

Prevalence and associated factors of substance use among regular students in Debre Tabor University, Amhara region, Ethiopia in 2019

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Research

Keywords: Substance use, prevalence, associated factors, Khat, Alcohol and Tobacco

Posted Date: August 17th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-57925/v1>

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Abstract

Background: Substance abuse is inappropriate use of drugs or psychoactive substances in which the user consumes the substance with amount or methods which are harmful to them or others. Prevalence and associated factors of substance use among regular students in Debre Tabor University, Ethiopia 2019G.C

Methods: Institutional based cross-sectional study was conducted using structured pretest and self-administered questionnaires. Systematic random sampling technique was used to collect data within sample size of 308.

Result. The overall prevalence of substance use from the respondents was (62.6%). Specifically chat (11.8%), Cigarette (9%), Shisha (2.5%), Alcohol use (65.2%), and the remaining 11.8% use more than two substances This result shows that, (AOR=17.141, 95% CI=2.5-115.2770) using substance by peer friends was higher than who had no peer friends .Male students were 0.6 times more likely use substance than Females students [AOR =0.663 95%CI(0.415-1.061)].

Conclusion: In this study area, prevalence of substance use among regular students was relatively high than other studies Friendly use of substances, academically fourth year students and department of accounting students were significantly associated. Key words: Substance use, prevalence, associated factors, Khat, Alcohol and Tobacco

Background

Substance abuse is inappropriate use of drugs or psychoactive substances in which the user consumes the substance with amount or method which are harmful substance. Such as alcohol, khat, and tobacco has become one of the major health problems and socioeconomic problems worldwide (1). Worldwide, 3.3 million deaths every year result from harmful use of alcohol, this represent (5.9%) of all deaths. The harmful use of alcohol is a causal factor in more than 200 disease (2). Tobacco smoking is the leading risk factors for (NCD) has been recognized as the 2 leading cause of death globally(3).

Study stated that tobacco smoking causes 6.3 million deaths annually (4). Disorders due to psychoactive substance use including alcohol, drug, and tobacco dependency were the main underlying conditions ultimately responsible for the largest proportion of the global burden of disease attributable to substance use in sub-Saharan Africa due to rapid economic, social, and cultural transitions that most countries were now experienced. It is estimated that (9%) of the global population aged 12 or older are classified with dependence on psychoactive substances such as alcohol (5, 6). Heavy consumption of alcohol when shared with chewing chat is associated with many psychological problems including euphoria, hyperactivity, anorexia, insomnia, lethargy and depression(7).

Cigarette smoking and khat chewing among men in Addis Ababa were associated with high blood pressure, an established risk factor for cardiovascular disease(8). In addition, the combined use of

alcohol and chat increase sexual risky behavior contributing to the spread of HIV infection (9).

Substance misuse was growing problems in Ethiopia, as in many developing countries(10). Including university students in Ethiopia, only scant information is available about the magnitude of substance use (11). Furthermore, the effect of mental health status of students such as depression on substance use was not well explored (11, 12). This study was assessed the prevalence and associated factors of substance use among Debre tabor university regular students.

Methods

Study area and Study Period

Study was conducted at Debre Tabor University. Debre Tabor University is found at Debre Tabor Town, south Gondar zone, Amhara Region which is located 666 km away from Addis Ababa capital city of Ethiopia. Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia (CSA), the total population of town 55596. Study was conducted from April 1 to July 5, 2019.

Study Design: Institutional based cross sectional study was conducted

Population

Source Population

All regular students at Debre Tabor University, College of health science

Study Population

All selected regular students during data collection period

Eligibility criteria

Inclusion criteria

All regular students who are attending university of health Science College

Exclusion criteria

Extension, night and summer students

Variables

Dependent Variables

Substance use

Independent Variables

Age

Sex

Ethnicity

Religion

Residence

Department

Economic opportunities

Peer-pressure and tension and parental modeling

Operational definition

Substance: Any non-medical drugs used by study subjects such as alcohol, chat, tobacco, cannabis, heroin, cocaine, and marijuana to alter their mood or behavior.

Abuse: Inappropriate excessive or habitual use of drugs and psychoactive substances especially when resulting addiction.

Substance use: Use of at least one of the substances (alcohol, Chat, cigarettes, and illicit drugs) in an individual's life time to alter mood or behavior.

Substance abuse: Is inappropriate use of drugs or psychoactive substances in which the user consumes the substance with amount or method which are harmful to them or others

Current user: A person who consumed any substance at least once in the past 30 days.

Ever user: Use of any of the substances at least once in an individual's life time.

Illicit drugs: The use of psychoactive substances such as hashish, cannabis, and heroin, for which the production, sale, or use is prohibited.

Sample size and Sampling Procedure

n=Sample size

Z= Value of 95% confidence interval, which is the normal standard deviation=1.96

D= difference in precision or estimate=0.05%

P=Prevalence of substance is =34.6% (Research conducted in Woldia Town in 2015 E.C)(13).

$n = \frac{Z^2 \times P(1-p)}{d^2} = \frac{(1.96)^2 \times 0.346(1-0.346)}{(0.05)^2} = 347$

N=Total number of population

nf =Final sample size

The estimated sample size is 347 .By adding 10% non-response rates the total sample size was 382. By using reduction formula since the study population less than 10,000

So, $NF = \frac{n}{1+n/N}$

$NF = \frac{382}{1+382/1579}$

$= \frac{382}{1.242}$

$= 307.7 \sim 308$ Therefore the final sample size was 308

Sampling Technique: The sizes of the study population were selected by using proportional allocation and an individual was selected by systematic random sampling technique.

Data collection procedure and tools

The data was collected using 3(BSc degree in midwifery and 2 BSc degrees in Nursing) professionals. Each question was explained to the students to help their understanding. The data was collected using self-administered structured questionnaire which was prepared in English and then translate to the local language of Amharic and again back to English to confirm the correctness of the tools.

Data analysis.

Data quality assurance

In order to assure data quality, high emphasis was given to minimize errors using the following strategies. The questionnaire was adapted from previous similar literatures (2, 3, 5, 10, 11, 14) and questionnaire were pretested on 5% of the sample size in Bahirdar university, health science college, subsequent correction and modification was done, and proper instruction or training was given before the survey. The collected data's were reviewed and checked for completeness before data entry and strictly supervision was done till end of the data collection.

Result

Socio demographic profile of substance use

In this study a total of 308 regular students were interviewed from Debre Tabor University. The overall response rate was (100%). Among the total respondents (62.6%) respondents were substance use with the mean age of respondents 22.61, standard deviation of 2.637. Majority of them (64.6%) were male students. From the respondents (95.1%) were Amhara and (95.1%) orthodox followers. The places of residence for the majority of respondents, (69.8%) were from urban setting. Less than half respondents were Farmers (40.3%), followed by government employee (26.9%) regarding on family's educational status, Fathers (42.2%), Mothers (30.2%) were unable to read and write and (15.6 %) of Mothers, (7.5%) of Fathers were having college and above.

Table 1: Socio demographic characteristics' of the respondents

Variables		Frequency	Percent
Age	15-19	-	-
	20-24	276	89.6%
	25-29	17	5.5%
	30-34	15	4.9%
Religion	Orthodox	293	95.1%
	Muslim	15	4.9%
Year of the study	Firs year	215	69.8%
	Second year	234	76%
	Third year	223	72%
	Four year	200	65%
Marital status	Single	274	89%
	Married	22	7.1%
	Divorced	5	1.6%
Department of the respondents	Midwifery	50	16.2%
	Nursing	71	23.05%
	Laboratory	34	11.03%
	Anesthesia	37	12%
	Pharmacy	42	13.6%
	Medicine	74	24.03%
Ethnicity	Amhara	293	95.1%
	Tigre	8	2.6%
	Gurage	7	2.3%
Monthly income	Less than 200ETB	19	6.2%
	200-500ETB	40	13%
	500-100ETB	39	12.7%
	Above 1000ETB	68	22.1%

Amount of substance currently available and used in the study area (Figure: 1)

Khat chewers (42%), Alcohol (44.7%), shish (50%), cigarette (42.8%)

Reasons to start substances use

Different reasons were mentioned for using of substance. Among that khat chewers, 5 (5.4%) for relief stress, replied to keep alert while reading 3 (4.3%) and due to religious practice (41.9%)

The reasons mentioned for alcohol drinking were 78 (83.8%) to relief stress, 62 (89.8%) keep alert while reading, 7 (5.9%) Parent modeling .Reasons mentioned for shisha also used to get personal pleasure with in peer influence.

Factors associated with substance use of the respondents

In this study the association of different factors for respondents with substance use was investigated by using bivariate and multivariate logistic regression analysis. On multivariate analysis male students were 2.4 times more likely than females students for substance use [AOR=2.366, 95%CI=1.368-4.092]. Academically second year students, 2.5 times were more likely to have substance use than first year students [AOR=2.526, 95%CI=1.008-6.327).

Those respondents of maternal education, unable to read and write were 1.36 times more likely use substance than read and write [AOR=1.363,95%CI=1.125-1.652),Among the respondents occupational status of farming were 5 times more likely use substance abuse than governmental employees [AOR=5.174(1.877-14.265).On the other hand having peer friends were 3.5 times more likely use substance than not having peer friends [(AOR =3.532(2.098-5.951)(Table:2)

Table 3: Associated factors for substance abuse

Variables		Do you use substance currently		COR(95%CI)	AOR(95%CI)
		Yes	No		
		Frequency /%	Frequency/%		
Sex	Male	117(58.8%)	82(41.2%)	2.844(1.752-4.617)*	2.366(1.368-4.092)**
	Female	53(48.6%)	56(51.4%)		
Academic year	First	16(57.1%)	12(42.9%)		
	Second	14(63.6%)	8(36.4%)	3.322(1.386-7.964)*	2.526(1.008-6.327)**
	Third	79(46.5%)	91(53.5%)	1.291(0.485-3.439)	
	Fourth	61(69.3%)	27(30.7%)	2.602(1.510-4.484)	
Peer Friends	Peer Friends substance use	142(42%)	166(50.3)	3.862(2.398-6.219)*	3.532(2.098-5.951)**
Mothers educational status	Unable to read & write	33(35.5%)	60(64.5%)	1.200(1.022-1.410)	1.363(1.125-1.652)**
	Read & Write	67(73.6%)	24(26.4%)	0.303(0.145-0.632)	
	Primary	23(48.9%)	24(51.1%)	0.883(0.390-1.977)	
	Secondary	25(86.2%)	4(13.8%)	0.135(0.041-0.449)	
Fathers education	Unable to read & write	24(53.3%)	21(46.7%)	0.673(0.546-0.831)*	1.126(0.876-1.449)
	Read & write	63(48.5%)	67(51.5%)	0.975(0.401-2.368)	
	Primary	25(39.7%)	38(60.3%)	1.393(0.533-3.644)	
Occupation	Farming	94(49.2%)	30(50.8%)	0.459(0.269-0.782)*	5.174(1.877-14.265)**
	G/Employee	54(65.1%)	29(34.9%)	0.940(0.353-2.501)	
	Daily labor	8(66.7%)	4(33.3%)	1.321(0.98-2.675)	
	Merchant	20(6.5%)	47(15.2%)	0.789(0.562-	

Discussion

In this study overall prevalence of substance use from the respondents were (62.6%) in their life time. However the study conducted at wolkite university in 2017 out of the total study subjects were (66.9%) of ever use of substance and spastically khat, alcohol, and tobacco 148(32.5%), 299(65.6%) and 108(23.7%) respectively(15), which is almost consistent with this finding at Debre tabor university regular students. The possible reasons may be due to the same cultural traits by economically, food habits including drinking and the same cultivate nature's gifts.

This finding was lower than that with previous study done on cigarette smoking and chat chewing among university students in North West Ethiopia (13.1 %) and (26.7 %)respectively(14). Because of the reasons due to methodological difference, availability of cultivation.

In this finding ever users of khat (42%) and cigarette smokers were (42%) high as compared to study done at Ambo University in 2010E.C(16).Might be due to local availability of chat and socially acceptability of cigarettes and methodological difference. But ever users of alcohol this finding was lower than that with previous study conducted in Wolkite University.

In multivariate logistic regression of this study, male students, peer friends and mothers education of unable to read and write variables was significantly associated with substance use (2.526(1.008-6.327)), 3.532(2.098-5.951) and 1.363(1.125-1.652) respectively. However, study done in Jordan University assessed attitude of students toward the idea that person who smokes has more friends than non-smokers. This is telling us peer friends have highly exposed towards substance used therefore, this study is in line with study done at Jordan university because of peer friends might have dangers for ever things not only substance use that is why 17th times more likely use substance than not friendly use. Reasons may be due to Peer pressure, it is very powerful factors for influencing behavioral changes, especially in adolescent stage

Conclusion

The overall prevalence of substance use from the respondents was high in their life time. Maternal education, peer friends use, academically second year students, occupation of farming and male students' interims of sex were significantly associated to the substance use.

Limitations of the study

The study enrolled small participants and conducted through a cross-sectional study which is not show effect relationship

List Of Abbreviations

CSA: Central Statistical Agency, NCD: Non communicable disease, G.C: Gregorian calendar and E.C: Ethiopian calendar

Declarations

Ethical approval and consent to participate

Ethical clearance and approval were obtained from Debre Tabor University College of health Science and then supporting official letter was obtained from Debre Tabor University, Health Science College. It was communicated at each level of administrative bodies. The purpose and objective of the study were explained for each participant and verbal consent was obtained from each participant, because of all of the study participants were 16 years and above in order to keep for his/her willingness for generation of data and evidence also keep confidentiality of the information and maintained throughout by making the data collection anonymous names.

Consent for publication:

Not Applicable

Availability of data and materials

When the ethics statement was obtained from Debre Tabor University, College of health Science, we have agreed and signed not to publish the row data retrieved from the information of the regular students. However, the datasets collected and analyzed for the current study is available from the corresponding author and can be obtained on a reasonable request.

Competing interest

The authors have agreement between, no competing and financial matters

Funding

The author did not receive funding for this study

Authors' contributions

MB participated in designing the study, supervising during data collection, analyzes the data and writing over all research including manuscript. HG contributed in the designing of the data collection, analysis of the data and final approval of the manuscript to be published.

Acknowledgement

We would like to express our deepest feeling to Debre Tabor University, College of Health Science for providing this opportunity

We are very much grateful to data collectors for providing valuable information and timely available the data about substance use.

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Figures

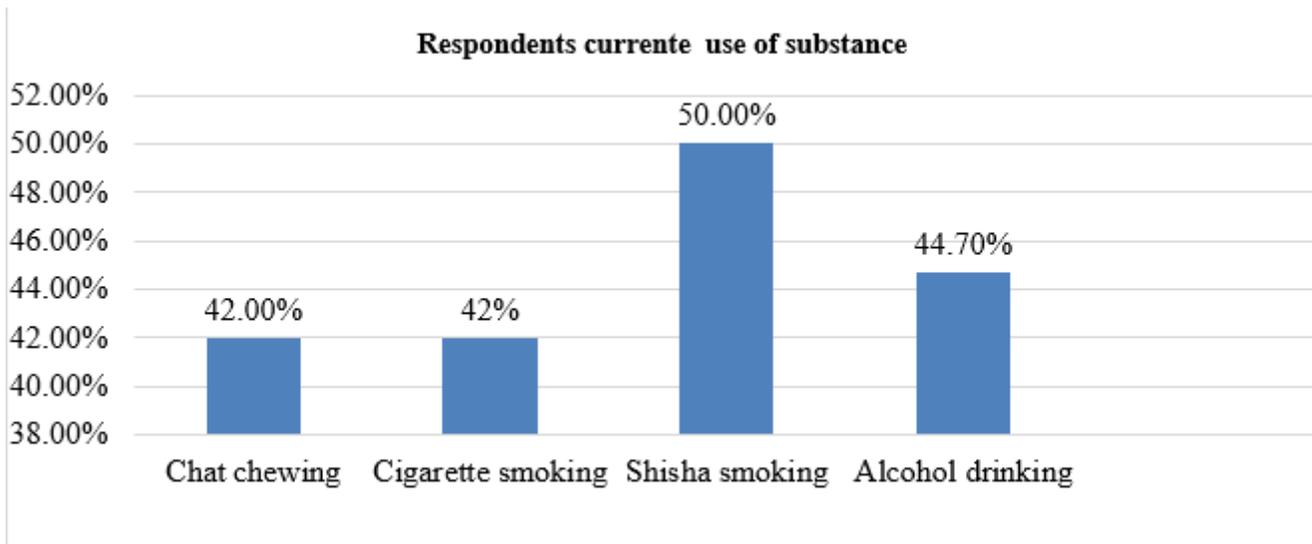


Figure 1

Substance used by the respondents in Debre tabor university, Amhara, Region, Ethiopia, 2019 (n=308)