PSYCHOACTIVE SUBSTANCE ABUSE AND INTENTION TO STOP AMONG ARBA-MINCH UNIVERSITY STUDENTS, ARBA-MINCH TOWN, SOUTH ETHIOPIA

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A RESEARCH REPORT SUBMITTED TO COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES OF JIMMA UNIVERSITY, DEPARTMENT OFHEALTH EDUCATION AND BEHAVIORAL SCIENCEFOR THE PARTIAL FULFILLMENT OFTHEREQUIREMENTS FOR MASTEROF PUBLIC HEALTH IN HEALTH EDUCATION AND PROMOTION (MPH/HE & HP).

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JIMMA, ETHIOPIA

JIMMA UNIVERSITY COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES DEPARTMENT OFHEALTH EDUCATION AND BEHAVIORAL SCIENCES

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Abstract

Background*: Students of higher education institution are at higher risk of Substance abuse. Currently, substance abuse is one of the most burning public health problems in Ethiopia. Again, the increase rate of university students who take substances, the scarcity of rehabilitation and treatment program on substance abuse threatens the present and future image of Ethiopia. Although it has been known that this public health problem is a pressing issue, the magnitude of substance abuse and intention to stop is not yet properly explored. Only little research is done so far.*

Objective:*To assess the magnitude of psychoactive substance abuse and intention to stop among students of Arbaminch university.*

Methods: *Institution based descriptive cross sectional study design in which quantitative research method wasemployed.Stratified sampling technique was used.Data was collected using a pre-testedsemi-structured self-administered questionnaire from February 14-29.Descriptive statistics and bivariate logistic regression analysis were done. Variables with p-value <0.25 in bivariate logistic regression were added in multivariate logistic regression model to identify independently associated predictors of a dependent variable, psychoactive substance abuse. Variables with P-value < 0.25 in bivariate linear regressionwere considered as statistical significanceand multiple linear regression models was performed, between the dependent variable, intention to quit, and the independent variables, the direct and indirect measures of attitude, subjective norm, and perceived behavioral control.*

Result:*From a total 392 respondents, 175 (44.6%) respondents fulfilled the criteria of psychoactive substance abuse (CAGE ≥ 2).*

The data suggested a limited relationship between attitudes, SN and intention but a strong relationship exists between the sense of control over psychoactive substance use and intentions to quit psychoactive substance use.Multiple linear regression analysis determined significantly associated factor with intention to quit psychoactive substance use were direct measures of attitude with standardized coefficient beta value [0.121 (0.35, 0.199)], Pv = 0.006, subjective norm [0.099, (0.014, 0.190)] Pv = 0.032 and perceived behavioral control [0.512, (0.403, 0.562)], Pv =.0.0001.

Conclusion: *The study has identified that psychoactive substance abuse is a serious problem among regular undergraduate university students; it is associated positively with certain variables such as male participants and year of study.PBC was the strongest predictor of intention to quit psychoactive substance use followed by attitude and subjective norm.To improve cessation concerned bodies must address perceived lack of control over quitting & limited confidence to control barriers to quit andestablishmentof a pilot treatment and rehabilitation centerin order to reduce the prevalence of psychoactive substance abuse.*

Key words: Psychoactive, Substance Abuse, and Intention

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Abbreviations and Acronym

AMU	Arbaminch University
AOR	Adjusted Odds Ratio
CAGE-AID	Cut down, Annoyed, Guilty, and Eye-opener
CI	Confidence interval
JU	Jimma University
OR	Odds ratio
PBC	Perceived Behavioral Control
PASA	Psychoactive substance abuse
SN	Subjective Norm
SNNPR	Southern Nation Nationalities and People Region
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1 Background

Health-risk behaviors established in youth increase the likelihood of developing disease later in life. Prevention of disease could be enhanced by the determination of predictors and factors that influence health-risk behaviors.One of Health-related behaviors known to place people at risk of developing disease is psychoactive substance use.

Psychoactive Substance Abuse is a maladaptive pattern of substance use resulting in repeated problems and adverse consequences.Substances abuse is becoming a serious ongoing public health problem; it affects almost every community and family in some way. Globally, there were about 190 million substance abusers. Out of these substance abusers, around 40 million serious illnesses or injuries were identified each year (1). The trend is increasing as period goes.

Tobacco smoking, associated risk behaviors, and experience with quitting in relation to lack of support or active discouragement to quit by practitioners, motivation and confidence, as well previous initiatives to quit determines dependence and use of substance.

The most frequent abused substances in Ethiopia are alcohol and khat followed by cannabis and solvents. Students and staff of higher institutions are considered being at high risk of substance abuse (2).

Khat(Catha edulis), a psychostimulant substance, is thought to be the second most widely used substance in Ethiopia. In khat-growing countries, the chewing of khat leaves for social and psychological reasons has been practiced for many centuries. The use of khat has gradually expanded to neighboring countries and beyond through commercial routes.

Illegal drugs are not the only substances that can be abused ratherpsychoactive substance abuse even coffee, can all be abused to harmful excess(3).

1.2 Statement of the problem

Psychoactive Substance abuse is the largest avoidable cause of premature death, disease and disability in the developed world. With a direct annual cost of tobacco related morbidity of £5 billion to the National Health Service (NHS), the economic burden is enormous (4).

The World Health Organization has estimated that there are 320 million smokers in China and that tobacco-related diseases currently kill 1 million Chinese smokers each year (4). If current smoking rates continue, smoking-attributable deaths in China are projected to rise to 2.2 million by the year 2020 (5).

Disparities in smoking cessation outcome rates may account for some of the elevation in tobacco related morbidity and mortality among AA smokers. Although AA smokers are more likely to attempt to stop smoking within a given year, these quit attempts result in 34% reduced abstinence success(6).

Alcohol intake is more prevalent in men than in women (2-3:1), but rates for women are also increasing nowadays. Children of alcohol-abusing parents are at high risk of developing alcohol abuse whether or not their biological parents raise them suggesting a genetic component. The familial association is strongest for the male child of an alcohol-dependent father(7).

There are ethnic and cultural differences in susceptibility to alcohol and to its effects. For example, in the United States half the alcohol is consumed by 10% of the alcohol drinkers. Many Asians show acute toxic effects after consuming only minimal amounts of alcohol. Some cultural groups, such as Jews have lower rates of alcohol dependence, whereas others, such as Native Americans, Eskimos, and some groups of Hispanic men, show high rates.

It is well established that individuals who initiate the use of substances earlier in life have a greater likelihood that they will experience adverse consequences later in life, including addiction (8). Research has shown that the initiation of substance use is closely linked with social and environmental factors, whereas, early initiation of use as well as abuse are highly linked to genetic and psychological determinants (9).

Participants were generally highly dependent smokers who did not display good knowledge/awareness of smoking related harms and reported to engage in high risk smoking behaviors. The majority reported notable motivation and confidence to quit in the future, despite or indeed for the benefit of addressing other dependencies. Of the many who had tried to quit in the past, all had done so on their own initiative, and several described a lack of support or active discouragement by practitioners to address smoking (10).

The Risk factors for alcoholism fall into three categories: family history, ethnic background, and occupation or social milieu. These three factors describe the social fabric of most people's lives. As such, it is difficult to ascertain the relative weight of these risk factors, but the composite picture enables the health worker to gauge a patient's risk for alcohol abuse(7).

Psychoactive substance abuse is the devastating consequences for a person, a family and a community as a whole. It is currently a serious ongoing public health problem in our country. Many countries including Ethiopia recognize that psychoactive substance abuse by young people is a serious health and social problem (10).

The determinants that place youth 'at-risk' of problematic substance use are generally categorized as individual (e.g, age, gender, neurophysiological vulnerability), interpersonal (e.g family, peers, school), and social and cultural/ community (e.g., media portrayals, social norms, street involvement) (2).

Since few related studies conducted in the country, there are no studies dealt on the same topic in the study area. Therefore this study aims to study the magnitude and their intention to quit psychoactive substance abuse among Arbaminch University Students.

CHAPTER TWO:LITERATURE REVIEW

2.1Substance abuse

Around the Globe, there are an estimated 3.1% the world population or 4.3% of the population aged 15 and above abuse substances. While the majority of psychoactive substance are consumed in industrialized nations, substance addiction is no longer the rich nation's problem or the poor nation's affliction; it crosses nation, ethnic, religious class and gender lines. Addicts range from the homeless to white-collar professionals, college students, sex workers, rural farmers and street children (3).

Results from the 2008 National Survey on Drug Use and Health: National findings revealed that current abuse of substance abuse were higher for young adults aged 18 to 25 (19.6percent) than for youths aged 12 to 17 (9.3 percent) and adults aged 26 or older (5.9 percent). Among young adults who were current users of marijuana16.5%, nonmedical prescription-type drugs 5.9%, hallucinogens 1.7 % and cocaine 1.5 %. (11).

Results from the 2008 national survey on Drug Use and health: National findings revealed that the trend of substance abuse is increasing as period goes. The study across 119 U.S. colleges which included randomly selected undergraduates in 1993 showed that 12.9% of students abused marijuana; 15.7% of counterparts abuse of same substance in 1997 and 22% abuse similar substance in 1999(3).

.A reviewed study conducted in 2008 in large mid-Atlantic university showed that there is a relationship between consumption of one substance and use of other illicit drugs. Compared to non-binge drinkers, frequent binge drinkers were almost three times more likely to smoke cigarettes; four times more likely to use marijuana; five times more likely to use amphetamines, LSD, and chewing tobacco and six times more likely to use hallucinogens— all within 12 months. More than half of frequent binge drinkers used marijuana and cigarettes in the past year,5 compared to 13% and 22% of non- binge drinkers(9).

Study based on the survey conducted on Ambrose Alli University, Ekpoma, Nigeria, in 2009 with the sample size of 414 students, students were found to abuse alcohol (66%), marijuana(44%), valium (32.9 %), Librium (21.3%), tobacco (20%), amphetamine (17%) and cocaine(16.2 %) (12).

The overall prevalence of khat chewing in college and secondary (high) school students of Jazan region, Saudi Arabia was 21.4% (13)

The study conducted on Kenyan secondary school revealed that majority of the respondent (80%) agreed that alcohol was the most frequently abused drug. The study posited that alcohol was the most abused drugs by students because alcohol, unlike other drugs, does not have a drastic effect on personal health when consumed moderately; it is sold legally and has attained a commodity status. The study found out that the main reason for substance abuse was peer pressure and the common symptoms indicated that students who abuse substance had aggressive behavior, depression and anxiety, sudden changes of appetite, cold clammy skin, irritable behavior, frequent complaints of headache, memory loss, over excitement, over suspicious, secretive and less self-confidence symptoms(14).

A report based on review of both qualitative and quantitative studies revealed that students and staff of institution of higher education of Ethiopia are a high risk of substance abuse (9). Thirty-one percent of students of college of medical science in northwestern Ethiopia were current alcohol users followed by 26.3 and 23.3% current cigarette smokers and khat chewers respectively. Smokers usually become dependent on nicotine and suffer physical and emotional (mental or psychological) withdrawal symptoms when they stop smoking. These symptoms include irritability, nervousness, headaches, and trouble sleeping. The true marker for addiction is that people still smoke even though they know smoking is bad for them, affecting their lives, health, and families in unhealthy ways. Most people want to quit psychoactive substance abuse, which refers to any substance that when taken by a person can modify perception, mood, cognition, behavior or motor function (2).

The most frequently used mood altering substances are cocaine, heroin, morphine, pethidine barbiturates, amphetamine, alcohol, marijuana, minor tranguilizersparticulary codeine, sleeping pills and nicotine. Abused drugs can be classified in to five categories namely, stimulants, hallucinogens, narcotics, tobacco and psychotropic and there are social drugs in Ethiopia such as khat and alcohol(15).

2.2 Common and Unique Features of Substance Abuse

The common feature of almost all abused substances are that they produce addiction, that they are open to be abused potentially, that they led to multifaceted consequences. Multifaceted consequences include tolerance and withdrawal syndrome, as well physical and psychological dependence. They also act on the brain and produce impairment of judgment. Over the past two decades, the abuses of illegal drugs and therapeutic drugs have spread at an unprecedented rate and have penetrated every part of the globe. No nation has been spared from the devastating problem caused by substance abuse. At the same time, broad spectrum of the world community has demonstrated intense concern over the problem(16).

Ethiopia signed in three international drug conventions (17). Accordingly, Federal Police Commission, Anti-Narcotics Service of Ethiopia reported that, cannabis 107.9 kg, heroin 21.27 kg and cocaine 11.42 kg were seizured in the past five years (18). In article 38 of 1961 convention on narcotic drugs, the suggested measures against the abused substance are given special attention to prevention of abuse of substances and early identification, treatment, education, after-care, rehabilitation and social reintegration of the persons involved. It also indicates that the measure taken is to co-ordinate their efforts to these ends; promote the training of personnel and practicable measure on understanding of the problem of abuse of substances and of its prevention for the general public(17).

2.3 Factors of Substance Abuse

Different studies have revealed that there are various factors for students to abuse substances. The factors of substance taking generally have been regarded as determined by a combination of the peculiar properties of the substances, characteristics of the user and the nature of the person's environment. Some of these reasons include easy availability of substances, peer group pressure, age factors, parental influence and availability of cash (14). Therefore some of the factors that influences psychoactive substance abuse and their intention to quit are as follow:-

2.3.1 socio-demographic factors

The European School Survey Project on Alcohol and Other Drugs (ESPAD) has revealed that school pupils who are 15–16 years old in the UK are reported to abuse substance more than young people in any other European country. The results showed that UK school pupils (15–16 years old) consistently are found to have higher levels of lifetime use of any substance abuse than other young Europeans (36% vs 16%) (15)

2.3.2 Attitudes towardsPsychoactive Substance Abuse

The study conducted South Africa University of Cape Town Students by Lauren Steingold the Univariate model describes the relationship between attitude and intention to use tobacco was significant (x^2 (1) = 14.82, p = 0.0001). It was found that attitude towards smoking was a significant predictor of intention to use tobacco (Wald (1) = 11.64 p = 0.001). Using the odds ratio it was calculated that for every unit of increase in attitudes concerning smoking, a person was 2.52 times more likely to smoke. And also Attitudes towards alcohol use were shown to be a significant indicator (Wald (1) = 5.00, p = 0.025) of intention to drink alcohol. By calculating the odds ratio it was found that for every unit of increase in attitude, a person is 1.65 times more likely to intend to drink alcohol (1).

The result of attitude in Oslo, Norway on quitting smoking revealed that attitude was significant and the standardized coefficient beta value (β = .51, pv< 0.001) was the stronger predictor of intention (23). The study in University of Florida, alcohol consumption among college students on game day, attitude was predicted with standardized coefficient beta value 0.39 (p < 0.001) (22).

2.3.3 Subjective norm towards psychoactive substance abuse

The study conducted South Africa University of Cape Town Students by Lauren SteingoldSubjective norms were also found to be a significant predictor (Wald (1) = 21.85, p = 0.0001) of intention use alcohol. Again using the odds ratio it was determined that for every unit of increase in subjective norms a person is 5.16 times more likely to have the intention to drink alcohol.The analysis showed that only subjective norms remained statistically significant (Wald (1) = 15.66, p = 0.0001) in the multivariate model of prediction of intention to use alcohol(1).The result of subjective norm in the finding in Oslo, Norway on quitting smoking revealed that subjective normwas significant and the

standardized coefficient beta value ($\beta = 0.14$, pv< 0.001) (23).Study in University of Florida attitude was predicted with standardized coefficient beta value 0.46 ($p < 0.001$ (22).

2.3.4 PBC towards psychoactive substance abuse

The study conducted South Africa University of Cape Town Students by Lauren Steingold, the univariate model chosen to represent the relationship between PBC and intention to smoke was significant (x^2 (1) = 42.73, p = 0.0001). PBC was found to have a significant effect (Wald (1) = 22.58, p = 0.0001) on intention to use tobacco. Calculating theodds ratio it was determined that for every unit of increase in PBC, a person was .18 less likelyto intend to use tobacco(1). The finding in Oslo, Norway on quitting smoking with standardized coefficient beta value ($\beta = 0.14$, pv< 0.001) (23).

2.3.5 Intention to quit psychoactive substance abuse

This findingshowed the variance explained 41% among college students which examined intention to quit drinking based on theory of planned behavior study (27).The results from studies showed predicting quitting intentions where the TPB accounted for an average of 30% of the variance in intentions (29).

In summary, substance abuse is an emerging public health problem and it is steadily increasing globally including Ethiopia. The identified gaps from the reviewed literature are that there is little data concerning commonly abused psychoactive substances in Ethiopia and that the interventions are underemphasized although Ethiopia signed in the three conventions since 1961. Therefore Using the Theory of Planned Behavior (TPB) as a model of health-risk behavior, this study aimed to predict the intention to use and the actual use of psychoactive substance in students from the University of Arbaminch.So, this study is designed to bridge the fore mentioned gaps.

2.4 Conceptual frame work of the study

Theory of planned behavior is a model that predicts behavior from self-reported intentions to engage in the target behavior (4).

Intention are, in turn, predicted by attitudes toward the behavior, perceived social norms relevant to the target behavior and perceived control over performing the target behavior.

Therefore the TPB is the conceptual framework selected to guide this study.
The relationship between the models constructs are graphically displayed as follow.

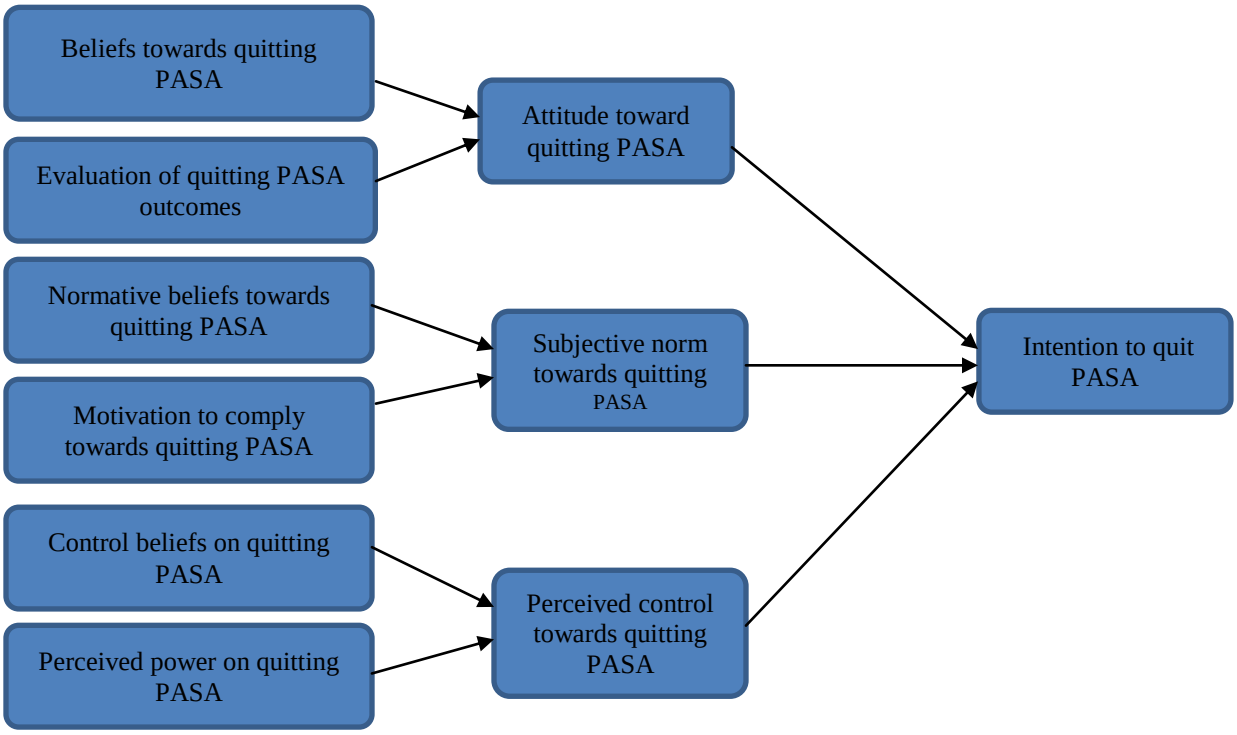


Figure 1 Conceptual frame work which shows psychoactive substance abuse and intention to stop (TPB; Developed by Ajzen, 1991).

2.5 Significances of the Study

Even though khat, cigarette and alcohol use are well studied separately, commonly abused substancesby using CAGE-AID criteria and factors affecting intention to stop substance abuse are not yet well addressed. Little attention has been given to interventions focusing university students though it considered as a serious and emerging challenge for the government. In general, morbidity, health and social problems from substances abuse are still under or little emphasized in university student.

Although nearly all of the world's future leaders, policy-makers, and healthcare providers have passed through the college system as young people, culture of substance abuse is taking its fall in student accidents, assaults, property damage, academic problems, illnesses, injuries, mental health problems, risky sex, rape and deaths. Uncomplaining as unavoidable this university culture of alcohol and other psychoactive substance abuse threatens not only the present wellbeing of university students, but also the future capacity of our nation to maintain its leadership in the fiercely competitive global economy (3).

This study is important as baseline information to examine strategies for intervention towards prevention of substance abuse and for designing a treatment and rehabilitation program on substance abuse focusing on university students. It will also be an input for awareness of policy makers. And also since there is no research works conducted in the supposed area this study will contribute a lot for further researches, program planners and public health workers to deal with the identified psychoactive substance abuse related problem.

CHAPTER THREE:OBJECTIVE

3.1. General Objective

- To assess psychoactive substance abuse and intention to stop among students of ArbaminchUniversity, January –march 2014.

3.2. Specific objectives

- To assess the magnitude of psychoactive substance abuse among the students
- To identify socio-demographic factors that contributes to psychoactive substance abuse among students
- To describeAttitude toward quitting psychoactive substance use among the students
- To assessSubjective norms toward quitting psychoactive substance use among the students
- To assessPBC toward quitting psychoactive substance use among the students

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study area and period:

The study was conducted from February to March, 2014 in Arba Minch town, which is the capital town of GamoGofa Zone in SNNPR. Arba Minch town is located at 505km from Addis Ababa and 275km from regional town, Hawassa. The town covers 514sq.kms and generally located at the altitude 1200 through 1400 meters above sea level.

Based on the 2007 Ethiopian national population and housing census, the population of the town is projected to be about 86,405 since last July 2013, with male to female ratio being 0.963. Administratively the town is divided in to four sub cities. There is one zonal hospital, two health centers, and different level of private health facilities. In the town there is one University, it has five campuses: Nechsar campus, Abaya campus, Chamo campus, kulfo campus and main campus. Within all campus, there are thirty-nine departments and a total of 17132 regular undergraduate students. There is no treatment and rehabilitation center and peer group counseling related to substance use within the whole campus.

4.2. Study design:

Institution based descriptive cross-sectional study design was used.

4.3. Population

4.3.1. *Source population:*

All regularundergraduate students of Arbaminch University in 2014

4.3.2. *Study population:*

All randomly selectedregular undergraduate students of Arbaminch University in 2014

4.4. Inclusion and exclusion criteria

4.4.1. *Inclusion criteria*

- Regular undergraduate Students of Arbaminch University in 2014 who are using psychoactive substance.

4.4.2. *Exclusion criteria*

- Students who were notavailable during the study period

4.5. Sample size determination and sampling techniques

4.5.1. *Sample size determination*

To determine the sample size, the single population proportion formula was used with the necessary assumptions of prevalence (p) 50% psychoactive substance abuse among undergraduate regular Arbaminch University Students with 95% confidence level, 5% margin of error.

$$n = \frac{Z_{\frac{\partial}{2}}^{2} p(1-p)}{d^2} = \frac{(1.96)^2 * 0.5\ (0.5)}{(0.05)^2} = \underline{\mathbf{384}}$$

Where

n=the number of regular undergraduate students who took part in the study

z= standardized normal distribution value at the 95% CI, which is ±1.96

p= since such type of study is not conducted previously in the area and the proportion of psychoactive substance abuseis estimated to be 0.5

d=the margin 5%

- Considering the multistage nature of sampling technique, a design effect of 2 was used to multiply the sample size as 384*2= 768
- Since the number of regular undergraduate students is 8966 (<10,000) correction formula was used as:

$$n_f = \frac{n}{1+n/N} = \frac{768}{1+768/8966} = 707$$

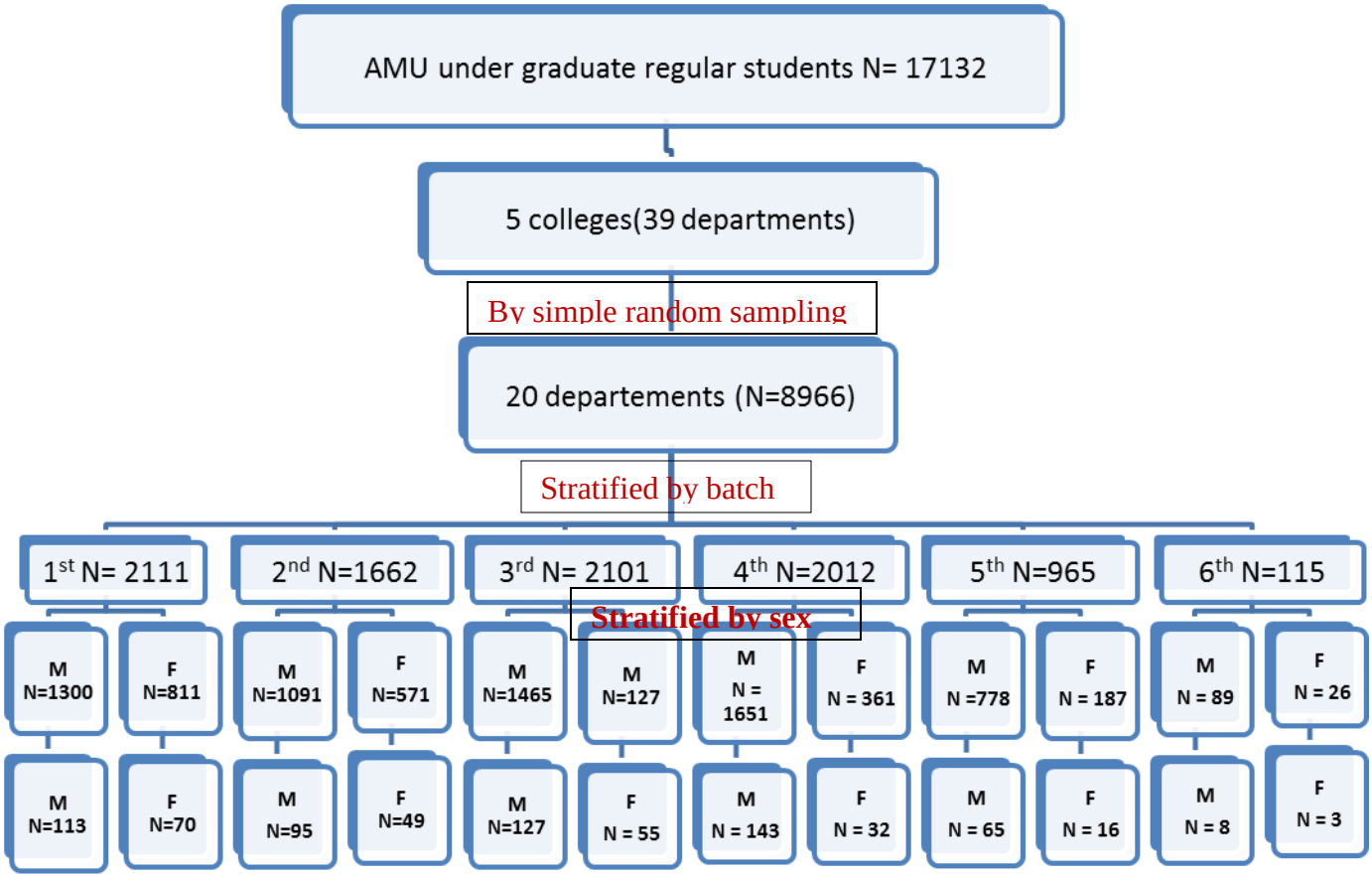
Considering 10% non-response rate and the sample size was**778**.

4.5.2. *Sampling procedure*

Quantitative research method in which stratified simple random sampling technique was used to select study subjects from the entire regular under graduate students currently learning inArbaminch University. All colleges were included in order to compare between the colleges. From those colleges the departments was selected by simple random sampling. The selected departments were stratified by batch and sex. After proportionally allocatingto

size, the actual data was collected from, student's roster which was used as sampling frame; respondents who were selected by using simple random sampling from each sex.

Sampling technique and procedures …



n= 778 (M=553,F=225)

Design effect = 2 due to two sampling techniques to minimize variability

Figure 2 Schematic presentation of sampling procedure

Table 1 Name of College & Department, Number of Arbaminch University Students in Batch and Sex Arbaminch, Ethiopia, April 2014.

COLLEGE NAME	NAME OF DEPARTMENT	1st year		2nd year		3rd year		4th year		5th year		6th year		TOTAL		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
Engineering and technology	Architecture	84	36	42	19	51	7	53	17	44	23	55	22	329	124	453
	Civil & urban engineering	177	84	125	55	183	154	425	173	170	94	0	0	1080	560	1640
	Hydraulic & water resource engineering	169	93	145	64	269	37	499	69	261	41	0	0	1343	304	1647
	Information technology	30	89	64	39	32	17	0	0	0	0	0	0	126	145	271
	Water supply &Env'tal engineering	183	72	100	78	233	87	473	59	232	7	0	0	1221	303	1524
Natural and computational science	chemistry	13	31	53	8	99	32	0	0	0	0	0	0	165	71	236
	Biology	36	23	48	25	88	83	0	0	0	0	0	0	172	131	303
	Meteorology	13	41	20	26	24	8	13	12	0	0	0	0	70	87	157
	Mathematics	9	23	40	9	72	19	0	0	0	0	0	0	121	51	172
Medicine and health sciences	Health officer	38	14	51	19	32	10	53	8	0	0	0	0	174	51	225
	Medicine school	142	45	95	31	57	33	51	7	43	14	34	4	422	134	556
	Nursing	43	16	39	14	25	12	42	12	0	0	0	0	149	54	203
Agriculture and life sciences	Horticulture	21	26	32	33	25	10	0	0	0	0	0	0	78	69	147
	Rural dev't& agricultural ext.	28	20	36	8	32	11	0	0	0	0	0	0	96	39	135
Business and economics	Accounting and finance	113	69	56	42	81	33	0	0	0	0	0	0	250	144	394
	Tourism management	69	35	35	11	28	15	0	0	0	0	0	0	132	61	193
Social sciences and humanities	Sociology & social anthropology	39	28	38	18	49	40	0	0	0	0	0	0	126	86	212
	Geography	36	26	29	12	24	8	0	0	0	0	0	0	89	46	135
	Law	34	17	11	51	42	9	42	4	28	8	0	0	157	89	246
	Psychology	23	23	32	9	19	11	0	0	0	0	0	0	74	43	117
G. Total No by sex		1300	811	1091	571	1465	636	1651	361	778	187	89	26	6374	2592	8966
Proportionally		113	70	95	49	127	55	143	32	67	16	8	3	553	225	778
Total sample in No& %		183(23.5%)		144(18.5%)		182(23.4%)		175(22.5%)		83(10.7%)		11(1.4%)		778(100%)		778

4.6. Data collection methods and instruments

Ajzen details the specific methodology for developing the TPB measures which includes both an initial elicitation study followed by a quantitative study (19). The predictor variables in the TPB model are internal constructs with each variable measured directly and indirectly. Both measurements were included in the quantitative portion of the study and measured within the context of the TPB model.

4.6.1 Construction of TPB Belief Measures

In the initial elicitation study, N=21, under graduate regular students similar to the study's population were solicited to answer open-ended questions about their beliefs and from these beliefs a final questionnaire was developed.

The collected belief statements from the interviews were analyzed and their responses were then grouped into modal sets of beliefs (i.e., behavioral beliefs, normative beliefs, and control beliefs). The content in the modal belief sets were used to form the questionnaire scales to measure the indirect variables for the final study. These indirect measures included the behavioral beliefs, normative beliefs, and control beliefs and their corresponding outcome expectancy beliefs.

4.6.2 Quantitative Questionnaire Development

The direct measurements of the study constructs (attitude, subjective norm, perceived behavioral control, and intention) were developed from Fishbein and Ajzen‘s composition of generic direct beliefs (20). Since both direct and belief scales examine the same construct, they are expected to be positively correlated (21).In order to establish reliability for these questionnaires, test-retest reliability was assessed.

Data was collected using a pre-tested Semi-structured self-administeredincluding CAGE-AID English questionnaire was used to measure substance abuse and intention to stop. After two days training of six data collectors and four supervisors, instructors from Arbaminch University self-administered questionnaire was filled after randomly selected under graduate regular students from different section of each department and year.

4.7. Data Quality management

Six data collectors and four supervisors, instructors from Arbaminch University were trained for two days on data collection procedures and supervision techniques.

The data collection instrument waspre-tested on 5% of the sample size of the study in the WolaytaSodo University not included in the sample. Following preliminary survey on psychoactive substance use Supervisorwere followed and checked the way how data collectors conduct interview and cross checked points what students oriented during and before data collection, respectively. Data waschecked for completeness and for any missing values during collection and before analysis.The questionnaire with incomplete or inconsistent response wasomitted.

4.8. Study variables:

4.8.1. *Dependent/ Outcome Variables*

Psychoactive Substance Abuse

Intention to Quit

4.8.2. *Independent / Exposure/explanatory variables*

- Socio -economic and demographic variables:
  - Age
  - Sex
  - Religion,
  - Ethnicity
  - Monthly pocket money.
  - Study year
  - Field of study
- Attitude toward quitting psychoactive substanceuse
  - Behavioral beliefs toward quitting psychoactive substance use
  - Evaluation ofquitting psycho active substance use outcome
- Subjective norms towardquittingpsychoactive substance abuse
  - Normative beliefs towards quitting psycho active substance use
  - Motivation to comply towards quitting psycho active substance use
- PBC toward quitting psychoactive substance use
  - Control beliefs towards quitting psycho active substance use
  - Perceived power toward quitting psycho active substance use

4.9. Data processing and analysis

Data wasentered into EpiData version 3.1for data exploration and cleaning. The cleaned data wasexportedto SPSS version 16.0 software for analysis.

The prevalence of psychoactive substance abuse was determined by taking frequencies and percentage then resultwas summarized and presented by tables, charts and graphs. Bivariate association between psychoactive substance abuse and socio-demographic characteristics was examined using PV < 0.25.Variables with p-value <0.25 in bivariate logistic regression were added in multivariate logistic regression model with back-ward stepwise method to identify independently associated predictor.The degrees of association between socio-demographic and psychoactive substance abuse variables were assessed using AOR and 95% CI.

For linear regression analyses the evaluation of assumptions was met and did not require transformation of the variables. In addition dependent variable, intention to stop, and independent variables attitudes, subjective norm, PBC and their belief measureswere examined using PV< 0.25. Then, A least squares multiple regression was performed, between the dependent variable, intentions to quit psychoactive substance use, and using the characteristics that are significantly associated.

4.10. Operational definitions

Abuse: Using a psychoactive substance with CAGE-AID result ≥ 2.

Addiction: Peoples who are in favor of quitting psychoactive substance or not, measured directly with 3 items and all items scoring using a bipolar scale from 1 to 5. High score (above mean) indicates a positive attitude to quit psychoactive substance abuse.

Behavioral belief: Evaluation of the likelihood that performance of the behavior is associated with certain outcomes. Measured with 6 items based on a 5-point scale ranging from 1 to 5, Higher scores (above mean) indicate a positive behavioral belief related to quitting psychoactive substance use.

CAGE-AID: is derived from the four questions containing **YES** or **NO** response of the tool: Cut down, Annoyed, Guilty, and Eye-opener; it helps to determine if substance abuse exists.

Control belief: Perceived likelihood of each facilitating or constraining condition occurring. Measured with 6 items based on a 5-point scale ranging from 1 to 5, Higher scores (above mean) indicate a positive control belief related to quitting psychoactive substance use.

Evaluation of outcomes: How good or how bad those outcomes would be. Measured with 6 items based on a 5-point scale ranging from 1 to 5, Higher scores (above mean) indicate a positive outcome related to quitting psychoactive substance use.

Intention: a person's motivation to act in a particular manner, measured directly with 3 items and all items scoring using a bipolar scale from 1 to 5. High score (above mean) indicates a positive intention to quit psychoactive substance abuse.

Motivation to comply: Motivation to do what each personal contact person wants. Measured with 6 items based on a 5-point scale ranging from 1 to 5 . Higher scores (above mean) indicate a positive motivation to do what each personal contact person wants quit psychoactive substance use.

Normative belief: Perception of how much each personal contact approves or disapproves of the behavior. Measured with 6 items based on a 5-point scale ranging from 1 to 5, Higher scores (above mean) indicate a positive behavioral belief related to quitting psychoactive substance use.

Perceived power: Perceived effect of each condition in making the performance of the behavior easier or more difficult. Measured with 6 items based on a 5-point scale ranging from 1 to 5, Higher scores (above mean) indicate a positive behavioral belief related to quitting psychoactive substance use.

Poly substance use: Any use of more than one mood altering substance by an individual at any time in the past.

Perceived Behavioral Control: whether the individual feels in control of factors that would make quitting psychoactive substance easy or difficult, measured directly with 6 items and all items scoring using a bipolar scale from 1 to 5. High score (above mean) indicates a positive PBC.

Psychoactive substance: Any substance that, when taken by a person, can modify perception, mood, cognition, behavior or motor functions.

Psychoactive substance abuse: Any substance that, when taken by a person, can modify perception, mood, cognition, behavior or motor functions with CAGE-AID result ≥ 2.

Substance abuse: The term refers to misuse and abuse of substance such as, alcohol, tobacco and khat with CAGE-AID result ≥ 2.

Subjective norms: How much the individual feels social pressure to quit or not quit, measured directly with 6 items and all items scoring using a bipolar scale from 1 to 5. High score (above mean) indicates a positive SN.

4.11. Ethical consideration

Ethical clearance was obtained from institutional Review Board of Jimma University College of Public Health and Medical Sciences to conduct the study.Following the approval, the objective of the study was informed to Arbaminch University through official letter of co-operation from college of public health and medical science, Jimma University. Letter of support was obtained from Arbaminch University. The benefit of this study is baseline information to design intervention concerning substance abuse focusing university students and an input for policy makers to emphasize this public health problem. Except the time taken to fill the questionnaire and for interview, there was no invasive procedure and confidentiality was maintained. Written informed consent was given with full information sheet including the objectives of the study, selection criteria, confidentiality and benefits of the study. Anonymous questionnaire with only identification number was used. Then information sheet was explained and consent form signed by participants. Finally the data collectors and supervisors were informed the subject that they have a right to participate or not in the study as well as to interrupt at any time.

4.12. Dissemination plan

The result of the study will be presented to Jimma University community as part of MPH thesis and it is disseminated to JU College of public health and medical science, department of Health Education and Behavioral Science, and Arbaminch University. Further attempt will be made to publish it and disseminate to national and international scientific journals.

CHAPTER FIVE: RESULT

5.1 Socio- demographic characteristics of the study participants

A total of 778 respondents were participated in the study of which 371(94.4%) of the sample were males and 21(5.6%) were females. The mean age of the participants was 22.09 [SD =1.845] years. Around 30.6 % of the respondents were Amhara followed by Oromo 24.5 %. Out of the total psychoactive substance users, 259 (66.1 %) were Orthodox followers, 63 were Muslim, and 19 were protestant and 51 were others. Of the total regular under graduate students Year one students were 16.8%, year two 17.3%, year three 26.8, year four 24.2%, and year five and above 14.8%. The mean monthly pocket money of the students was 500 ETB. Out of the total of psychoactive substance users engineering and technology were 285(72.7%).

Table 2 socio-demographic characteristics of ArbaminchUniveristy Students, Arbaminch, Ethiopia, April 2014.

Variables		Sex		Total (%) (n=392)
		Male (n=371)	Female (n=21)	
Age	15-19	25	0	25(6.4)
	20-24	320	15	335(85.5)
	25-29	26	6	32(8.2)
Ethnicity	Amhara	110	10	120(30.6)
	Oromo	92	4	96(24.5)
	Gammo	47	3	50(12.8)
	Tigray	40	0	40(10.2)
	Others*	82	4	82(21.9)
Religion	Orthodox	248	11	259(66.1)
	Muslim	60	3	60(16.1)
	Catholic	19	1	20(5.1)
	Protestant	15	4	19(4.8)
	Others**	29	2	31(7.9)
College	Engineering and technology	267	18	285(72.9)
	Medicine and health science	35	0	35(8.9)
	Natural and computational sciences	29	0	29(7.4)
	Social sciences and humanities	20	1	21(5.4)
	Business and economics	15	2	17(4.3)
	Agricultural and life sciences	5	0	5(1.3)
Study year	Year 1	65	1	66(16.8)
	Year 2	64	4	68(17.3)
	Year 3	101	4	105(26.8)
	Year 4	90	5	95(24.2)
	Year 5 and above [1]	51	7	58(14.8)

N.B *= Somalia, Benshangul and Afar .., **= No religion, [1] =year 5 and 6

5.2 Magnitude of Substance Abuse among Students of Arbaminch University

From totalsubjects, 392 of the respondents were reported currently abusing at least one substance.Of thesekhat abusers were 40(22.9%),alcohol abusers 27(15.4%), and cigarette abusers 2(1.1%). The rest 239 Subjects were abusing two or more psychoactive substance in combination.

Generally form a total 392 respondents, 175 (44.6%) respondents fulfilled the criteria of psychoactive substance abuse (CAGE ≥ 2).

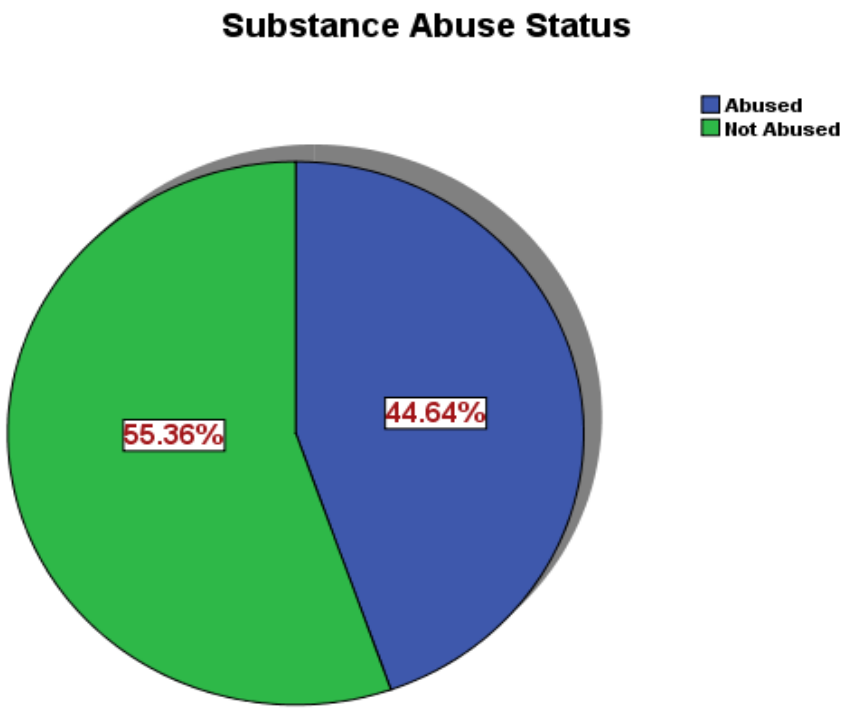


Figure 3 Magnitude of Substance Abuse among Arbaminch University Students Arbaminch, Ethiopia, April 2014.

5.3 Associated factors for substance abuse

Association between psychoactive substance abuse and socio-demographic (age, sex, and year of study) were examined using cross tabulation and significantly associated factors were age (PV =0.02), sex (PV = 0.021) and year of study (PV = 0.001).

Against psychoactive substance abuse, a socio demographic characteristic was determined using logistic regression model. Confounding factors were adjusted by multiple logistic regression analysis. The only Significantly associated factors with psychoactive substance abuse were sex and year of study i.e. Psychoactive Substance abuse in males was almost three times more likelythan female respondent: [AOR,95% CI; 2.79 (1.031, 7.555)]. Psychoactive substance abuse in first year students is almost 80% [AOR, 95%CI; 0.189 (0.084, 0.424)], second year 80% [AOR, 95%CI;0.191 (0.092, 0.398)],third year 70% [AOR, 95%CI;0.296 (0.144, 0.609)], and fourth year 60% [AOR, 95%CI; 0.414 (0.189, 0.909)] less likely abuse than fifth year and above students:

Table 3 A Study Result Showed Bivariate and Multivariate Logistic Regression Analysis Associations between Socio-demographic Factors and Psychoactive Substance Abuseamong Arbaminch University StudentsArbaminch, Ethiopia April 2014.

Socio-demographic factors	Psychoactive Substance abuse		COR(95% CI)	AOR(95% CI)
	yes	No		
Age				
15-20	6	19	0.165 (0.051,0.534)	0.654 (0168,2.545)*
20-24	148	187	0.399 (0.155,1.024)	1.047 (0.338,3.241)*
25-29	21	11	1	1
Sex				
Female	15	211	0.303 (.115, 0.799)	0.358 (0.132, 0.970)
Male	160	6	1	1
Study year				
First year	13	53	0.173 (0.078,0.386)	0.189 (0.084, 0.424)
Second year	26	42	0.186 (0.090,0.386)	0.191 (0.092, 0.398)
Third year	48	57	0.291 (0.142,0.597)	0.296 (0.144, 0.609)
Fourth year	54	41	0.396 (0.182,0.864)	0.414 (0.189, 0.909)
Fifth and above	34	24	1	1

5.4 Summary of model variables

An exploratory factor analysis with varimaxrotations was performed on all the TPB to explore the patterns of interrelationships among the items and to determine the factors of the constructs underlying items.

The test for internal consistency was measured by Cronbach‘s alpha to determine the extent to which the items in each scale measure the same construct. Recommended criteria for scale reliability, the coefficients of all the direct and belief instruments scales were .70 or greater. The summary of the model variables descriptive analysis were described as follow:

5.4.1 Behavioral Beliefs Scale

The mean score for the indirect measure of attitude (BB) was 62% (SD = 2.945), means on the 6-item scale on a scale from 1 to 5. The indirect measure of attitude indicates a positive belief that quitting psychoactive substance use would lead to more favorableoutcomes (e.g. helps live longer) and those outcomes (e.g. Helps me live longer) would be good.

5.4.2 Attitude Scale

The direct measure of attitude had much less variance among the items. The mean for the direct measure, attitude scale was 67% (SD = 2.615), indicting the students had a positive attitude toward psychoactive substance cessation.

Factor analysis revealed one factor loading and the inter-item correlation coefficients for the scale‘s five items ranged from .0.474 to .490. Reliability analysis of the item-to-total correlations ranged from .551 to .564. The standardized Cronbach‘s alpha for the attitude scale was .735. A factor analysis on the behavioral belief items on a rotated component matrix revealed one factors, accounting for 42% of the variance. The Factor is loaded with four positive items (e.g. I will live longer) and two negative items (e.g. makes feel physically sick). The internal consistency of this scale was measured with a Cronbach‘s alpha score of .846 demonstrating a high level of reliability.

5.4.3 Normative Beliefs Scale

The mean score for the indirect measure of subjective norm (normative beliefs) was 63% (SD = 2.357). The indirect measure of subjective norm indicated a modest amount of

perceive social pressure and motivation to comply with this pressure to quit psychoactive substance.

5.4.4 Subjective Norm Scale

The mean for the direct measure, SN, was 61 % (SD = 2.447) on a scale of 1 to 5. The mean score indicates the students have fairly strong opinions about the influence from important others on their quitting psychoactive substance use. The Pearson correlation coefficient for the indirect and direct measures of subjective norm was .46 ($p < .001$), indicating a moderate and significant relationship.

SN loaded on one factor and the inter-item correlations for these three items ranged from .32 to .63 with an explained variance of 64%. The Cronbach‘s alpha for the subjective norm scale also indicated a high reliability coefficient of .72.

Item- to-total correlations ranged from .42 (partner influence) to .70 (friends influence). The Cronbach‘s alpha of reliability was high .84 with the 6 item scale.

5.4.5 Control Beliefs Scale

The mean score for the belief measure of PBC (CB) was 94% (SD = 1.357). Respondents reported having limited control over quitting and quitting psychoactive substance would be easier if they had support from family and friends.

5.4.6 Perceived Behavioral Control Scale

The mean score for the direct, PBC, measure was 68% (SD = 2.681) on a scale from 1 to 5, indicating that students perceive a moderate amount of control over quitting psychoactive substance. The Pearson correlation coefficient for the belief and direct measure of perceived control was .40 ($p < .001$), indicating a fair but significant relationship. This indicated that both the direct and belief scales of each variable are significantly and positively related to each other.The Cronbach‘s alpha for this scale was also high with a value of .792.

5.4.7 Intention to Quit Psychoactive Substance Scale

The mean score for the 3 item intention to quit psychoactive substance measure was 71.3% (SD = 2.531) on a scale from 1 to 5.

The data suggested a limited relationship between attitudes and intention but a relationship exists between the sense of control over psychoactive substance and intentions to quit. The correlation between the direct (r = .124) measures of attitude with intention revealed significant but weak relationships (p < .007). Whereas, perceived behavioral control had a large (r = .518) and significant relationship with intention. The Cronbach's alpha was .75.

Table 4Shows Summary of model variables

Constructs	Mean (in %) & SD	Items	scale	Interpretations
Behavioral Beliefs with their corresponding outcome evaluation towards quitting PASA	62% (2.945)	12	1-5	Indicates a positive belief that quitting psychoactive substance use would lead to more favorable outcomes (e.g. helps live longer) and those outcomes (e.g. Helps me live longer) would be good.
Attitude scale toward quitting PASA	67% (2.615)	3	1-5	Indicting that the students had a positive attitude toward psychoactive substance cessation.
Normative beliefs with their corresponding outcome evaluation towards quitting PASA	63% (2.357)	12	1-5	Indicates a modest amount of perceive social pressure and motivation to comply with this pressure to quit psychoactive substance.
Subjective norm towards quitting PASA	61% (2.447)	3	1-5	Indicates the students have fairly strong opinions about the influence from important others on their quitting psychoactive substance use.
Control beliefs with their corresponding perceived power on quitting PASA	94% (1.357)	12	1-5	Respondents reported having limited control over quitting and quitting psychoactive substance would be easier if they had support from family and friends.
Perceived control towards quitting PASA	68% (2.681)	3	1-5	Indicating that students perceive control over quitting psychoactive substance.
Intention to quit PASA	71% (2.531)	3	1-5	Indicating that students have positive intention to quit psychoactive substance use.

5.5 Associated factor for intention to quit psychoactive substance use

The Model explained 29.4% of the variance (R^2 of .294) of intention towards quitting psychoactive substance use. The adjusted R^2 value of .283indicates that about one third of the variability in intentions is predicted by the direct and indirect variables of BB, NB, CB, attitude, SN, and PBC.

Multiplelinear regression analysis determinedsignificantly associated factor with intention to quitpsychoactive substance use were direct measuresof attitude, subjective norm and perceived behavioral control.

Therefore, factors for intention to quit psychoactive substance abuse are elaborated in the following paragraph.

Attitude towards psychoactive substance use was a significant predictor of intention to use psychoactive substance using the standardized coefficient Beta value, [0.121 (0.35, .199), Pv = 0.006],indicating that for every unit of increase in attitude concerning quitting psychoactive substance use, a student was 0.121 (12.1%) times intend to quit.

Subjective norm were found to be a significant predictor of intention withPv = 0.032.Again using the standardized coefficient beta value [0.099, (0.014, 0.190)], it was determined that for every unit of increase in subjective norms concerning quitting psychoactive substance use a student is 0.099 (9%) times more intention to quit psychoactive substance use.

Again PBC was found to have a significant (Pv = 0.0001)of intentionto quit psychoactive substance use. The standardized coefficient beta value[0.512, (0.403,0.562)] was determined that for every unit of increase in PBC concerning quitting psychoactive substance use, a student was 0.512 (51%) times intend to quit psychoactive substance use.

Table 5Distribution of PredictingFactors for Intention towards Quitting Psychoactive Substance Abuseamong Arbaminch University Students Arbaminch, Ethiopia, April 2014.

Model		Standardized Coefficients	Sig.	95% Confidence Interval for B	
		Beta		Lower Bound	Upper Bound
	Attitude towards quitting psychoactive substance	.118	.006	.032	.195
	Subjective norm towards quitting psychoactive substance	.093	.032	.009	.183
	Perceived behavioral belief towards quitting psychoactive substance	.515	.000	.406	.564

CHAPTER SIX: DISCUSSION

In this University, Arbaminch, Ethiopia, significant proportion 175 (44.6%) of students were abusepsychoactive substance. This high prevalence was remained remarkably higher with national findings obtained from National Survey on Drug Use and Health, 20.2% (11). But it is slightly lower 48.1% than the report from undergraduate students in public Midwestern University (22).

The findings of this study revealed that the commonly abused psychoactive substance were alcohol 15.4%, khat 22.9%, and cigarette 1.1%. Apart the prevalence, this is in agreement with findings in secondary school of Kenya in 2009 khat 20.8%, but much lower prevalence of alcohol 42.9%, and cigarette were abused (14).

The low prevalence of alcohol abuse was obtained from the Problem drinking (two or more positive responses in CAGE) found in 22.1% of UK students, and slightly higher than study done in Bulgaria 13.6%(23). But it is by half lower prevalence than alcohol abuse 31.1% in university students in Ethiopia (24); this might be due to the reason that in this study only alcohol abusers were mentioned but alcohol used in combination with other was not mentioned.The finding of this study showed that the prevalence of khat 22.9% is in agreement with the findings khat abuse 22.3% in university students in Ethiopia(24).

The finding showed Psychoactive Substance abuse in males [AOR,95% CI; 2.79 (1.031, 7.555)] was almost three times more likelythan female respondent.This is higher thanfindingin freshmen university students female p.v 0.001 [AOR,95% CI; 0.24(0.15-0.37) when compared to male (25). But lower than finding in Mekele University males [AOR, 95% CI; 2.214 (1.071, 4.575)] were two times higher than female students (26).

The results in this study indicated that attitude, subjective norm, perceived behavioral control and their belief measures account for 29.45% of the variance in intention to quit psychoactive substance abuse. This finding is lower when compared with 41% found among college students which examined intention to quit drinking based on theory of planned behavior study(27). This difference might be due tothe reason suggested that the impact of the TPB variables may differ in different target population and situations (28). The result also corresponds with the results from studies predicting quitting intentions where the TPB accounted for an average of 30% of the variance in intentions (29).

Attitude towards quitting psychoactive substance use was a significant predictor of intention to quit psychoactive substance using the standardized coefficient Beta value, [0.121 (0.35, .199), Pv = 0.006], indicating that for every unit of increase in attitude concerning quitting psychoactive substance use, a student was 0.121 (12.1%) times intend to quit. The result ofattitude in this study was weak predictor of intention when compared to the finding in Oslo, Norway on quitting smoking revealed that attitude was significant and the standardized coefficient beta value (β = .51, pv< 0.001) was the stronger predictor of intention (23).This result also lowstandardized coefficient beta value than study in University of Florida, alcohol consumption among college students on game day, attitude was predicted with standardized coefficient beta value 0.39 (p < 0.001) (22).This difference might be due tothe reason suggested that the impact of the TPB variables may differ in different target population and situations (28).

Subjective norm were found to be a significant predictor of intention to quit with Pv = 0.032. Again using the standardized coefficient beta value [0.099, (0.014, 0.190)], it was determined that for every unit of increase in subjective norms concerning quitting psychoactive substance use a student is 0.099 (9%) times more intention to quit psychoactive substance use.The result of subjective norm in this study was slightly lower thanthe finding in Oslo, Norway on quitting smoking revealed that subjective normwas significant and the standardized coefficient beta value (β = 0.14, pv< 0.001) (23).Again this result also much lower standardized coefficient beta value than study in University of Florida attitude was predicted with standardized coefficient beta value 0.46 (p < 0.001 (30_22).This difference might be due tothe reason suggested that the impact of the TPB variables may differ in different target population and situations (28)

Again PBC was found to have a significant (Pv = 0.0001)of intentionto quit psychoactive substance use. The standardized coefficient beta value [0.512, (0.403,0.562)] was determined that for every unit of increase in PBC concerning quitting psychoactive substance use, a student was 0.512 (51%) times intend to quit psychoactive substance use.The result of PBC in this study was strong predictor of intention than the finding in Oslo, Norway on quitting smoking with standardized coefficient beta value (β = 0.14, pv< 0.001) (23).

LIMITATION

In addition to design limitation the study has the following limitations:

- Literatures using CAGE-AID was inadequate.
- Likert scale weaknesses for the belief measures (central tendency bias, acquiescense bias, social desirability bias and validity may be difficult to demonstrate).
- Individuals may fist change their behavior and then their beliefs/attitudes about it.
- Approximately two-third of the variance in intention was not explained by the measured variables therefore concerns related to the potential for influence by confounding variables should be consideration.
- The generalizability of this study is limited to this group of psychoactive substance users and the elicitation method to develop the indirect beliefs scale was normed to this population.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

Conclusion

The present study aimed at assessing the magnitude of students' psychoactive substance abuse and intention to stop. Accordingly, it has come up with the following conclusions.

To begin with, the study has identified that psychoactive substance abuse is a serious problem among undergraduate university students; it is associated positively with certain variables such as male participants andyear of study.

The results of this study support the use of the TPB in relation to university students' intentions to quit psychoactive substance over a 3 month period in that the theoretical components explained 29% (adjusted R^2) of the variance.PBC was the strongest predictor followed by attitude and subjective norm.

From this, it can be generally said that psychoactive substance abuse is a pressing issue for the university students and there was more agreement that they had control over and confident that they wanted to quit.

Recommendation

To Policy Makers

Policy makers should be put emphasis on the psychoactive substance.

To MOH

Treatment and rehabilitation center should be established at regional level.

Substance abuse should be included in the component of school counseling programs.

To Arbaminch University

To improve cessation the university must address perceived lack of control over quitting & limited confidence to control barriers to quitting psychoactive substance use.

Regulation concerning substance abuse should be set.

Arbaminch University should establish a pilot treatment and rehabilitation center within the campus.

To Researchers

Further research should be done on the behavioral conditions of substance abusers which increased the vulnerability to the initiation, continuation, of escalation of substance use.

Further research on factors that affect intention to stop should be done.

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Annexes

Annex I

Information sheet, consent form (English version)

i. Information sheet for self-Administer structure questions

JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE

***Title*:** Psychoactive substance abuse and intention to stop among students of Arbaminch University Ethiopia, 2013/14.

Background: students at institutions of higher education are at risk of substance abuse and it is one of current public health problem in our country and that affects particularly younger adults.

Objective: To assess the magnitude of psychoactive substance abuse and intention to stop among students of Arbaminch University.

Rationale and benefit of the study: Khat, cigarette and alcohol are well studied separately but other commonly abused substances and factors affecting cessation of abuse are not yet well addressed in our set up. Interventions focusing university students and in general morbidity, health and social problems from drug abuse is still underemphasized. The importance of this study is base line information in the designing of interventions focusing university students.

Study period, site and procedure: The study will be conducted from Dec1, 2013 –Apri, 2014 in Arbaminch University, Arbaminch, capital city of Gammogoffa , and 505 km from Addis Ababa, Ethiopia. Study procedure will be institutional based cross-sectional study design. Study subject will be selected by Simple Random Sampling (lottery) method.

Potential risk: Data will be collected by self-administer semi structured questionnaire and it will be taken 20 minute to fill the questionnaire. To maintain confidentiality name or any identity will not be written and the information will not be used other than this study. After filling out the self-administered semi structured questionnaire, it will be put into communal envelope. The participant will be involved in study up on her/his willingness and have the right to jump questions that will not wanted to answer and withdraw from the study at any time. Your refusal will not have had any impact on your subsequent life of education.

ii. Consent form for self-administer semi-structured questionnaire

JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE

Psychoactive substance abuse and intention to stop among students of Arbaminch University, Ethiopia, 2013/14.This study is coordinate by the college of Public Health and medical science, Jimma University. The study will be conducted through self-administered semi-structured questionnaire. This questionnaire is prepared to assess the magnitude of psychoactive substance abuse (khat, Alcohol, Cigarette, etc) and intention to stop among Arbaminch University students.

The importance of this study contributes to baseline information to examine strategies for intervention towards preventions of psychoactive substance abuse and to design a rehabilitation and treatment program on psychoactive substance abuse focusing on university students. It is also assumed to be an input for awareness of policy-makers. In order to fulfill the study, your participation is very important. You will not be harm to the extent that confidentiality will be kept and it will take you 20 minutes to complete the whole questionnaire. To keep secrecy you are selected randomly through lottery method, your name is not going to be registered and after completion of the questionnaire will be placed into communal envelope.

The information you give will be used only for the purpose of this study. It is up on your willingness to fill out the questionnaire; you have the right to participate, or not to participate and to interrupt or not to answer some questions if any. Your refusal will not have any impact up on you for the time being or in future. Would you agree to participate in the study?

Disagree ☐ Agree ☐

Questionnaire Identification number_____

Result of Questionnaire:

1. Completed ☐ 3. Partially completed ☐

2. Refused ☐ 4. Other (specify) ☐

Data collector name_____ Signature _____

Date of Questionnaire filled _____

Annex –II

Questionnaire

This questionnaire is prepared for collecting information on psychoactive substance abuse and their intention to quit among Arbaminch UniversityEthiopia, 2013/14.

Part I. Socio Economic and demographic variables of parents

1.1 Age _____

1.2 Sex male ☐ Female ☐

1.3 Religion

a. Orthodox
b. Protestant
c. Catholic
d. Muslim
e. Other (specify)_____

1.4 Ethnicity

a. Oromo
b. Amhara
c. Gammo
d. Goffa
e. Tgrea
f. Other (specify)_____

1.5 Monthly pocket money in birr

_____

1.6 Field of study

_____

1.7 Study year

a. 1st year
b. 2nd year
c. 3rd year
d. 4th year
e. 5th year
f. 6th year

Part two: history of substance use

1.1. Have you ever seen any of the listed psychoactive substance? Put a tick mark (√).

1) Khat ☐
2) Cigarette ☐
3) Alcohol ☐
4) Heroin ☐
5) Cannabis ☐
6) Cocaine ☐
7) Diazepam ☐
8) Others (specify)_____

1.2. Have you ever used any of the above psychoactive substance listed in Q 1.1?

1) Yes
2) No

1.3. If yes for question No 1.2 specify----------

1.4. If your answer for question number 1.2 is yes, for how long do you take?

a. > 1yr
b. 3-12 month
c. < 3 month

1.5. If your answer for question number 1.2 is yes, for what purpose do you take?---------

Elicitation study

Please take a few minutes to list your thoughts about the following questions.

1. What do you believe are the advantage of using psychoactive substance?
2. What do you believe are the disadvantage of using psychoactive substance?
3. Is there anything else you associate with your own views about psychoactive substance abuse?
4. Are there any individual or groups who would approve of your psychoactive substance use?
5. Are there any individual or groups who would disapprove of your psychoactive substance use?
6. Is there anything else you associate with others people's views about psychoactive substance use?
7. What factors or circumstances would enable you to use psychoactive substance?
8. What factors or circumstances would make it difficult or impossible for you to use psychoactive substance?
9. Are there any other issues that come to mind when you think about psychoactive substance?

Part III

Answer All Questions as Honestly as Possible; Circle the Number that Most Accurately Represents Your Answer.

1. A Questionnaire that Includes a Measure of Behavioral Belief towardsquitting Psychoactive Substance use Circle the number that **best describes your beliefs** on unlikely or likely each result will happen if you were to quit psychoactive substance use now and for the next 3 months.

1. Quitting psychoactive substance use …

A. Uses to live longer…

Strongly agree	disagree	neutral	agree	strongly agree
1	2	3	4	5

B. Helps to have more time in that could use for doing other things…

Strongly agree	disagree	neutral	agree	strongly agree
1	2	3	4	5

C. Helps fill better mentally or relieve stress…

Strongly agree	disagree	neutral	agree	strongly agree
1	2	3	4	5

D. Makes feel physically sick

Strongly agree	disagree	neutral	agree	strongly agree
1	2	3	4	5

E. Save money

Strongly agree	disagree	neutral	agree	strongly agree
1	2	3	4	5

F. Makes feel more anxious, irritable, or angry

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

2. A Questionnaire that Includes a Measure of Outcome Evaluations towardsquitting Psychoactive Substance use

Under the answer below, **circle** the number that best describes **how bad or good things** would be **if you were to quit psychoactive substance use.**

A. Helps me live longer…

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

B. Save time I could use for other things…

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

C. I would feel better mentally or relieve my stress

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

D. I would feel physically sick from quitting…

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

E. Saves me money …

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

F. Feel me more anxious, irritable, or angry.

Strongly disagree	disagree	neutral	agree	strongly agree
1	**2**	**3**	**4**	**5**

3. A Questionnaire that Includes a Measure of Normative Beliefs towardsquitting Psychoactive Substance Abuse

Some **people you know** may have different ideas about **whether you should or should not quit psychoactive substance use**. After each person, **circle the number** under the words that best describes **what you believe** each person thinks you should or should not do about Quitting psychoactive substance use.

1. My family members think that I should quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

2. My friends think that I should quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

3. People I learn with think that I should quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

4. My preacher or other religious advisor thinks that I should quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

5. People who sell psychoactive substance think that Ishould quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

6. My instructors think that I should quit psychoactive substance use in the next 3 months.

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

4. A Questionnaire that Includes a Measure of Motivation to comply towardsquittingPsychoactive Substance use

How **strongly are you willing to do**what each of the people in question **3** thinks you should do about psychoactive substance use?

1. I respect what **my family members**think to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

2. I respect what **my friends**think to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

3. I respect what **people i learn**with think to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

4. I respect what **my preacher or other religious advisor** thinks to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

5. I respect what **people who sell psychoactive substance**think to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

6. I respect what **my instructors**think to quit my substance use…

Strongly disagree	disagree	neutral	agree	strongly agree
1	2	3	4	5

5. A Questionnaire that Includes a Measure of Control Beliefs towardsquitting Psychoactive Substance use

Sometimes there are **conditions/** things that make **quitting psychoactive substance use easy or difficult**. **Circle** the number under each condition that best describes **which of these conditions are present for you.**

a. I reduce stress with psychoactive substance use.

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

b. I have support from family and friends to quit.

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

c. There are limits or restrictions on using psychoactive substance where I live

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

d. Others use around me support to quit.

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

e. I feel pressure from others to quit

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

f. The cost of psychoactive substance

Strongly disagree	disagree	unsure	agree	strongly agree
1	**2**	**3**	**4**	**5**

6. A Questionnaire that Includes a Measure of Influence of Control Beliefs towardsPsychoactive Substance Abuse

Now for the same conditions as in question 5, circle the number that best describes **how unlikely or likely it would be to quit psychoactive substance abuse if the condition was present.**

a. When I have activities to reduce my stress, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

b. When I have support from family and friends, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

c. Having limits or restrictions on psychoactive substance use, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

d. Not being around Other's use, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

e. When I do not feel pressure to quit from others, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

f. With the high cost of psychoactive substance, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

7. Questionnaire that Includes a Measure of Influence of Control Beliefs towardsPsychoactive Substance Abuse

Now for the same conditions as in question 5, circle the number that best describes **how unlikely or likely it would be to quit psychoactive substance abuse if the condition was present.**

g. When I have activities to reduce my stress, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

h. When I have support from family and friends, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

i. Having limits or restrictions on psychoactive substance use, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

j. Not being around Other's use, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

k. When I do not feel pressureto quit from others, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

l. With the high cost of psychoactive substance, I am

Less likely	unlikely	unsure	likely	more likely
1	2	3	4	5

to quit psychoactive substance use

8. A Questionnaire that Includes a Measure of Attitudes towardsPsychoactive Substance use

1. Quitting Psychoactive substance use is …

Harmful	1	2	3	4	5	Not harmful

2. Quitting Psychoactive substance use is …

Good	1	2	3	4	5	Bad

3. Quitting Psychoactive substance use is …

Unnecessary	1	2	3	4	5	Necessary

9. A Questionnaire that Includes a Measure of Subjective norms towardsPsychoactive Substance use

1. Most people who are important to me think that quitting psychoactive substance use is…

Good 1 2 3 4 5 Bad

2. I feel pressure from (parents/friends/siblings) to…

Use psychoactive substance 1 2 3 4 5 Not to use

3. People who are important to me want me NOT to use psychoactive substance

Completely agree 1 2 3 4 5 completely disagree

10. A Questionnaire that Includes a Measure of Perceive Behavioral Control towardsPsychoactive Substance use

1. Psychoactive substance use is a behavior that I am in control of.

Completely agree 1 2 3 4 5 completely disagree

2. For me not to use psychoactive substance is

Very easy 1 2 3 4 5 very difficult

3. If I wanted to, I could never use psychoactive substance again.

Extremely likely 1 2 3 4 5 extremely unlikely

11. A Questionnaire that Includes a Measure of Intention towardsquittingPsychoactive Substance use

1. I intend to quit psychoactive substance use at all in the next 3 month?

Completely agree 1 2 3 4 5 completely disagree

2. How often do you intend to quit psychoactive substance use in the next 3 month?

Extremely frequently 1 2 3 4 5 extremely infrequently

3. I want toquit psychoactive substance use in the next 3 month?

Strongly disagree 1 2 3 4 5 strongly agree

CAGE-AID: CAGE Questions Adapted to Include Psychoactive substance Use

1. Have you ever felt you ought to cut down on your psychoactive substance use?
    A. Yes
    B. No
2. Have people annoyed you by criticizing you are using psychoactive substance?
    A. Yes
    B. No
3. Have you felt bad or guilty about your psychoactive substance use?
    A. Yes
    B. No
4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?
    A. Yes
    B. No