5	103	38.8(0.00)**
	1001-1500	15	101		14	102		8	108	
	1501-2000	3	74		13	64		4	73	

Key: * p-value < 0.05, ** p-value = 0.00, ETB = Ethiopian birr, χ^2 = chi-square

> 2000 54 128

71 111

46 136

Key: * p-value < 0.05, ** p-value = 0.00, ETB = Ethiopian birr, X^2 = chi-square

Cannabis and cocaine are illegal drugs in Ethiopia. Age difference had no variation for last month's use of cannabis and cocaine ($X^2 = 2.6$ vs. 0.24 , p-value = 0.11 vs. 0.6 respectively). 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 in these subcategories were equally practiced cocaine use in the last month (Table 3).

Table 3

Last month illicit drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019.

Variables		Cannabis use			Cocaine use		
		Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)
Age (quartile)	< 18 year	0	44	2.7(0.44)	0	44	6.7(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	0.7(0.4)	15	225	12.9(0.00)*
	Female	2	241		1	242	
Residence	Urban	6	455	0.3(0.6)	15	446	0.12(0.74)
	Rural	0	22		1	21	
How long live in the town	1-5 years	2	206	2.7(0.6)	3	205	10.6(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	2.8(0.4)	3	224	12.6(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	2.0(0.4)	12	193	9.0 (0.01)*
	with family	2	192		1	193	
	with peers	0	84		3	81	
Family income	< 1000	1	107	2.6(0.5)	1	107	4.7(0.2)
	1001_1500	1	115		3	113	
	1501_2000	0	77		5	72	
	> 2000	4	178		7	175	
Key: * p-value < 0.05, ** p-value = 0.00, χ^2 = chi-square							

Prevalence of Lifetime substance use and its correlates

The lifetime prevalence of any substance use was 32.5% (95% CI: 28.2, 36.5). Among lifetime users, the majority (25.5%) were 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 substance use except cannabis in a lifetime. Being from urban and rural area had not contribution for both lifetime and last moth substance use. But, 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 substances in a lifetime (Table 4).

Table 4

Lifetime licit drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019.

Variables		Alcohol use			Khat use			Cigarette use		
		Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)
Age (quartile)	< 18 years	3	41	15.3(0.00)**	2	42	36.4(0.00)**	2	42	24.4(0.00)**
	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	39.4(0.00)**	92	148	41.6(0.00)**	56	184	23.6(0.00)**
	Female	20	223		31	212		18	225	
Residency	Urban	90	371	0.02(0.9)	119	342	0.6(0.4)	71	390	0.05(0.8)
	Rural	4	18		4	18		3	19	
How long live in the town	1-5 years	41	167	18.8(0.01)*	50	158	41.2(0.00)**	29	179	18(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	37.9(0.00)**	22	205	59.6(0.00)**	11	216	44.7(0.00)**
	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	8.6(0.01)*	58	147	15.2(0.00)**	33	172	5.9 (0.05)*
	with family	27	167		33	161		22	172	
	with peers	24	60		32	52		19	65	
Family income	< 1000 ETB	8	100	35.9(0.00)**	8	100	56.8(0.00)**	5	103	38.3(0.00)**
	1001_1500 ETB	17	99		21	95		13	103	
	1501_2000 ETB	9	68		14	63		5	72	

Key: * p-value < 0.05, ** p-value = 0.00, χ^2 = chi-square

>2000 ETB	60	122	80	102	51	131
Key: * p-value < 0.05, ** p-value = 0.00, X ² = chi-square						

Lifetime cannabis use variation was observed among students' differences in living with and family monthly income. For lifetime cocaine use, variation was observed in sex, academic level, and living with differences (Table 5).

Table 5

Lifetime illicit drugs use and its correlation with students and family characteristics among Ataye TVET college students, Ethiopia, 2019.

Variables		Cannabis use			Cocaine use		
		Yes	No	χ^2 (P-value)	Yes	No	χ^2 (P-value)
Age	< 18 years	2	42	6(0.11)	1	43	7.8(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	1.4(0.2)	31	209	22.8(0.00)**
	Female	4	239		4	239	
Residence	Urban	32	429	1.4(0.24)	12	449	0.6(0.44)
	Rural	3	19		0	22	
How long live in the town	1–5 years	2	206	6.3(0.2)	16	192	6.1(0.2)
	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	7.6(0.06)	4	223	22.5(0.00)**
	level two	3	68		12	59	
	level three	1	126		13	114	
	level four	4	54		6	52	
Currently living	Alone	9	196	5.9(0.05)*	17	188	8.4(0.02)*
	with family	3	191		7	187	
	with peers	0	84		11	73	
Family income	< 1000	1	107	7.9(0.05)*	2	106	6.7(0.08)
	1000–1500	2	114		9	107	
	1501–2000	0	77		6	71	
	> 2000	9	173		18	164	

Key: * p-value < 0.05, ** p-value = 0.00, χ^2 = chi-square

Associated factors of lifetime substance use

There were a total of twenty-one variables considered to be investigated for their association with lifetime substance use. Among them, only nine predictor variables were significant during bivariate analysis with a cut point of p-value < 0.20. These variables were exported to multivariable binary logistic regression. During multivariate analysis, six predictor variables were became significantly associated with lifetime substance use (P-value < 0.05).

Among sociodemographic variables of the students, being male had a statistically significant association with lifetime substance use [AOR = 2.2 (95% CI: 1.23, 3.84)]. Males were two times more likely to use a substance in a lifetime (after joining college) as compared with females. Living more than 20 years and above in the town (Ataye) was almost four times more likely to use substance 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 substance use in a lifetime as compared with married parents, [AOR = 4.1, 95%CI:1.78, 9.30]. Having a substance user family member was also a predictor of lifetime substance use. The odds of experiencing lifetime substance use was 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 any substance 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 6).

Table 6

Bivariate and multivariate 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)	0.18
	> 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)	0.83
	Divorced	58	19	9.99(5.65,17.67)	4.1(1.78,9.3)	0.001*
Family member substance use	No	85	306		1.00	
	Yes	72	20	12.96(7.47,22.48)	2.5(1.1,5.8)	0.032*
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)	0.00*
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

Discussion

This study was aimed to assess substance use and factors associated with it among Ataye TVET college students. The prevalence of lifetime substance use was 32.5% (95%CI: 28.2, 36.5). The prevalence of last month's substance use was 21.9% (95% CI = 18.2, 25.5). Among lifetime users, the majority (25.5%) were chewed Khat; followed by alcohol drinking (19.5%). The prevalence of lifetime use of cannabis and cocaine was 2.5% and 7.2% respectively. Among last month's substance users, the same proportions (21.9%) chewed Khat; followed by alcohol drinking, (16.6%) and cigarette smoking, (15.3%). Of last month's substance users, 1.2% and 3.3% of students used Cannabis and cocaine respectively.

Only two studies; one from Hawassa University (10) and another study from Gondar University (11) reported similar prevalence (around 24%) of lifetime Khat chewing.

Prevalence of lifetime Khat chewing in the current study was lower than studies from Haramaya (12), and Jimma (9) 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 (13). This allows students to be easily exposed and practiced Khat. Prevalence of lifetime Khat chewing was higher than studies done among Addis Ababa University, Debre Berhan University, and Ataye town students (9, 14, 15). A possible explanation for the high prevalence of lifetime Khat chewing in Ataye extends to social and environmental differences. First of all, 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 compared to the above Ethiopian Universities.

Last month Khat chewing prevalence was lower than the study from the same study area (9) and Hawassa University (8). Except for the study from south Iran (16), both last month and lifetime drinking of alcohol was lower than the studies from Jimma, Gondar, Debre Berhan, Hawassa University, and Woreta town(14, 17–19). This may be underreported due to social desirability and increased abstinence rate in the past 30 days. And also, since the data collections were 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 selection bias and result in a lower estimate of substance use prevalence (10).

Lifetime and last month smoking of cigarette were lower than studies from southern Iran (16) and Jimma University(15). 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 a substance in a lifetime (after joining college) as compared with female students. The association is in agreement with studies done in Haramaya University (12) and Jimma University (17). In fact, male students use substances than females due to cultural and hormonal differences.

Having substance user friends and family member were more likely to be exposed for substance use in a lifetime as compared with who have no substance user friend and family. The association is supported by studies done in Addis Ababa University (14), Debre Berhan University (15), Hawassa University (10), Grate Accra metropolis (20), and Woreta Town (19). This might be due to, they may let students familiarize substances and adopt utilization thereby reducing the subjective norm and perceived risk perception of students.

Being from a divorced family also had a significant contribution to substance use as compared with students from married families. The study from Kuwait supports this association (21). There are many factors that 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.

Easily availability of the substance 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. 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, khat is cultivated by the community and this may put the study subjects to a greater risk of exposure.

Living 20 years and above in Ataye town was also more likely to be exposed to the 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 are needed to assimilate the community habit of substance use; even if it is two decades.

Generalizability: The external validity of the study was 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.

Conclusions

Prevalence of last month and lifetime substance use among Ataye TVET College students were analogous with other studies done in Ethiopia. Students who are aged less than 18 years were also reported substance use. Cannabis and cocaine are illegal drugs in Ethiopia. But, the reported proportion of these illegal drug use was significant and needs government attention

Recommendations

It is advisable if the college administrators work together with town administrators to mitigate the problem including closing substance use homes 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 was obtained from the Debre Berhan University ethical review committee. A permission letter was written to each study health institution and a permission letter was taken. Oral informed consent was taken from each study participant who is aged 18 years and above. Assent was taken from participants who are aged less than 18 years. Written consent was taken from participants' family/legal guardian aged < 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.

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Figures

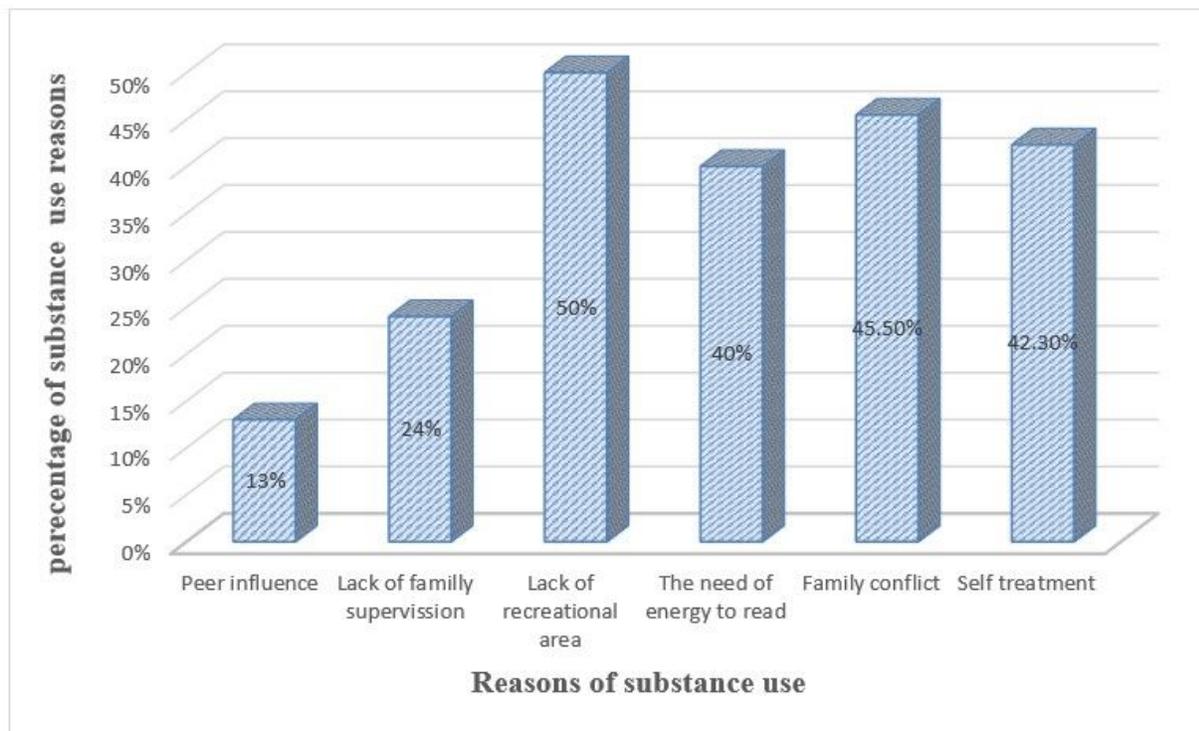


Figure 1

Self-reported environmental reasons for substance use among Ataye TVET students, Ethiopia, in 2019.