



**Addis Ababa University
College of Health Sciences
School of Public Health**

Psychoactive Substance Abuse and Intention to Stop Among Students of Mekelle University, Ethiopia.

BY

Kidan Abrha Teferi (B.Sc in public health)

**A Thesis Submitted to the School of Graduate Studies of Addis
Ababa University, School of Public Health in Partial Fulfillment of
the Requirement for the Master's Degree of Public Health in
Reproductive Health**

**May 2011
Addis Ababa, Ethiopia**



**Addis Ababa University
College of Health Sciences
School of Public Health**

Psychoactive Substances Abuse and Intention to Stop Among Students of Mekelle University, Ethiopia.

BY: Kidan Abrha Teferi (B.Sc, public health)

Advisor: Professor Damen H/Mariam (MD, MPH, PHD)

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University, School of Public Health in Partial Fulfillment of the Requirement for the Master's Degree of Public Health in Reproductive Health

**May 2011
Addis Ababa, Ethiopia**

ADDIS ABABA UNIVERSITY
School of Graduate Studies

**Psychoactive Substances Abuse and
Intention to Stop Among Students of
Mekelle University, Ethiopia.**

BY

Kidan Abrha Teferi

Dr. Getnet Mitike
Chairman, SPH

Prof. Damen H/Mariam
Advisor

Dr. Mitike Molla
Internal Examiner

Dr. Negussie Deyessa
External Examiner

ACKNOWLEDGEMENTS

First of all, thanks to the Almighty GOD for giving me the patience to start and finalize this work. Thank be to the mother of GOD, Saint Holly Virgin Mary, and His saints too, for helping me during those remarkable times.

Secondly, I would like to extend my sincere appreciation to my advisor, Professor Damen Hailemariam, for his detail comment, precious guidance, and valuable advice and for his dedication starting from the proposal to the final write up of the paper. I am also indebted to the School of Public Health for financing this research and facilitating important conditions and materials. Moreover, I would like to extend my gratitude to Dr. Ababi Zergaw for his constructive reviewing of my proposal; Dr. Negussie Deyessa for his detail comment and Dr. Mitike Molla for her valuable comments of the final thesis.

Thirdly, I want to give a special gratitude to all respondents who generously fill the self-administered questionnaire (pre-test as well as final) and willingly respond to the semi-structured in depth interview; without them this study would have been unthinkable. My appreciation also goes to Mekelle University, data collectors, supervisors, my classmates, staff members of public health department of Mekelle University. Moreover, I would like to express my thank Mr. Tesfay Messele for editing my final thesis.

Furthermore, I would like to acknowledge Deputy Commander Tsegay W/hiwot the head of Federal Police Crime Prevention Sector Counter Narcotic Division, Mr. Tesfay, staff of DACA, Dr. Addis and librarians of Amanuel Specialized Hospital for their cooperation in providing me data and materials.

Last but not least, I would like to extend my gratitude to my husband Aregawi, my daughters and sons Zefikre, Zeement, Zetesfa and Zetsnat for their moral support during the study.

TABLE OF CONTENTS

Contents	Page
ACKNOWLEDGEMENTS	I
TABLE OF CONTENTS	II
LIST OF TABLES	IV
LIST OF FIGURES	V
ACRONYMS	VI
ABSTRACT	VII
1. INTRODUCTION	1
1.1 BACKGROUND	1
1.2 STATEMENT OF THE PROBLEM	2
1.3 RATIONALE OF THE STUDY	2
1.4 SIGNIFICANT OF THE STUDY	2
1.5 EXPECTED OUTCOME	3
2. LITERATURE REVIEW	4
2.1 SUBSTANCE ABUSE	4
2.2 FACTORS OF SUBSTANCE ABUSE	6
2.3 COMMON AND UNIQUE FEATURES OF SUBSTANCE ABUSE	7
3. OBJECTIVES	9
3.1 GENERAL OBJECTIVE	9
3.2 SPECIFIC OBJECTIVES	9
4. METHODOLOGY	10
4.1 STUDY AREA AND PERIOD	10
4.2 STUDY DESIGN	10
4.3 SOURCE AND STUDY POPULATION	10
4.4 INCLUSION AND EXCLUSION CRITERIA	10
4.5 SAMPLE SIZE DETERMINATION	11
4.6 SAMPLING PROCEDURE	11
4.7 DATA COLLECTION INSTRUMENTS	14
4.8 DATA COLLECTORS	14
4.9 DATA QUALITY MANAGEMENT	14
4.10 DATA ANALYSIS AND PROCESSING	15
4.11 STUDY VARIABLES	15

4.12 OPERATIONAL DEFINITIONS	16
4.13 MEASUREMENT USED TO MEASURE SUBSTANCES ABUSE.....	17
4.14 ETHICAL CONSIDERATION	17
4.15 DISSEMINATION OF THE RESULT	18
5. RESULT	19
5.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS.....	19
5.2 THE KNOWLEDGE OF ABUSED SUBSTANCES AMONG MEKELLE UNIVERSITY STUDENTS.....	21
5.3 MAGNITUDE OF SUBSTANCE USE AMONG STUDENTS OF MEKELLE UNIVERSITY	22
5.4 CURRENT USERS OF SPECIFIC SUBSTANCES AMONG THE EVERUSERS	23
5.5 NUMBER OF DRUGS USED IN THEIR LIFE TIME	24
5.6 REASONS TO START ABUSED SUBSTANCES	25
5.7 THE TIME IN WHICH STUDENTS STARTED TO USE ABUSED SUBSTANCES.	26
5.8 MAGNITUDE OF SUBSTANCE ABUSE AMONG MEKELLE UNIVERSITY STUDENTS	26
5.9 DISTRIBUTION OF ABUSED PARTICIPANTS AS PER THEIR NEED TO BE TREATED & HELP TO STOP .	27
5.10 ASSOCIATED FACTORS FOR SUBSTANCES ABUSE	29
5.11 PROPORTION OF ABUSERS ACCORDING TO THEIR INTENTION TO STOP	31
5.12 FACTORS ASSOCIATED WITH INTENTION TO STOP TO ABUSE SUBSTANCES	31
6. DISCUSSION	32
7. STRENGTHS AND LIMITATIONS OF THE STUDY	36
8. CONCLUSION	37
9. RECOMMENDATIONS	38
10. REFERENCES	39
Annex-I: Information Sheet, Consent Form & Questionnaire (English Version).....	43
Annex-II: Information Sheet, Consent Form & Questionnaire (Amharic Version)	50
Annex-III: Information Sheet, Consent & Interview Questionnaire (English Version)	57
Annex-IV: Information Sheet, Consent & Interview Questionnaire (Amharic Version)	60
Annex V: Declaration	63

LIST OF TABLES

Content	Page
TABLE 1: NAME OF COLLEGE & DEPARTMENT, NUMBER OF MU STUDENTS IN BATCH AND SEX	13
TABLE 2: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF MEKELLE UNIVERSITY STUDENTS (N=601), TIGRAY, ETHIOPIA, APRIL, 2011.....	20
TABLE 3: SUBSTANCES EVER SEEN BY MEKELLE UNIVERSITY STUDENTS (N=601), TIGRAY, ETHIOPIA, APRIL, 2011.....	21
TABLE 4: PREVALENCE OF SUBSTANCE USERS AMONG MEKELLE UNIVERSITY STUDENTS (N=601) TIGRAY, ETHIOPIA, APRIL 2011.....	22
TABLE 5: CURRENT SPECIFIC SUBSTANCES USERS AMONG EVERUSERS OF MEKELLE UNIVERSITY STUDENTS, TIGRAY ETHIOPIA APRIL, 2011	23
TABLE 6: PREVALENCE OF SUBSTANCE ABUSE AMONG MEKELLE UNIVERSITY STUDENTS (N=601), TIGRAY, ETHIOPIA, APRIL, 2011.....	27
TABLE 7: ASSOCIATION OF FACTORS TOWARDS SUBSTANCES ABUSE AMONG MEKELLE UNIVERSITY STUDENTS (N=601), TIGRAY, ETHIOPIA, APRIL, 2011.	30

LIST OF FIGURES

Content	Page
FIGURE 1: CONCEPTUAL FRAMEWORK OF PSYCOACTIVE SUBSTANCE ABUSE AND INTENTION TO STOP	8
FIGURE 2: SCHEMATIC PRESENTATION OF SAMPLING PROCEDURE.....	12
FIGURE 3: PERCENTAGE OF NUMBER OF DRUGS USED IN LIFETIME AMONG MEKLLE UNIVERSITY STUDENTS (N=497) TIGRAY, ETHIOPIA, APRIL 2011	24
FIGURE 4: REASONS TO START SUBSTANCES TO USE AMONG MEKLLE UNIVERSITY STUDENTS (N=497) TIGRAY, ETHIOPIA, APRIL 2011	25
FIGURE 5: TIME OF INITIATION TO USE ABUSED SUBSTANCES AMONG MEKLLE UNIVERSITY STUDENTS (N=497) TIGRAY, ETHIOPIA, APRIL 2011	26
FIGURE 6: THE DISTRIBUTION OF SUBSTANCE ABUSERS AS PER THEIR NEED TO BE TREATED AND HELPED TO CUT AMONG MEKLLE UNIVERSITY STUDENTS (N=121) TIGRAY, ETHIOPIA, APRIL 2011	28
FIGURE 7: PERCENTAGE OF INTENTION TO STOP SUBSTANCE ABUSE AMONG MEKLLE UNIVERSITY STUDENTS (N=121) TIGRAY, ETHIOPIA, APRIL 2011	31

ACRONYMS

AAU	Addis Ababa University
AOR	Adjusted Odds Ratio
CAGE-AID	Cut down, Annoyed, Guilty, Eye-opener- Adapted to Include Drug Use
CAS	College Alcohol and Smoker
CBE	College of Business and Economics
CDANR	College of Dryland Agriculture and Natural Resources
CI	Confidence Interval
CLG	College of Law and Governance
CNCS	College of Natural and Computational Sciences
DACA	Drug Administration and Control Authority of Ethiopia
EiT-M	Ethiopian Institute of Technology-Mekelle
LSD	Lysergic Acid Diethyl amine
MU	Mekelle University
OR	Odds Ratio
SPSS	Statistical Package for Social Sciences
SRS	Simple Random Sampling
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

ABSTRACT

Background: Students of higher educational institution are at higher risk of substance abuse. Currently, substance abuse is one of the most burning public health problems in Ethiopia. Again, the increasing rate of university students who take drugs, 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 real extent and magnitude of the drug abuse is not yet properly explored. Only little research is done so far.

Objective: This study aims at assessing the magnitude of Mekelle University students' practice of psychoactive substance abuse and their intention to stop.

Methodology: Across sectional study design using mixed research method was employed (Quantitative, qualitative) during April 2011. After stratifying for batch and sex, simple random sampling (lottery) was used to select 662 students. Snowball sampling technique also was conducted. Data were gathered by anonymous self administer questionnaire. EPI Info version 3.5.1 and SPSS version 16.0 were used for cleaning and analysis. Binary and multiple logistic regressions were used to describe and associate the relevant variables. OpenCode 3.6 was used to manage qualitative data. Finally; thematic analysis was used to analyze the data. CAGE-AID was used to measure substance abuse.

Result: The response rate was 90.8%. Most 68% of the respondents were male. The magnitude of substance abuse was [95%CI: 20.1 (17.07, 23.48)]. The commonly abused substances were alcohol [95%CI: 16.6 (13.82, 19.78)] followed by khat 14.8(12.14-17.82) and cigarette and cannabis each were abused [95%CI: 8.8 (6.743, 11.29)]. It has also been identified that substances abuse in males [AOR, 95% CI; 2.214 (1.071, 4.575)] were two times higher than female respondents. In addition, those who started to abuse substance through peer pressure [AOR, 95% CI 14.931 (6.824, 32.668)] were 15 times more likely to abuse substances as compared to those who did not. In contrast, the study showed that students from Law and Governance [AOR, 95% CI .127 (.048, .335)] was less likely to abuse substances. Furthermore, proportion of intention to stop among abusers was 49.6%.

Conclusion and Recommendation: From this finding, it is possible to conclude that, substance abuse is an urgent problem among undergraduate university students; however, their intention to stop is high. Sex, religion, field of study, reason to start and initiation time are statistically significant factors. Generally, from this study suggests that further work is urgently needed; to design suitable policies, culturally and psychologically appropriate intervention packages.

Key words: Psychoactive substance abuse, Intention to stop, Mekelle University.

1. INTRODUCTION

1.1 Background

Substance abuse is the use of illicit drugs or the abuse of prescription or over-the-counter drugs for purposes other than those for which they are indicated or in a manner or in quantities other than directed [1].. Human beings have always had a desire to eat or drink substances that make them feel relaxed, stimulated or euphoric. It is as old as mankind. Humans have used drugs of one sort or another for thousands of years. Wine was used at least from the time of the early Egyptians, narcotics from 4000 B.C. and medicinal use of marijuana has been dated to 2737 BC in China [2].

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 [3]. The trend is increasing as period goes. The study across 119 U.S. colleges which included randomly selected undergraduates, showed that abuse marijuana in the past 30 days was reported 12.9% of the students in 1993 while 15.7% of their counterparts reported abuse of same substance in 1997 and 22% in 1999 [3].

In America, 49.4% of all full-time students abused substance each month at colleges and universities. Within 12 years prescription and/or illegal substance abuse and daily users of marijuana became more than double (1.9% to 4.0%) [5]. Cocaine and heroin also went up from 5.4% to 8.2% [5].

The study conducted among Medical Students at a Nigerian University showed that alcohol 60%, minor tranquilizers 48%, tobacco 35%, narcotics particularly codeine 29% and cannabis 11% were most commonly abused substances [6].

The reviewed report found that the most frequent abused substances in Ethiopia are alcohol and khat followed by cannabis and solvents [5]. Hard drugs like heroin and cocaine are also consumed. Students and staff of higher institutions are considered being at high risk of substance abuse [5].

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 toll 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 drug abuse threatens not only the present well being of university students, but also the future capacity of our nation to maintain its leadership in the fiercely competitive global economy [3].

Illegal drugs are not the only substances that can be abused. Alcohol, prescription and over-the-counter medications, inhalants and solvents, and even coffee and cigarettes, can all be abused to harmful excess [1].

1.2 Statement of the Problem

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 substance abuse by young people is a serious health and social problem. Students are among the high-risk population of substance abusers. If young people increasingly take drug, they are susceptible to serious health problem; their childhood will be meaningless; this practice leaves them little chance to have a healthy lifestyle in the future [4].

1.3 Rationale of the study

Even though khat, cigarette and alcohol use are well studied separately, other commonly abused substances (cannabis, cocaine, heroin and other illicit drugs) by 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 students.

1.4 Significant of the Study

This study is important as baseline information to examine strategies for intervention towards preventions of substances 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.

1.5 Expected Outcome

The expected outcome of this study will increase the focus on control of abused substance. It will also be directed towards magnitude reduction and prevention of harm to substance abusers and to establish pilot substance abuse-free campuses.

2. LITERATURE REVIEW

2.1 Substance 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 illegal drugs are consumed in industrialized nations, drug 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 illicit drugs 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 marijuana 16.5%, nonmedical prescription-type drugs 5.9%, hallucinogens 1.7 % and cocaine 1.5 %. [7].

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].

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 drugs 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 illegal drug than other young Europeans (36% vs 16%). The most popular drug was cannabis (35% in lifetime; 16% in the previous month), which 52% was said to be very easy or fairly easy to obtain [8].

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,

compared to 13% and 22% of non- binge drinkers [4]. According to the 1999 College Alcohol Survey, more than 90% of students who used marijuana in the past 30 days used other illicit drugs, smoked cigarettes, and binge drank. Eighty-seven percent of students who used any other illicit drug in the past 30 days used another substance or binge drank [4].

As pointed out by similar reviewed report, students' who are lifetime users of marijuana increased from 23% to 30% and other illicit drugs increased from 11% to 14% in 1993 to 2001. The report also found that the percentage of college students using any illicit drug in their lifetime increased from 30.6 to 36.6 between 1993 and 2005 [4].

In 2005-2006 young adults aged 18 to 25 were reported be the highest rate of lifetime users of marijuana (28.0 percent). Vermont had the highest rates of lifetime (41.9%) and current (28.3%) marijuana users among persons aged 18 to 25 years. From 2005-2006, use of illicit drugs in Washington increased from 8.5 to 10.0 percent [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 %) [10].

Increase in drug taking among young people incorporates all levels of social relations. What began as the use of drugs in African traditional society for social relations changed over time into a problem of dependence and abuse and is of a great concern [11].

The study conducted on Kenyan secondary school revealed that majority of the respondents (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 [12]. It is readily available and it is consumed mainly in pubs and other entertainment centres, which have features students crave. Besides, it is more acceptable in the society compared to other types of drugs. Moreover, it can easily be sneaked into school without detection. Also, most beer commercials have very attractive scenes [12]. The study found out that the main reason for drug abuse was peer pressure and the common symptoms indicated that students who abuse drugs 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 [12].

Moreover, the study conducted among 479 medical and paramedical students Boarding College in North West Ethiopia by an anonymous self-administered questionnaire revealed that the prevalence of current use of alcohol, cigarettes, khat and tranquillizers were 31.1%, 26.3%, 22.3% and 7.7%, respectively [13].

A report based on review of both qualitative and quantitative studies revealed that students and staff of institution of higher education of Ethiopia are at high risk of substance abuse [4]. Thirty-one percent of students of college of medical sciences in northwestern Ethiopia were current alcohol users followed by 26.3 and 23.3% current cigarette smokers and khat chewers respectively [5]. 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 functions [5].

The most frequently used mood altering substances are cocaine, heroin, morphine, pethidine, barbiturates, amphetamine, alcohol, marijuana, minor tranquilizers particularly codeine, sleeping pills and nicotine. Abused drugs can be classified into five categories namely: stimulants (e.g. cocaine, nicotine and amphetamines), hallucinogens (e.g. lysergic diethyl amide), narcotics (e.g. cigarettes), tobacco and psychotropic (e.g. antidepressants and antipsychotic drugs) and there are social drugs [5] in Ethiopia such as khat and alcohol. In addition there are not included in the scheduled drugs [8, 15].

2.2 Factors of Substance Abuse

Different studies have revealed that there are various factors for students to abuse substances. The factors of drug taking generally have been regarded as determined by a combination of the peculiar properties of the drug, characteristics of the user and the nature of the person's

environment. Some of these reasons include easy availability of drugs, peer group pressure, age factors, parental influence and availability of cash [12,16, 17].

2.3 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, and that they produce tolerance and withdrawal syndrome, and 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 drug abuse. At the same time, broad spectrum of the world community has demonstrated intense concern over the problem [12, 18].

Ethiopia signed in three international drug conventions [20, 21, 22]. 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 seized in the past five years [19]. In article 38 of 1961 convention on narcotic drugs, the suggested measures against the abused drugs are given special attention to prevention of abuse of drugs 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 [20].

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 other than khat, alcohol and cigarette in Ethiopia and that the interventions are underemphasized although Ethiopia signed in the three conventions since 1961. So, this study is designed to bridge the fore mentioned gaps.

Conceptual Framework

Conceptual framework on psychoactive substance abuse and intention to stop is illustrated as follows:

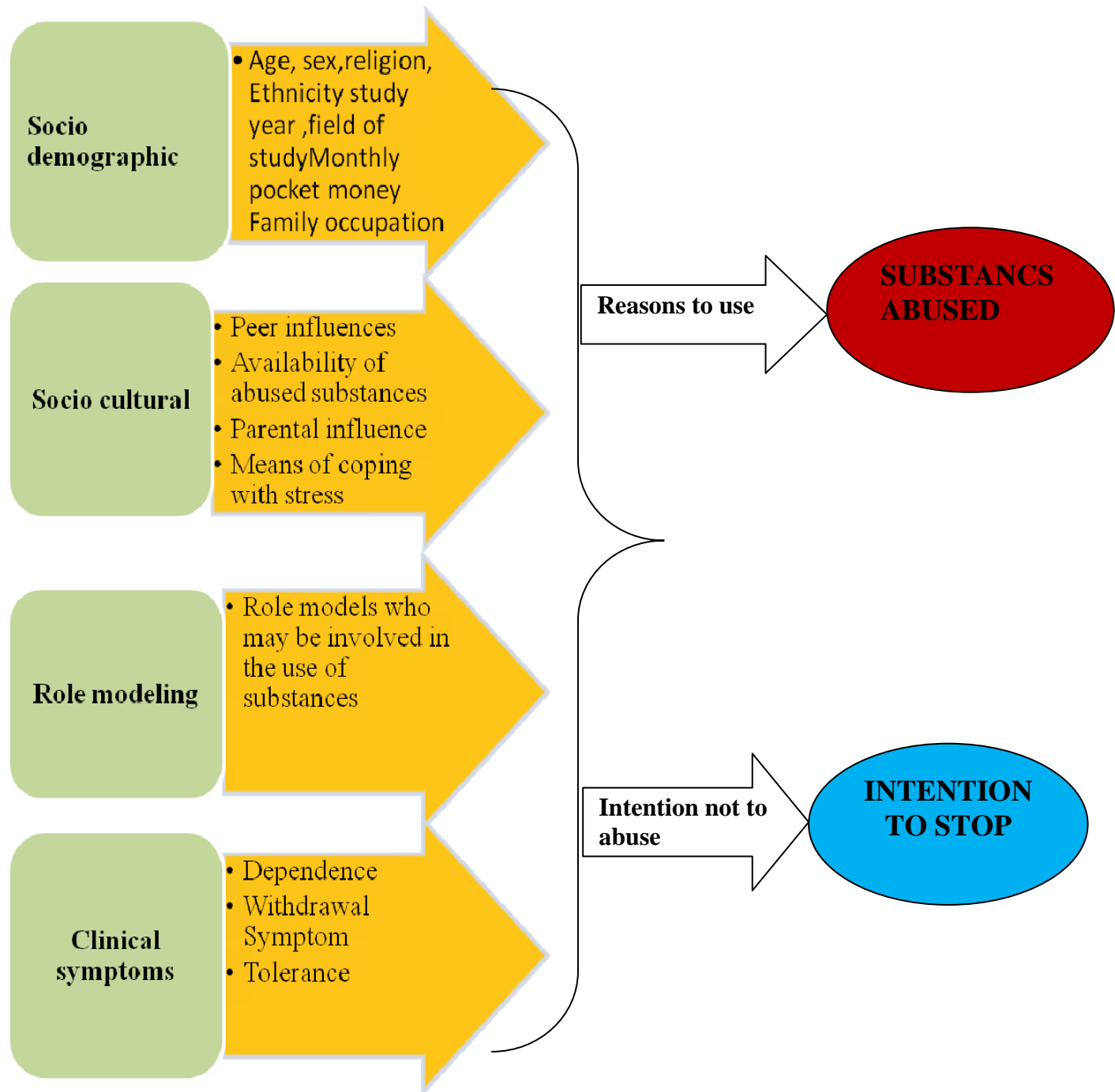


Figure 1: Conceptual Framework of psychoactive substance abuse and intention to stop

3. OBJECTIVES

3.1 General objective

- To assess the magnitude of psychoactive substance abuse and intention to stop among students of Mekelle University.

3.2 Specific Objectives

- To assess the magnitude of substance abuse among students in Mekelle University.
- To identify types of drugs abused among students in Mekelle University.
- To identify factors that contributes to substance abuse among students of Mekelle University.
- To assess factors that affect intention to stop substance abuse among students of Mekelle University.

4. METHODOLOGY

4.1 Study Area and Period

The study was conducted in Mekelle University, which is located in Mekelle, the capital city of Tigray region, in Northern Ethiopia, at a distance of 783 kilometers from the Ethiopian capital city, Addis Ababa in April 2011. It has three campuses within Mekelle: Endayesus campus which consists of four colleges (Dryland Agriculture and Natural Resources, Natural and Computational Sciences, Veterinary Medicine and Ethiopian Institute of Technology-Mekelle), Adi Haki campus which comprises three colleges (Law and Governance, Social Science and Languages, Business and Economics) and Ayder campus that consists of one college (Health Sciences). Within all the campuses, there are forty-one departments and a total of 15,001 regular undergraduate students. There is no treatment and rehabilitation center and peer group counseling within the campus.

4.2 Study Design

The study was institution based cross-sectional study design using mixed research methods (Quantitative, qualitative).

4.3 Source and Study Population

Source population was students of Mekelle University. Whereas, **study population** was only regular undergraduate Mekelle University students who enrolled during study period. The reason is that postgraduate, extension and distance students were not found at the same time with the regular undergraduate students during data collection.

4.4 Inclusion and Exclusion Criteria

Inclusion Criteria: Regular undergraduate Mekelle University students willing to participate in the study.

Exclusion Criteria: Regular undergraduate Mekelle University students out of the campus for practical attachment during the study period and those who are disabled.

4.5 Sample Size Determination

Sample size was determined using Epi-info statistical software. The following assumptions were considered to calculate. Depending on the previous study, the proportion of Khat chewing was higher than smoking, that is, 26.7 % [23]. So as to increase sample size and to minimize variability, design effect (2) was employed (Because the sampling procedure comprised two sampling techniques: SRS and stratified sampling). The sample size for quantitative survey was calculated using the following single proportion formula:

$$n = \frac{Z_{\alpha/2}^2 p(1-p)}{d^2}$$

Where:

- n= Sample size
- P= Proportion of substance abuse rate among university students=26.7%
- Z=Percentiles of the standard normal distribution corresponding to 95 % confidence level assumption
- α =Level of significance=0.05
- d=Margin of error=0.05
- $z_{\alpha/2}$ =Coefficient at level of significance=1.96
- design effect=2 due to two sampling techniques to minimize variability
- Non response rate=10%=30

The determined sample size was 301 and to compute non-response rate 10% of the sample size was added; this gave a total of 331 and multiplied by 2 (design effect to increase sample size) to give a total sample of 662 students.

4.6 Sampling Procedure

Multistage sampling technique was used to select study subjects from the entire student currently enrolled in Mekelle University. All colleges were included purposively in order to compare between the colleges. Out of forty-one departments of eight colleges, twenty were selected by using SRS (lottery method). The selected departments were stratified by batch and sex. After proportionally allocated to size, the actual data were collected from respondents selected by using simple random sampling from each sex. Snowball sampling technique was conducted by

searching the index case and by continuing until information was saturated for the qualitative part.

Schematic Presentation of Sampling Procedure

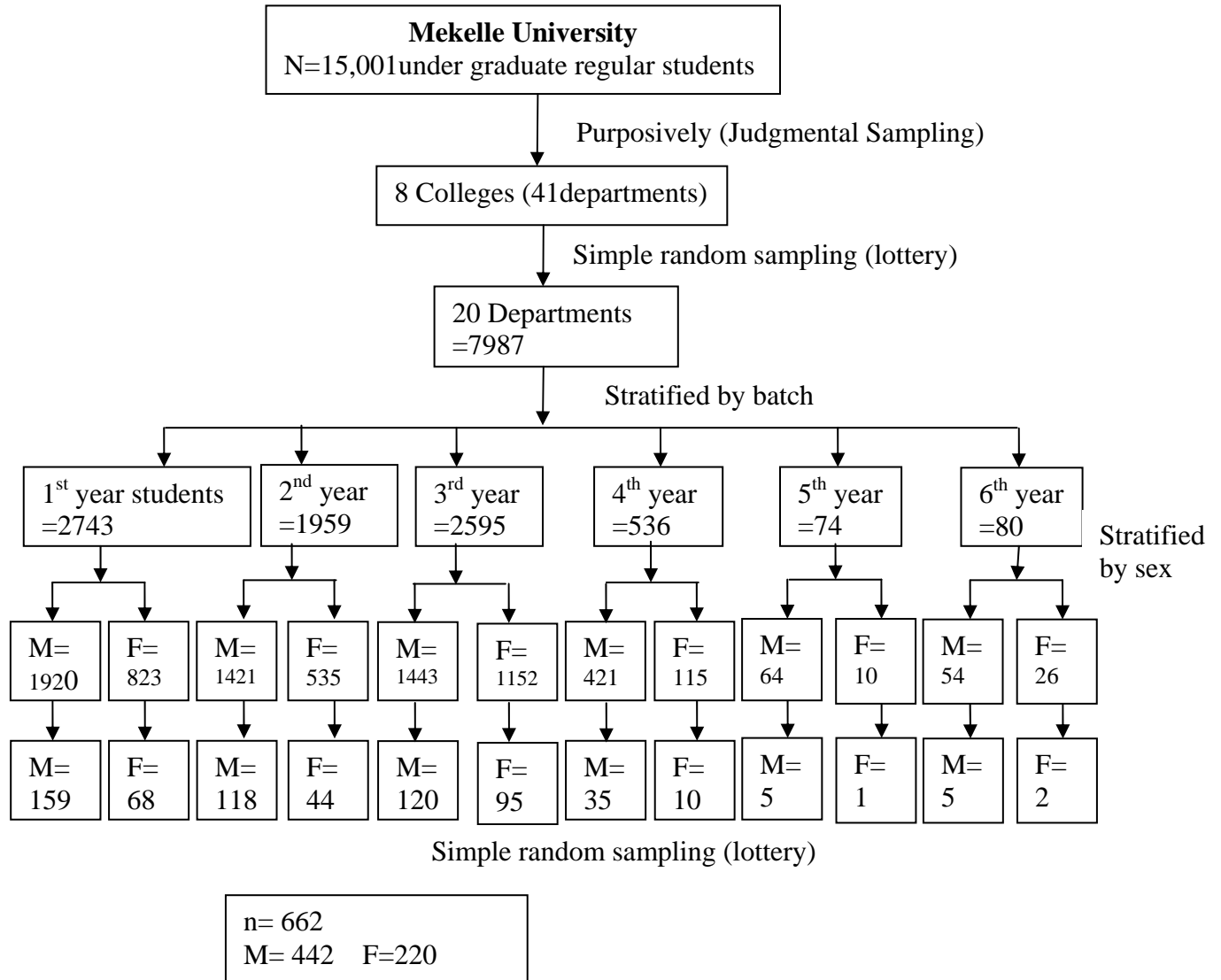


Figure 2: Schematic presentation of sampling procedure

Table 1: Name of College & department, number of MU students in batch and sex

College Name	Name of department	1 st year		2 nd year		3 rd year		4 th Year		5 th year		6 th year		Total
		M	F	M	F	M	F	M	F	M	F	M	F	
Health Sciences	Medicine	170	10	123	23	160	82	106	16	22	7	54	26	799
	Pharmacy	31	4	35	12	91	46	39	8					266
Law & Governance	Law	0	0	81	24	171	86	146	68					576
Business & Economics	Management	50	110	112	73	95	150							590
	Accounting	60	240	113	66	51	224							754
	PDM	37	123	102	29	69	150							510
Social Science and languages	Amharic	0	0	22	32	73	67							194
	Geography	0	0	30	22	93	51							196
	Journalism	0	0	25	34	62	60							181
	Tigrigna	0	0	31	31	84	60							206
Ethiopian Institute of Technology-Mekelle	Architecture	164	6	26	7	26	5	24	6					264
	Mechanical	244	36	70	2	60	2	31	3					448
	Industrial	243	7	70	3	58	10	26	3					420
Natural and Computational Sciences	Chemistry	190	70	84	25	38	28							435
	Physics	152	38	87	13	34	6							330
	Biology	213	47	60	57	39	24							440
	Sport	84	6	63	16	18	4							191
Agriculture & Natural Resources	LaRMP	72	96	136	15	77	52							448
	ARWS	71	59	72	42	66	27							337
Veterinary Medicine	Veterinary	99	6	79	9	78	18	49	11	42	3			394
Total No. by sex		1920	823	1421	535	1443	1152	421	115	64	10	54	26	7984
Total=7984		2743 (34.4%)		1956 (24.5%)		2595 (32.5%)		536 (6.7%)		74(1%)		80(1%)		7984 (100%)
Proportionally		159	68	118	44	120	95	35	10	5	1	5	2	662
Total sample=662		227		162		215		45		6		7		662

PDM= Public Development Management, ARWS=Animal Range land and Wildlife Sciences,

LaRMP= Land Resource Management and Environmental Protection

4.7 Data Collection Instruments

Data were collected by structured self-administered questionnaire. The questionnaire was adopted and modified from WHO-students drug use survey questionnaire and other literatures [24, 25]. Then, the modified English questionnaire was translated to Amharic and again retranslated to English by another translator to check the consistency of original meaning. Substances included in the questionnaire were alcohol, cigarettes, cannabis, cocaine, heroin, sleeping pills and pain relievers (diazepam, pethidine codeine and morphine). Additional in-depth interview was employed from the chain referent substances abusers by using guidelines. Guidelines ensured that important data were not forgotten, and allowed flexibility. Only male students who are abusing substances were involved because information was saturated. Tape recorder was used to collect data.

4.8 Data Collectors

The quantitative data were collected by six trained technical assistants. Data collectors were contacted through student counselors of the university; they agreed on administering the survey in same day and time to prevent contamination of information. On the other hand, the qualitative data were conducted by the trained young (BA in Journalism) interviewer in separate room individually for providing confidence and confidentiality for the respondents. The principal investigator, along with the three health science instructors supervised the data collection process.

4.9 Data Quality Management

Six data collectors and three supervisors were trained for two days on data collection procedures and supervision techniques. The data collection instrument was pre-tested on 5% of the sample size in Sheba University College with similar characteristics of the study unit that was not to be included in the main study before the actual data collection. We estimated the time taken for completion of the questionnaire and minor questionnaire contents were restructured and modified when any doubt or difficulty appeared. Supervision was conducted strictly and frequently. Completeness of the required type of data was checked on the spot by the principal investigator and supervisors. The questionnaire was checked for completeness and consistency before data entry by the principal investigator; the completed questionnaire was coded. For data cleaning, the Coded data were entered into EPI info version 3.5.1.

4.10 Data Analysis and Processing

Data were entered into EPI info version 3.5.1 for data exploration and cleaning. The cleaned data were exported to SPSS version 16.0 statistical packages for statistical analysis. The prevalence of substance abuse was determined by taking frequencies and percentage. Bivariate associations between substances abuse and several socio demographic characteristics, peer pressure, drug availability, community pressure, time of initiation and college of study was examined using $P \leq 0.05$. Next, multiple logistic regression model was used with substance abuse, using characteristics that were significantly associated with substances abuse in binary model. Based on the binary logistic results ($P \leq 0.05$) significantly associated factors were entered into the final multiple logistic regressions. Adjusted odds ratio and 95% confidence intervals were reported. OpenEpi version 2.3 was used to calculate confidence limits for a single proportion.

In addition, in-depth interview was employed from the chain referent substances abusers of Mekelle university students. Data were collected by tape recorder. Then, the data were transcribed word-by-word, translated into English and saved as plain text. After that, data were imported to OpenCode Software version 3.6. Subsequently, data were managed by coding and categorizing. Codes were developed based on the main objectives of the study. This was undertaken in order to keep the focus of the study. After codes were identified, all the issues discussed under those codes were identified and put together under the column of issues discussed. Finally, the identified themes were arranged into coherent groupings.

4.11 Study Variables

The **independent variables** were socio demographic factors (age, sex, ethnicity, religion, and year of study, monthly income and family occupation), socio- cultural factors (Peer pressure, availability of abused substances, role model who may be involved in the use of substances, parental influence and means of coping with stress) and clinical symptom factors (withdrawal symptoms, tolerance and dependence).

Dependent variable was psychoactive substance abuse and intention to stop the substance abuse.

4.12 Operational Definitions

Abuse: Using an illegal substance, even with the knowledge that it causes serious problems.

Addiction: subjective reports or experience of discomfort when the drug is stopped.

Binge drink: Five or more drinks for men or four and above drinks for women.

CAGE-AID: is derived from the four questions of the tool: Cut down, Annoyed, Guilty, and Eye-opener; it helps to determine if substance abuse exists.

Community: A group of people sharing ideas and having common problems, concerns, hopes and modes of behavior; which give them a sense of belonging to each other, although they may not necessarily be bound by geographical boundaries.

Current use: having consumed any abused substance at least once in the past 30 days.

Dependence: Increasing tolerance and the onset of withdrawal symptom.

Ever use: an individual is considered as ever consumed even if he/she had consumed only once in his/her lifetime.

Illicit drug: A psychoactive substance, the production, sale or use of which is prohibited.

Intention: to have something in mind as a plan.

Licit drug: A drug that is legally available by medical prescription in the jurisdiction in question or, sometimes, a drug legally available without medical prescription.

Life time use:-The proportion of students who had ever consumed any of abused substance.

Polydrug use-Any use of more than one mood altering drug by an individual at any time in the past.

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

Regular university students: excluding students attending extension, summer and distance program

Substance abuse: The term refers to the misuse and abuse of legal substances such as nicotine, alcohol, over-the-counter drugs, prescribed drugs, alcohol concoctions, indigenous plants, solvents and inhalants, as well as the use of illicit drugs

Tolerance: needing more of the drug as time passes to achieve desired results.

Withdrawal symptom: - A tremendous force for continuing use often at any cost.

4.13 Measurement Used to Measure Substances Abuse

CAGE-AID: CAGE Questions Adapted to Include Drug Use

1. Have you ever felt you ought to cut down on your drinking or drug use?
2. Have people annoyed you by criticizing you're drinking or drug use?
3. Have you felt bad or guilty about your drinking or drug use?
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)?

Scoring: Item responses on the CAGE questions are scored 0 for "no" and 1 for "yes" answers. A total score of two or greater positive answers of the above four questions is considered as fulfill the criteria of substances abused.

4.14 Ethical Consideration

Ethical clearance was obtained from research ethical committee (REC) and institutional review board (IRB) School of Health Sciences, AAU. Following the approval, the objective of the study was informed to Mekelle University through official letter of co-operation from School of public health, AAU. Letter of consent was obtained from Mekelle 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 kept to prevent study subjects from harm. Written informed consent was given with full information including the objectives of the study, selection criteria, confidentiality and benefits of the study. Anonymous questionnaire with only identification number was used. Written informed consent was obtained from the study subjects before administering the questionnaire. The data collectors and supervisors informed the subject that they have a right to participate or not in the study as well as to interrupt at any time. After the completion of the data collection, the data collectors and supervisors along with the principal investigator distributed DACA'S leaflets pertaining to substance abuse for participants and informed that there is a treatment and rehabilitation unit in Addis Ababa (Amanuel specialized hospital & Saint Paulos hospital) for those substance abusers involved in in-depth interview.

4.15 Dissemination of the Result

The finding of this study will be disseminated to Addis Ababa University, School of Public Health as a partial fulfillment of Master of Public Health to the Federal Minister of Health, Mekelle University and other concerned bodies. The finding will be presented in annual conference and seminar. Moreover, the finding of the study will be published in relevant scientific journals as appropriate.

5. RESULT

5.1 Socio-demographic Characteristics of Study Participants

A total of 662 questionnaires were distributed, of which 601 were filled consistently and completely with response rate of 90.8%. Four hundred ten (68.2%) of the samples were males. The mean age of the participants was 20.4 ± 1.8 years. Around 45% of the respondents were Tigrian followed by Amhara 32%. Out of the total respondents, 427(71%) were Orthodox followers, 83 were Muslim, and 60 were Protestants. The prominent family occupation was merchant 29.5% followed by farmer 25.5%. Nearly 34% were year one students and the median monthly pocket money of the students was 200 ETB. One hundred thirty six subjects were from College of Business and Economics; others were from College of Natural and Computational Sciences 17.0% and EiT-M 14.6% (Table 2). The participants of indepth-interview were 4 orthodox, 1 Protestant and 1 Muslim. Participant replied for the question what is your religion? ‘I am Orthodox’ (Respondent 1, 4, 5, 6); ‘My religion is Protestant’ (Respondent 2); ‘I am Muslim’ (Respondent 3).

Table 2: Socio-demographic characteristics of Mekelle University students (n=601), Tigray, Ethiopia, April, 2011.

Variables	Sex		Total	Percent (%)		
	Female(n=191)	Male(n=410)				
Age	15-19	73	129	202	33.6	
	20-24	118	273	391	65.1	
	25-29	00	7	7	1.1	
	30-34	00	1	1	0.2	
	(Mean age 20.4 ± 1.8 yrs)					
Ethnicity	Amhara	65	128	193	32.1	
	Oromia	27	51	78	13.0	
	Tigray	79	191	270	44.9	
	Gurage	14	24	38	6.3	
	Others*	6	16	22	3.7	
Religion	Orthodox	133	294	427	71.0	
	Muslim	28	55	83	13.8	
	Protestant	20	40	60	10.0	
	Catholic	10	16	26	4.3	
	Others**	0	5	5	.8	
Family occupation	Merchant	52	125	177	29.5	
	Farmer	39	114	153	25.5	
	Gov't employee	43	85	128	21.3	
	Ngo employee	36	43	79	13.0	
	Housewife	11	23	34	5.7	
	Daily laborer	3	8	11	1.8	
	Private employee	7	2	9	1.5	
	Other***	0	10	10	1.7	
	Monthly income	<500	180	395	575	95.7
		≥500	11	15	26	4.3
(median 200 ETB)						
Colleges	Health sciences	15	70	85	14.1	
	Law & governance	14	29	43	7.2	
	CBE	79	58	136	22.6	
	Social sciences	27	33	60	10.0	
	EiT-M	4	83	87	14.6	
	CNCS	28	75	103	17.0	
	CADRM	21	38	59	9.8	
	Veterinary	3	25	28	4.7	
	Study year	Year 1	61	142	203	33.8
		Year 2	41	110	151	25.1
Year 3		79	117	196	32.6	
Year 4 & above ¹		10	41	51	8.5	

N.B: *= Somilia, Benshangul and Afar, **= No religion, ***=No family, ¹=year 4, 5 and 6

5.2 The Knowledge of Abused Substances Among Mekelle University Students

The majority of participants had seen khat 94.1%, alcohol 92.1% and cigarette 90.1%. Surprisingly 31.7% and 17.9% study subject had ever seen cannabis and heroin respectively. Out of the total respondents only 8.2% and 7.5% of them saw diazepam and pethidine respectively. The respondents also specified coffee, tea and benzene 3.7% as abused substances (Table 3).

Table 3: Substances Ever seen by Mekelle University students (n=601), Tigray, Ethiopia, April, 2011.

Variables	Frequency(n)	Percentage (%)
Khat		
Yes	566	94.1
No	35	5.9
Alcohol		
Yes	554	92.1
No	47	7.9
Cigarettes		
Yes	542	90.1
No	59	9.9
Cocaine		
Yes	111	18.4
No	490	81.6
Cannabis		
Yes	191	31.7
No	410	68.3
Heroin		
Yes	108	17.9
No	493	82.1
Diazepam		
Yes	49	8.2
No	552	91.8
Pethidine		
Yes	45	7.5
No	556	92.5
Others*		
Yes	22	3.7
No	579	96.3

N.B: * = Coffee, Tea and benzene

5. 3 Magnitude of Substance Use Among Students of Mekelle University

Out of the total subjects, 82.7% of the respondents were reported ever using at least one substance in their lifetime. Nearly 33% were current users of any substances. Forty-one percent were current alcohol consumers. Quarter of study participants was chewing khat 30 days prior data collection and 11.7% were smoking cigarette. The cocaine users 14 and heroin users 10 were observed to be smallest number of current users (Table 4). All participants of the indepth interview were reported poly drug use. And they informed that alcohol and khat were the gateway drugs.

Table 4: Prevalence of Substance Users among Mekelle University Students (n=601) Tigray, Ethiopia, April 2011.

Variables	Ever Users		Current Users	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Any substance				
Yes	497	82.7	195	32.5
No	104	17.3	406	67.5
Alcohol				
Yes	419	69.7	247	41.1
No	182	30.3	354	58.9
Khat				
Yes	211	35.1	151	25.1
No	390	64.9	450	74.9
Cigarettes				
Yes	105	17.5	70	11.7
No	496	82.5	531	88.3
Cannabis				
Yes	86	14.3	56	9.3
No	515	85.7	545	90.7
Sleeping Pills				
Yes	34	5.7	28	4.7
No	567	94.3	573	95.3
Cocaine				
Yes	23	3.8	14	2.3
No	578	96.2	587	97.7
Heroin				
Yes	16	2.7	10	1.7
No	585	97.3	591	98.3

5.4 Current Users of Specific Substances Among the Everusers

Eighty two percent of everusers of sleeping pills were current users; nearly 72% ever khat users were currently chewed khat; and approximately 67% ever smokers were persist to smoke currently. Comparably, 65% of cannabis ever users were consumed 30 days prior the study. Heroin 10 and cocaine 14 were the least current consumed drugs (Table 5).

Table 5: Current specific substances users Among Everusers of Mekelle University Students, Tigray Ethiopia April, 2011

Variables	Frequency(n)	Percentage (%)
Khat (n=211)		
Yes	151	71.6
No	60	28.4
Cigarettes (n=105)		
Yes	70	66.6
No	35	33.4
Alcohol (n=419)		
Yes	247	58.9
No	172	41.1
Heroin (n=16)		
Yes	10	62.5
No	6	37.5
Cannabis (n=86)		
Yes	56	65.1
No	30	34.9
Sleeping pills (n=34)		
Yes	28	82.4
No	6	17.6
Cocaine (n=23)		
Yes	14	60.9
No	9	39.1

5.5 Number of Drugs Used in Their Life Time

Among the everusers of substances, 58.1% students used only one drug whereas 41.9% were poly drug users. One hundred and two students were used two drugs in their lifetime. Above one of ten students ever consumed three drugs. There were also students ever used 5, 6 and 7 drugs in their lifetime (Figure 3).

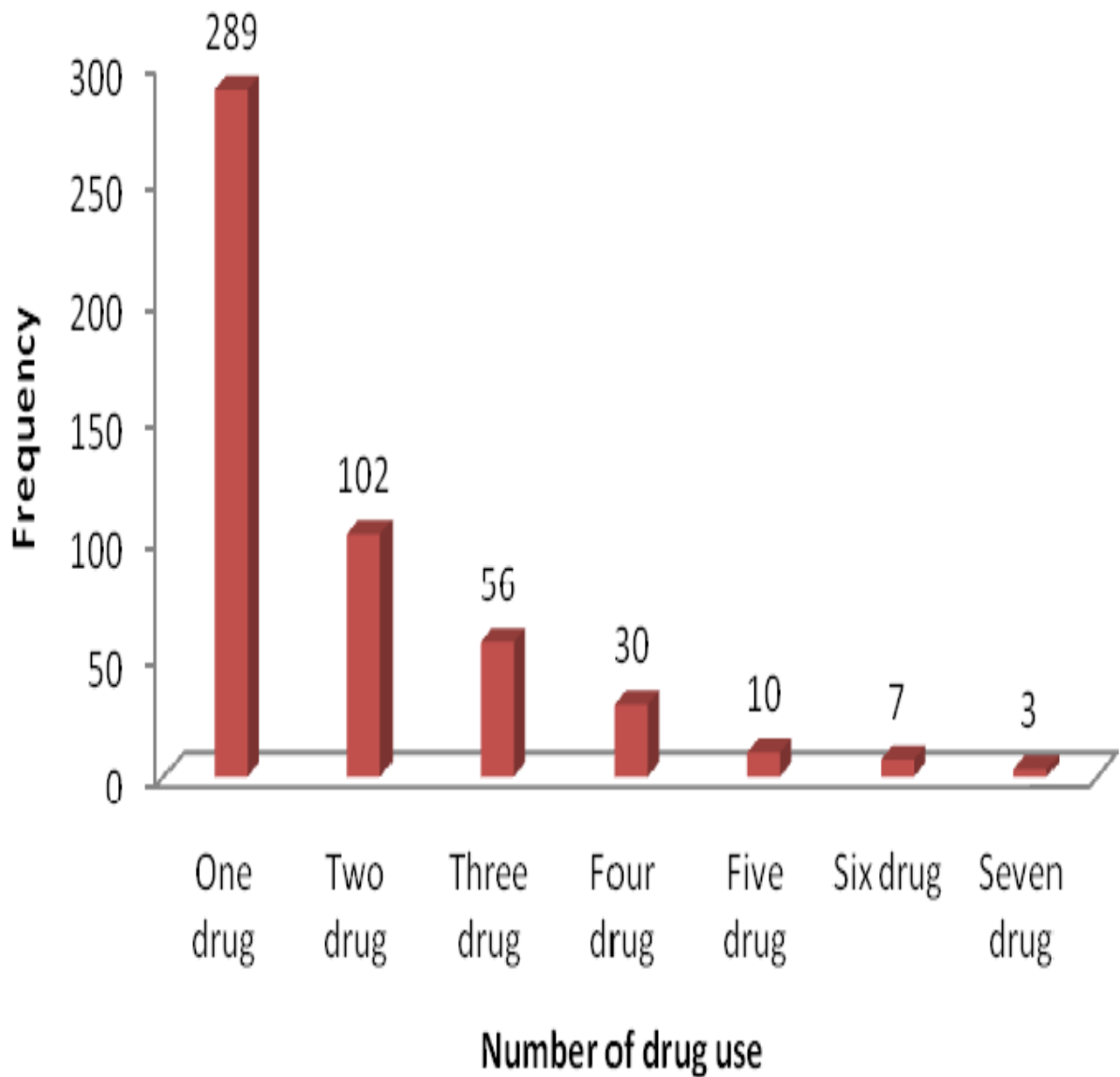


Figure 3: Percentage of number of drugs used among everusers of Meklle University students (n=497) Tigray, Ethiopia, April 2011

5.6 Reasons to start abused substances

The prominent reasons for starting to use substances among the everusers were peer pressure 58.8%, availability of the substances 22.3% and family pressure 17.3%; the least was religion pressure 11.7% (Figure: 4).

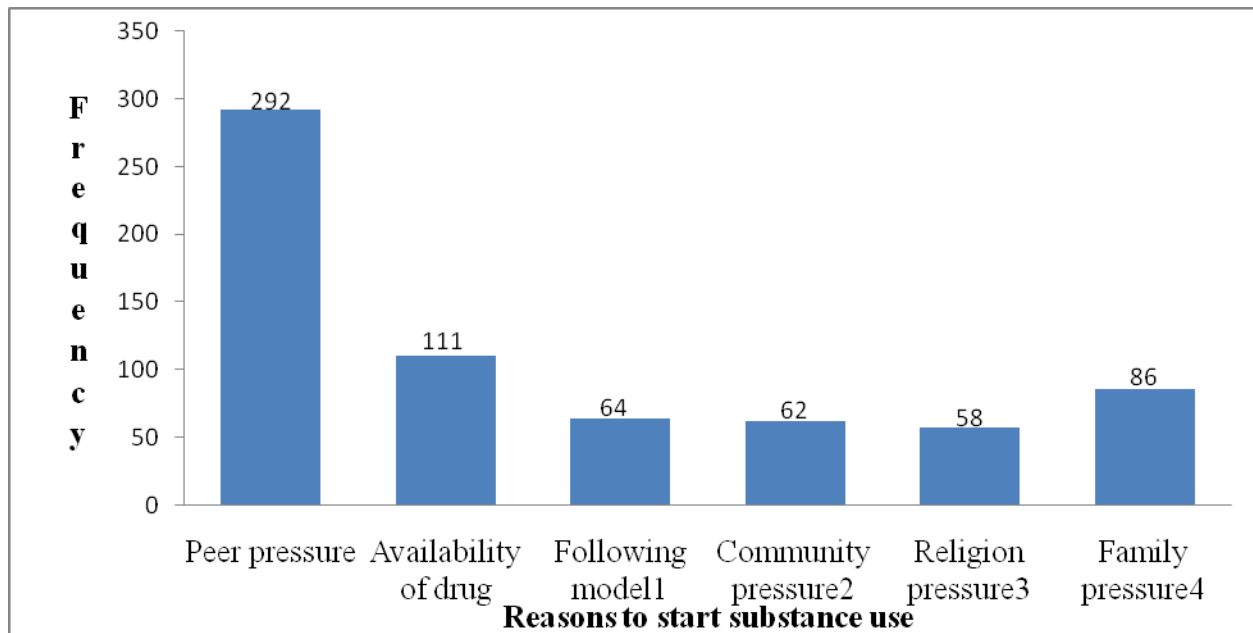


Figure 4: Reasons to start substances to use among Mekkle University students (n=497) Tigray, Ethiopia, April 2011

N.B:- ¹ = following model persons, ² = sharing of common substance use behaviors in the community, ³ = those substances used for religious ceremony, ⁴ = their families use substances (social substances such as alcohol, khat and cigarette)

Participants of in-depth interview mentioned various reasons for their use of substances. The influence of friends was expressed as key factor. In the following extracts, participants responded how their friends influenced them to use substance(s) ‘*I began chewing khat with my friends for the sake of taste*’ (Respondent 1); ‘*I started alcohol with my friends during school trip*’ (Respondent 2); ‘*It is difficult to remember how I began to use khat but I think my friend agitated me to use*’ (Respondent 3); and ‘*My friend told me to use khat so that I could relax and became energetic. On the top of this, I took khat not to sleep during study*’ (Respondent 4). Next to peer influence drug availability was other contributing factor for drugs to be abused. One of the students explained: ‘*I began and continued khat and alcohol because they were easily*

accessible and cheap; I could buy them near my residence' (Respondent 5); and *'Nearby my residence, at khat shop, I frequent to see khat chewers being happy. This agitated me to start to chewing khat'* (Respondent 6).

5.7 The time in which students started to use abused substances.

Nearly 31% of the respondents started to use abused substance during secondary school life. Surprisingly, 29.2% participants started when they were elementary school students. Nearly one fifth of the respondents had started use substances at preparatory school.

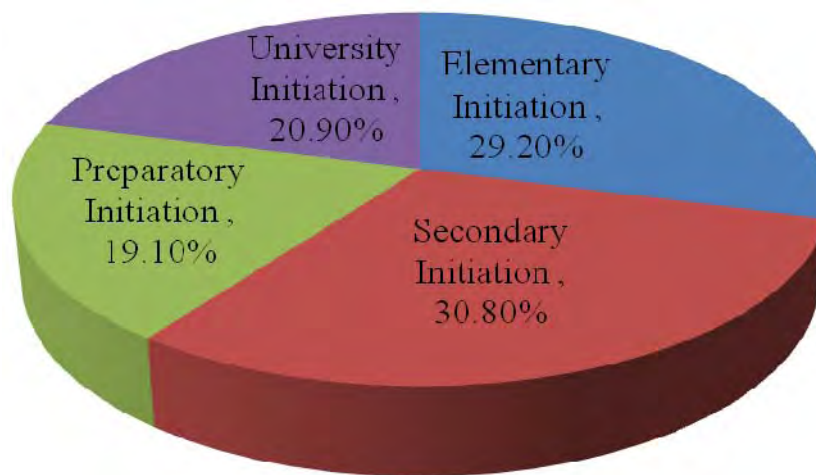


Figure 5: Time of Initiation to Use Abused Substances Among Mekelle University students (n=497) Tigray, Ethiopia, April 2011

5.8 Magnitude of Substance Abuse among Mekelle University Students

One hundred twenty one (20.1%); (95% CI: 17.07, 23.48) respondents fulfilled the criteria of substances abuse (CAGE ≥ 2). One hundred students (16.6%) 95 CI: 13.82, 19.78) were alcohol abusers followed by khat 89(14.8%) 95% CI: 12.14, 17.82), and cigarette and cannabis 53(8.8%); 95% CI 6.743, 11.29) were equally abused but cocaine 14 and Heroin 10 were the least abused substances by the participants who filled the questionnaire .Alcohol, Khat and cigarette were the commonest abused drugs (Table 5). All the respondents of indepth interview reported that they were abusing substances (CAGE ≥ 2). The nature of substances abused included both legal and illegal substances.

Table 6: Prevalence of Substance Abuse among Mekelle University students (n=601), Tigray, Ethiopia, April, 2011.

Variables	Frequency(n)	Percentage (95% C.I.)
Substance abuse	121	20.1(95%CI: 17.07-23.48)
Yes	480	79.9
No		
Khat abusers		
Yes	89	14.8(12.14-17.82)
No	512	85.2
Cigarettes abusers		
Yes	53	8.8(6.743-11.29)
No	548	91.2
Alcohol abusers		
Yes	100	16.6(13.82-19.78)
No	501	83.4
Heroin abusers		
Yes	10	1.6(.847-2.946)
No	591	98.4
Cannabis abusers		
Yes	53	8.8(6.743-11.29)
No	548	91.2
Sleeping pills abusers		
Yes	23	3.8(2.501-5.598)
No	578	96.2
Cocaine abusers		
Yes	14	2.3(1.33-3.786)
No	587	97.7

5.9 Distribution of Abused Participants as per their Need to be Treated & Help to Stop

Majority 90 of the students, who abused substances, claimed that they were needed help and 88 needed treatments to stop. All participants, in indepth interview, informed that the reason to continue substances abuse were peer influence, pocket money, availability of substances, and pleasure seeking (relax, being alert, fun, feels high and sleep). Stress relieving also was the main reason to continue to abuse drugs. *‘Drug helps me to do things’* (Participant1, 2, 3, 6); *‘If I want to do something, drugs give me courage and strength to do things.’* (Participant 4, 5); As a result, stopping habit of the respondents was difficult and needed help. *‘I have tried to stop but I can’t; I need someone to help me to stop using drugs’* (Participants 1, 2, 3, 4, 5, 6). One of the respondents from the in-depth interview explained: *‘I know the presence of treatment and*

rehabilitation center in Addis Ababa but I cannot cover the expense. My family could not help me because they did not consider my situation as problem rather they took it as my fault' (Participant 4).

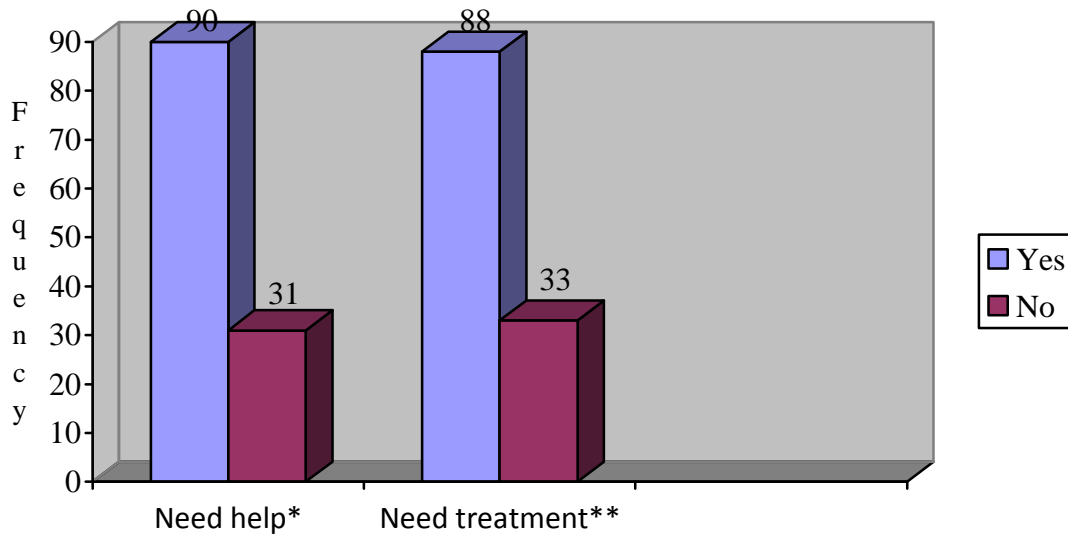


Figure 6: The distribution of substance abusers as per their need to be treated and helped to cut among Mekkle University students (n=121) Tigray, Ethiopia, April 2011

N.B: * = Those who need any type of help to stop substance to abuse.

**= Those who want to treat from their problems (substances abuse).

5.10 Associated Factors for Substances Abuse

Against substances abuse, variables such as socio demographic characteristics, peer pressure, drug availability, following a model person and religious pressure were determined using logistic regression model. Confounding factors were adjusted by multiple logistic regression analysis. Significantly associated factors with substances abuse were socio demographic characteristics, peer pressure, drug availability, following a model person, community pressure and elementary initiators. These factors of substance abuse are elaborated in the following paragraphs.

Substances abuse in males was two times higher than in female respondents: [AOR, 95% CI; 2.214 (1.071, 4.575)], Protestant followers [AOR, 95% CI 2.724 (1.169, 6.348)] were more likely to abuse substance. But 4 respondents of indepth interview were Orthodox, 1 Muslim and 1 Protestant. The protestant respondent stated that: *'I had been started when I was orthodox; but still, I can't stop using substances'* (Participant 2). Participants initiated to use substances at elementary school level [AOR, 95% CI 8.599 (4.571, 16.174)] were 9 times higher to abused substances than those who started at other levels (secondary, preparatory and university). Respondents who started to use substance through peer pressure [AOR, 95% CI 14.931 (6.824, 32.668)] were 15 times more likely to abuse substances as compared to those who did not. Subject who begin to use substance because of availability of the drugs [AOR, 95% CI 6.202 (3.355, 11.465)] and through following a model person [AOR, 95% CI 4.506 (1.940, 10.465)] were 6 times and 5 times higher respectively as compared to those who did not. In addition to this, those who initiate to use by community pressure (sharing of common substance use behaviors in the community) [AOR, 95% CI 3.402 (1.310, 8.836)] were 3 times more likely to abuse substance. Moreover, students coming from farmer families [AOR, 95% CI .454 (.231, .892)] were less likely to abuse substance as compared to those who did not. The study also showed that being students from College of Law and Governance [AOR, 95% CI .127 (.048, .335)] was a preventive to abused substances as compared to other Colleges (Table 7).

Table 7: Association of factors towards substances abuse among Mekelle University students (n=601), Tigray, Ethiopia, April, 2011.

Variables	<u>Substances abuse</u>		<u>OR(95%)CI</u>	
	Yes	No	Crude	Adjusted**
Sex				
Male	102	308	2.998 (1.775, 5.063)	2.214 (1.071, 4.575)*
Female ¹	19	172	1	1
Religion				
Protestant				
Yes	16	44	1.510 (.820, 2.781)	2.724 (1.169, 6.348)*
No ¹	105	436	1	1
Colleges				
Law and Governance				
Yes	10	120	.270 (.137, .533)	.127 (.048, .335)*
No ¹	111	360	1	1
Family Occupation				
Farmer				
Yes	22	131	.592 (.358, .980)	.454 (.231, .892)*
No ¹	99	349	1	1
Time of Initiation				
Elementary				
Yes	67	78	6.395 (4,148, 9.857)	8.599 (4.571, 16.174)*
No ¹	54	402	1	1
Reason to start				
Peer pressure				
Yes	106	186	7.219 (4.053, 12.857)	14.931 (6.824,32.668)*
No ¹	15	190	1	1
Availability of drug				
Yes	55	56	4.762 (3.016, 7.519)	6.202 (3.355, 11.465)*
No ¹	66	320	1	1
Community pressure				
Yes	19	43	1.443 (.805, 2.586)	3.402 (1.310, 8.836)*
No ¹	102	333	1	1
Model person				
Yes	28	36	2.843 (1.650, 4.902)	4.506 (1.940, 10.465)*
No ¹	93	340	1	1

N.B: *= Statistically significant at P<0.05,

**= Adjusted for socio demographic characteristics, Colleges, family occupation, reasons to start, initiation time,

¹= referent factors

5.11 Proportion of abusers according to their intention to stop

Nearly half of the abusers with criteria $CAGE \geq 2$ had intention to stop. Additionally, all the respondents stressed that they want to stop using substances and as such need help. As respondents respond to question would you like to stop? ‘Yes, I want to stop’ (Participant 1, 2, 3, 4, 5, 6).

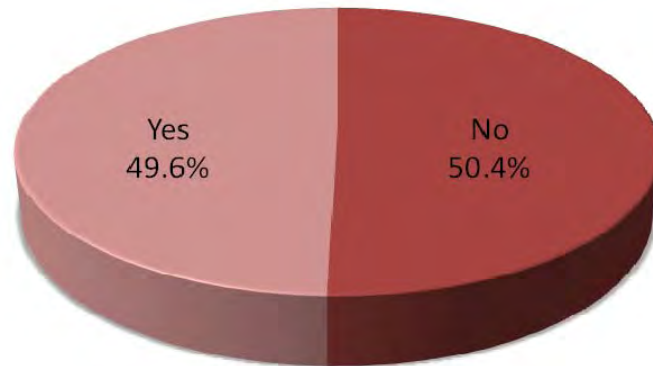


Figure 7: Percentage of Intention to Stop Substance Abuse among Mekkle University students (n=121) Tigray, Ethiopia, April 2011

5.12 Factors Associated with Intention to Stop to Abuse Substances

Associations between intention to stop and socio demographic characteristics (sex, ethnicity and college of study), time of initiation, and reasons of maintaining to abused (Social, relax, alart and fearless) were examined using $P \leq 0.05$ in the binary logistic regression model but there were no significantly associated factors., Even though binary results ($P \leq 0.3$) based on Alex’s Smart criteria were entered into the final multiple logistic regression models, there were no statistically significant variables in the multiple logistic regression.

6. DISCUSSION

In this University, Mekelle, Ethiopia, a significant proportion (20.1%) of students was abused substances. This high prevalence was remained similar with national findings obtained from National Survey on Drug Use and Health, 20.2% [7]. But it is remarkably lower (48.1%) than the report from undergraduate students in public Midwestern University [36].

Even though cannabis and heroin were legally prohibited drugs, this study revealed that ever users of cannabis were 14.3% whereas heroin was 2.5% the least abused drug but all current users were fulfilling the criteria ($CAGE \geq 2$) for abuse. This is lower than the study conducted in college students of USA 22% [3] and much lower than from the reports of Nigerain Universty students 44% [10]. But higher than findings among medical students in a Nigerian university heroin 6 (0.7%) [27].

The findings of this study revealed that the commonly abused drugs were alcohol 16.6%, khat 14.8%, and cigarette and cannabis 8.8% was abused equally. Apart the prevalence, this is in agreement with findings in secondary school of Kenya in 2009 alcohol 42.9% khat 20.8% cigarette 19.8% cannabis 14.3%, were commonly abused substances [28]. But this study also found that sleeping pills 3.8%, cocaine 2.3% and heroin 1.6% were the least abused drugs which is different with finding of similar study in kenya. Sleeping pills 10.7% is much higher than this study [28]. Again studies in various parts of the country have noted that alcohol was the most commonly used psychoactive substance, which was similar with the result of this study [12, 29]. As compared to other drugs high spread of alcohol, khat and cigarette abuse may be due to social, cultural and legal acceptability. In addition to this, these drugs were internationally uncontrolled or Social Substances of Abuse might be also another reason. Specifically for alcohol might be, alcohol unlike other drugs does not have a drastic effect on personal health when consumed moderately; it is readily available and it is consumed mainly in pubs and other entertainment centers which could attract youths; and more accepted in the society compared to other types of drugs. Most alcohol commercials have very attractive scenes. The people in the advertisements are very happy and enjoying their drinks. As a result, students take alcohol to experience what they have already seen on television, the reasons [12]. Unforgettable issue from this finding was also the emerging of cannabis abuse comparable with the social drugs such as cigarette. The reason might be cannabis emerging as a cash crop in Ethiopia.

This finding shows that khat was the substance most ever seen 94.1% which is different from findings conducted in Nigerian university ever seen cigarette 99.4% [27]. It could be speculated that khat is native to Ethiopia.

As the finding in this study indicated that, Protestant were more likely to abuse substances. This is different with findings conducted in College Students of North West Ethiopia [23]. The reason for the variation of findings might be method difference (measurement of substances abuse). The chicken egg dilemma characteristics of the study design also might be another rationale.

Early substance users (those who started to use substance at elementary school level), as the findings in this study indicated, were more likely to abuse substances. This was in congruent with many international studies [7]. This gives clue that adolescents are prone to taste or practice something new. The characteristics of the drugs might be another reason.

Moreover those who started to use substance through peer pressure, readily availability of substances, community pressure and following role modeling person were positively associated with substances abuse. This is in agreement with studies conducted in Kenyan Secondary Schools [12] and New York [16]. The cause might be these factors are having an effect on one's behaviour. Knowing these issues help in justifying intervention packages.

Furthermore, intention to stop is a crucial issue in the treatment of harmful use of substances. It predicts actual behavior of change. Despite, their harmful use; nearly half of the abusers (CAGE score ≥ 2) had intention to stop. The finding of this study is in line with study conducted who have substance use disorder in USA 58% reported an attempt to stop [38] but higher than study in Copenhagen 43% [39] and emergency department patients of USA with CAGE score ≥ 1 , 45.5% [40]. The finding of this study showed that intention to stop had significant differences on gender which is different with study conducted in Copenhagen there were no significant differences on gender [39]. The speculation of this differences might be the degree of substances use disorder and number and type of drug use. In contrast, all the respondents of in-depth interview of this study stressed that, they want to stop using substances and as such need help. As respondents respond to question would you like to stop? '*Yes, I want to stop*' (Participant 1, 2, 3, 4, 5, 6). But there is no significantly associated variable with intention to stop. The reason might be small sample size for abusers (121).

In this study, the prevalence of everusers of substances was found to be 82.7%. This is higher than findings reported in Nigerian medical university, 78% [27], western Kenya, 69.8% [28] and Nigerian secondary school, 63.3% [29]. This difference might have occurred due to cultural and regulation difference of the substance use among the countries. The time the research was undertaken could be another reason for the variations.

The present survey reported that 30.8% of the everusers who began at secondary school. Which is different from reports taken from National Survey on Drug Use and Health (users started at 19 years at which students joined higher education in our context) [7]. A Finding from college students of North West Ethiopia was different, 52% at university level for khat and 46% at preparatory level for cigarette [23]. The reason for this could be there is different initiation time for different substances.

The study further revealed that 58.8 % the study subjects were introduced to use substances by a friend/peer. This is much lower than the study conducted in Nigeria, 75.1 % [27]. Another study in Kenya secondary school revealed that readily available drug and peer group pressure were the prominent reasons to begin substances use [12]. Also this is supported by the qualitative result of this study.

The proportion of ever alcohol drinkers of this study were 69.7%. The finding of this study is in agreement with the study among students ever use alcohol from the USA 70% [30] and inline with findings reported from students of Ambrose Alli University; Ekpoma, Nigeria was representing 66% [31] and 61% among Chinese, University Students in Hong Kong [32]. Reports from private high school students in Addis Ababa 57.8% also were low [33]. The difference in educational program between countries could be contributing factors for this varying rate of alcohol consumption.

In addition, based on this study, 35.1% of the participants were ever khat chewers. This finding is in agreement with the study in Addis Ababa, 35.6% [33]. However, it is greater than the study conducted among College students in North Western Ethiopia 26.7 % [23]. But current khat chewers in this study were 25.1% of the study subjects. This is higher than Khat chewing among secondary school 21.1%, College students of Jazan 19.2% [34], and the study conducted among college students of North West Ethiopia 17.5% [23]. In contrary, this is quite lower than the prevalence of current khat chewing in Sabiya educational sector schools 39.20% [34]. But this is

much lower than the result found in general population study Sabiya 72.5%, Jizan 61.7%, Alhurath 58.1%, Abu Arish 56.8%, and Samtah 55.7%. It could be speculated that Patterns of drug use may vary greatly around the world and overtime. The low prevalence of khat among students as compared with general population might be easily availability of khat. Additionally, increased awareness towards the harmful effects of khat may be another reason.

Unlike khat, cigarette everusers are lower in percent. Cigarette ever smokers in this study were 17.5%. This coincided with study conducted in South Africa 17.6% [35] and slightly higher than that of Secondary School of Nigeria 14.3% [29] and much lower than a finding from Western Kenya, 42.8% [26] and Ethiopia 31.1% [33]. But it is higher than the report from Chinese University, 13% [36]. In contrast, findings obtained from Western Kenya, 2% [28] and Turkish 5.5% indicated that is much lower [37].

In general, the difference indicated in the above discussion might be due to the population difference under study, and the differences in university policies and promotion of publicity. The difference in educational program between countries could also be contributing factors for this varying rate of substance use and abuse. Organizational property variables of campuses, physical and behavioral property variables of campuses, including the type of residence, institution size, location and campus community property variables, including pricing and availability and outlet density could also be reasons to the variations.

7. STRENGTHS AND LIMITATIONS OF THE STUDY

Strengths

- Quantitative and qualitative method Triangulated
- Use measurement of abuse to differentiate with users.

Limitations

- Study was restricted to undergraduate students.
- Because of the cross-sectional nature of the study, temporal relationships between substance use and the factors identified may not necessarily be inferred.
- Sample size for abusers was not calculated separately.
- Recall bias.
- Social desirability
- Literatures using CAGE –AID was inadequate.

8. CONCLUSION

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

To begin with, the study has identified that substance abuse is a serious problem among undergraduate university students; it is associated positively with certain variables such as male participants, peer pressure, availability of drugs, following role models, community pressure and respondents who began to use substance when they were elementary school students. It is also negatively associated with being a student at College of Law and Governance and students from farmer family. The commonly abused drugs were alcohol, khat, cigarette and cannabis. Yet, the magnitude of students' intention to stop abusing substance is high. From this, it can be generally said that substance abuse is a pressing issue for university students.

9. RECOMMENDATIONS

To policy makers

- Chain of Controlling of abused substances should be extended up to grass root level, as availability is the main reason to expose.
- Policy makers should be put emphasis on the legal drugs.

To DACA

- DACA should be strengthening the establishment of regional rehabilitation and treatment centers.

To MOH

- Treatment and rehabilitation centers should be established at regional level.
- Substances abuse should be included in the components of school counseling programs.

To Mekelle University

- Regular counseling and peer group education should be established with in the compound
- Regulations concerning substances abuse should be set.
- In collaborating with DACA, Mekelle University should establish a pilot treatment and rehabilitation center within the campus.

To Researchers

- Further research should be done on the behavioral conditions of substances abusers which increased the vulnerability to the initiation, continuation, or escalation of substance use.
- Further research on factors that affect intention to stop should be done on large sample size.

10. REFERENCES

1. Wendy Moelker. Psychologist in charge, tutor, Emergis center for mental health care. The Difference between Substance Use and Abuse. Netherlands, 24 Jul 2008.
2. National Drug and Alcohol Abuse helpline. The History of Drugs. Call toll free 1(877) 437-8422. Drug Rehabs. Org. 2002.
3. DACA. Hand Book on Substances of Abuse for Trainers. Addis Ababa: Commercial printing Enterprise, 2005. pp 7-36.
4. Kevin E. O'Grady, Amelia M. Arria, Dawn M.B. Fitzelle, Eric D. Wish. Heavy Drinking and Polydrug Use among College Students. *Int J Drug Issues*. 2008; 38(2): 445-466.
5. Fekadu A, Atalay A, Charlotte H. Alcohol and Drug Abuse in Ethiopia: Past, Present and Future. *African Journal of Drug & Alcohol Studies*, 2007; 6(1).
6. U. H. Ihezue, MB, BS, MRCPsych Enugu. Drug abuse among Medical Students at a Nigerian University: part 1. Prevalence and pattern of use, Nigeria. *Journal of the National Medical Association*, 1988; 80(1).
7. Office of Applied Studies. Substance Abuse and Mental Health Services Administration. Results from the 2008 National Survey on Drug Use and Health: National Findings, NSDUH Series H-36, DHHS Publication, 2009; 4434(9).
8. Yuko M, Harry S, Jim M, Mark B. Drug-use prevention among young people. National Institute for Health and Clinical Excellence, January 2006.
9. Hughes, A., Sathe, N., & Spagnola, K. (2008). State Estimates of Substance Use from the 2005–2006 National Surveys on Drug Use and Health. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies. NSDUH Series H-33, DHHS Publication, 2008; 4311(8).
10. Oyaziwo Aluede. Department of Educational Foundations and Management. Drug Abuse among Students of Ambrose Alli University, Ekpoma, Nigeria. *European Journal of Social Sciences*. 2009; 10(1).
11. Kerachio, B. Drug Abuse. Nairobi: Uzima Press, 1994.

12. Lemis M. Negsu, Judah N, Alice M. Drug dependence and abuse in Kenyan secondary schools: strategies for intervention. *Academic Journals* October 2008; 3(10): 304-308.
13. Zein ZA. Department of Community Health, Gondar College of Medical Sciences, Ethiopia. Polydrug abuse among Ethiopian university students with particular reference to khat (*Catha edulis*). *Ethiopian J Trop Med Hyg.* 1988 Apr; 91(2):71-75.
14. WHO. Primary Prevention of Substance Abuse: A Workbook for Project Operators, World Health Organization, Geneva, 2000.
15. David E. Smith, Richard B. Seymour. Clinician Guide to substance Abuse. California: McGraw-Hill International Edition, 2001. PP 27-47.
16. Merton K, Nisbert R. Contemporary Social Problems. 3rd edition, New York: Harcourt Brace 50 Vanovich Publishers, 1971.
17. Pudo MW. Let's Talk About Drug Abuse. Kenya: Kisumu Global Bookmen Publishers, 1998.
18. U. H. Ihezue, MB, BS, MRCPsych Enugu. Alcohol and drug taking among Medical students at a Nigerian University campus: part 2.Sociodemographic factors of Etiologic significance, Nigeria. *Journal of the National Medical Association*, 1988; 80(2).
19. DACA. National Drug Control Master Plan of 2010-2014.Addis Ababa: commercial printing Enterprise, 2011.p15.
20. United Nations. Single convention on narcotic drugs, New York, March 30, 1961.
21. United Nations. Convention on Psychotropic Substances: Final act of the United Nations Conference for the Adoption of a Protocol on Psychotropic Substances, Vienna, February 21, 1971.
22. United Nations. Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Vienna, December 20, 1988.
23. Yigzaw k. Cigarette smoking and khat chewing among colleges students in North West Ethiopia. *Ethiopian Journal of Health Development* April 2002; 16(1): 9-17.
24. WHO.A Methodology for Student Drug-use Surveys: World Health Organization, Geneva, 1980; WHO Offset publication No.50.

25. American Cancer Society. Questions about Smoking, Tobacco, and Health, 2009.
26. Kristy B. Kaloyanides, Pharm. D., Sean E. McCabe, Ph.D., James A. Cranford, Ph.D., and Christian J. Teter, Pharm. D. Prevalence of Illicit Use and Abuse of Prescription Stimulants, Alcohol, and Other Drugs Among College Students: Relationship with Age at Initiation of Prescription Stimulants. *J Pharmacotherapy*. 2007 May; 27(5): 671.
27. Alfred B. Makanjuola¹, Temitayo O. Daramola¹, Ayo O. Obembe. Psychoactive substance use among medical students in a Nigerian university. *J World Psychiatry*. 2007, 6(2):113
28. Lukoye Atwoli, Prisca A Mungla, Moses N Ndung'u, Kiende C Kinoti, Evans M Ogot. Prevalence of substance use among college students in Eldoret, western Kenya. Retrived - from www.biomedcentral.com.
29. Igwe, Ojinnaka Ngozi, Ejiofor SO, Emechebe GO, Ibe BC. Socio-Demographic Correlates of Psychoactive Substance Abuse among Secondary School Students in Enugu, Nigeria. *European Journal of Social Sciences*.2009, 12(2):279
30. Hong OT, Isralowitz RE. Cross-cultural study of alcohol behaviour among Singapore College students. *Br J Addict*. 1989;84:319–321
31. Jolly Okoza, Oyaziwo Aluede, Samuel Fajoku and Idonijie Okhiku .Drug Abuse among Students of Ambrose Alli University, Ekpoma, Nigeria. *European Journal of Social Sciences*.2009, 10(1):88.
32. Jean H. Kim, et al. Prevalence and The Factors Associated with Binge Drinking, Alcohol Abuse, and Alcohol Dependence: A Population-Based Study of Chinese Adults in Hong Kong. *Access Publication Alcohol & Alcoholism*.2008, 43(3): 363.
33. Kassaye, Mesfin, Sherif, Hassen Taha, Fissehaye Ghimja, Teklu, Teshome. Drug use among high school students in Addis Ababa and Butajira.Ethiop. *J.Health Dev*.1999;13(2):102-103
34. Hussein, M. Ageely. Prevalence of Khat chewing in college and secondary (high) school students of Jazan region, Saudi Arabia. *Journal of Harm Reduction*. 2009, 6(11):3
35. Judith S. Brook and Neo K. Morojele, David W. Brook and Zohn Rosen. Predictors of Cigarette Use among South African Adolescents. *Int J Behav Med*. 2005; 12(4): 213.
36. Sian Griffiths, Joseph T. F. Lau¹, Julie K. W. Chow¹, S. S. Lee¹, Pauline Y. M. Y. Kan and S. Lee. Alcohol Use among Entrants to a Hong Kong University. *Advance Access Publication Alcohol & Alcoholism*.2006, 41(5): 561.

37. İnci Özgür İlhan, Fatma Yildirim, Hatice Demirbaş, Yildirim B. Doğan. Prevalence and sociodemographic correlates of substance use in a university-student sample in Turkey. *International Journal of Public Health*. 2009, 54 (1):41.
38. John R. Hughes, Erica N Peters, Peter W Callas, Alan J Budney, and Amy Livingston. Attempts to Stop or Reduce Marijuana Use in Non-Treatment Seekers. *Drug Alcohol Depend*. 2008 September 1; 97(1-2): 182.
39. Morten Hesse. The Readiness Ruler as a measure of readiness to change poly-drug use in drug abusers. *Harm Reduction Journal* 2006, 3(3):3.
40. Kenneth A. Frausto and Shahrzad Bazargan-Hejazi. Who is ready to Change Illicit Drug Use Behavior: An Emergency Department Study. *Substance Abuse: Research and Treatment*. 2009, 3(1):56.

Annex-I: Information sheet, Consent form & Questionnaire (English Version)

i. Information sheet for self Administer structure questions

Addis Ababa University, College of Health Science, School of Public Health

Title: Psychoactive substance abuse and intention to stop among students of Mekelle University, Ethiopia, 2011.

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 Mekelle 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 September 1, 2010 – February 30, 2011 in Mekelle University, Mekelle, capital city of Tigray, and 783 km from Addis Ababa, Ethiopia. Study procedure will be cross-sectional mixed type (Quantitative, qualitative). Study subject will be selected by Simple Random Sampling (lottery) method.

Potential risk: Data will be collected by self administer questionnaire and it will be taken 30 minute to fill the questionnaire. Study subjects will not be subjected to any harm as much as confidentiality is kept. 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 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.

Addresses: If you have any questions and/or complaints contact us by the following addresses.

Principal investigator: **Kidan Abrha**

Mobile: 0914747759/0912334989 Email: kidanabrha@gmail.com/ kidanabrha@yahoo.com

Institutional Review Board (IRB): Tel. 251-1-15157701 Fax: 251-1-15157701

ii. Consent form for self administer structured questionnaire

Addis Ababa University, School of Public Health

Psychoactive substance abuse and intention to stop abuse among students of Mekelle University, Ethiopia, 2011.

Consent form that certify respondent's agreement before filling the self administered questionnaire.

This study is coordinate by the School of Public Health, Addis Ababa University. The study will be conducted through self administered structured questionnaire. This self administered structured questionnaire is prepared to assess the magnitude of psychoactive substance abuse (khat, Alcohol, Cigarette, Heroin, Cannabis, Cocaine, Diazepam, Pethidine, etc) and intention to stop among Mekelle University students. The importance of this study contributes to baseline information to examine strategies for intervention towards preventions of drug abuse and to design a rehabilitation and treatment program on 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 30 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 you will be placed into communal envelope. The information you give us 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 _____

Name of department _____

Result of Questionnaire:

1. Completed ☐

3. Partially completed ☐

2. Refused ☐

4. Other (specify) ☐

Data collector name _____ Signature _____

Date of Questionnaire filled _____ Time started _____ Time completed _____

Checked by supervisor: Name _____ Signature _____ date _____

iii. Self Administer Structured Questionnaires

Part one:-Socio-demographic factors

No.	Questions	Classification	Remark
101	What is your age?	_____ (Age in complete year)	
102	What is your sex?	<input type="checkbox"/> 1. Male <input type="checkbox"/> 2. Female	
103	What is your ethnicity?	<input type="checkbox"/> 1. Amhara <input type="checkbox"/> 2. Oromo <input type="checkbox"/> 3. Tigray <input type="checkbox"/> 4. Gurage <input type="checkbox"/> 5. Other(Specify)_____	
104	What is your religion?	<input type="checkbox"/> 1. Orthodox <input type="checkbox"/> 2. Muslim <input type="checkbox"/> 3. Protestant <input type="checkbox"/> 4. Catholic <input type="checkbox"/> 5. Other(Specify)_____	
105	What is your year of study?	<input type="checkbox"/> 1. First year <input type="checkbox"/> 2. Second year <input type="checkbox"/> 3. Third year <input type="checkbox"/> 4. Fourth year <input type="checkbox"/> 5. Fifth year <input type="checkbox"/> 6. Other(Specify)_____	
106	What is your family's occupation?	<input type="checkbox"/> 1. Merchant <input type="checkbox"/> 2. House wife <input type="checkbox"/> 3. Government employee <input type="checkbox"/> 4. NGO employee <input type="checkbox"/> 5. Daily laborer <input type="checkbox"/> 6. Private employee <input type="checkbox"/> 7. Farmer <input type="checkbox"/> 8. Other(Specify)_____	
107	How much pocket money do you get monthly? (in Birr)	_____	

Part two: History of Substance Abuse and Abstinence symptoms

No.	Questions	Classification	Remark
201	Have you ever seen any of the listed substance?(Put a tick mark √)	<input type="checkbox"/> 1. Khat <input type="checkbox"/> 2. Cigarette <input type="checkbox"/> 3. Alcohol <input type="checkbox"/> 4. Heroin <input type="checkbox"/> 5. Cannabis <input type="checkbox"/> 6. Diazepam <input type="checkbox"/> 7. Cocaine <input type="checkbox"/> 8. Pethidine <input type="checkbox"/> 9. Others(specify)-----	
202	Have you ever chewed khat?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
203	Have you chewed khat in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
204	Have you chewed khat during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
205	If your answer for question number 204 is yes, for what purpose do you take?	<hr/> <hr/>	If response No skip to Q206
206	Have you ever smoked, chewed, or sniffed any tobacco product (such as cigarettes, cigars, pipe tobacco, chewing tobacco)?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
207	Have you smoked, chewed, or sniffed a tobacco product in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
208	Have you smoked, chewed, or sniffed a tobacco product during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
209	If your answer for question number 208 is yes, for what purpose do you take?	<hr/> <hr/>	If response No skip to Q210
210	Have you ever drunk any alcoholic beverage (Including 'Tella', 'Teji', 'Areki', beer, wine, and 'katikala')?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	

211	Have you drunk any alcoholic beverage in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
212	Have you drunk any alcoholic beverage during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
213	If your answer for question number 212 is yes, for what purpose do you take?	<hr/> <hr/>	If 2, skip to Q214
214	Have you ever taken any cannabis (marijuana, pot, hashish, grass. bhang, and ganja)?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
215	Have you taken any cannabis in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
216	Have you taken any cannabis during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
217	If your answer for question number 216 is yes, for what purpose do you take?	<hr/> <hr/>	If response 2 skip to Q218
218	Have you ever taken Heroin?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
219	Have you taken Heroin in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
220	Have you taken Heroin during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
221	If your answer for question number 220 is yes, for what purpose do you take?	<hr/> <hr/>	If No skip to Q222
222	Have you ever taken any Cocaine?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
223	Have you taken any Cocaine in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
224	Have you taken any Cocaine during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
225	If your answer for question number 224 is yes, for what purpose do you take?	<hr/> <hr/>	If response No skip to Q226

226	Have you ever taken sleeping pills (like diazepam)?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
227	Have you taken sleeping pills in the past 12 months?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
228	Have you taken sleeping pills during the past 30 days?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
229	If your answer for question number 228 is yes, for what purpose do you take?	<hr/> <hr/>	If response No skip to Q230
230	If you ever use any of the above mentioned substance (Khat, alcohol, cigarette, hashish, cocaine, diazepam, pethidine and/or heroin) when did you initiate?	<input type="checkbox"/> 1. Elementary School <input type="checkbox"/> 2. Secondary School <input type="checkbox"/> 3. Preparatory School <input type="checkbox"/> 4. University <input type="checkbox"/> 5. Others/specify	
231	Have you ever been Annoyed/Angered when questioned about your use?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
232	Do you ever feel bad or guilty about your drug use?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
233	Are you unable to stop using drugs when you want to?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
234	Have you ever had an Eye-opener to get started in the morning?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
235	Have you gone to anyone for help for a drug problem?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
236	Do you want to treat for this problem?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
237	Have you been involved in a treatment program specifically related to drug use?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
238	Have you ever thought to stop abusing substance(s)?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	

Part three: Social–Cultural factors

No.	Questions	Classification	Remark
301	What is/are the reason(s) behind to continue using substance(s)?(put a tick mark)	<input type="checkbox"/> 1. Relax <input type="checkbox"/> 2. Alert <input type="checkbox"/> 3. Fearless <input type="checkbox"/> 4. Stress relieve <input type="checkbox"/> 5. Social concern <input type="checkbox"/> 6. Others/specify	
302	Who do you think pushed to use these abused substance?	<input type="checkbox"/> 1. Peer group <input type="checkbox"/> 2. Availability of substance <input type="checkbox"/> 3. Role models who use of substance <input type="checkbox"/> 4. Community <input type="checkbox"/> 5. Religion <input type="checkbox"/> 6. Family <input type="checkbox"/> 7. Other (specify)_____	

Part three: Clinical Symptoms

No.	Questions	Classification	Remark
401	Have you ever had blackouts or flashbacks as a result of drug use?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	
402	Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	

Thank you for completing this questionnaire.

Annex-II: Information sheet, Consent form & Questionnaire (Amharic Version)

i. የጽሑፍ መጠይቅ መረጃ ሰጪ ገፅ

አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት

ርዕስ:- በመቀሌ ዩኒቨርሲቲ ተማሪዎች ስላለው የማኅበራዊ መድኃኒት አለአግባብ መጠቀምና ለማቆም ያላቸውን ፍላጎት በተመለከተ የዳሰሳ ጥናት ትግራይ፣ኢትዮጵያ፣2003 ዓ.ም.

የጥናቱ ዳራ:-የማኅበራዊ መድኃኒት አለአግባብ መጠቀም በአገራችን የህብረተሰብ ጤና ችግር እየሆነ እየመጣ ነው።የህብረተሰባችን አንዱ አካል የሆኑ በከፍተኛ ትምህርት ቤቶች አየተከታተሉ ያሉ ተማሪዎች ማኅበራዊ መድኃኒት ችግር ላይ መሆናቸው መረጃዎች ያስረዳሉ።

የጥናቱ ዓላማ:-በመቀሌ ዩኒቨርሲቲ የማኅበራዊ መድኃኒት አለአግባብ የሚጠቀሙ ተማሪዎች ብዛትና ለማቆም ያላቸውን ፍላጎት መዳሰስ።

የጥናቱ አስፈላጊነትና ጠቀሜታ:-የዚህ ጥናት አስፈላጊነት የማኅበራዊ መድኃኒት አለአግባብ በመጠቀም የሚመጣውን የጤናና ማህበራዊ ችግር የተሰጠው ትኩረት ከሚጠበቀው በታች ሲሆን፤ ጠቀሜታውም ይህን ችግር ለመግታት ዩኒቨርሲቲ ተማሪዎችን ያተኮረ የመከላከል፣የህክምና እና የማገገም ስራዎችን ለመቀረፅ መሰረታዊ መረጃ ይሆናል።

የጥናቱ ጊዜ፣ቦታና ሂደት:- ጥናቱ የሚካሄደው ከመስከረም 1 እስከ የካቲት 30 2003 ዓ.ም. ሲሆን የጥናቱ ቦታ ደግሞ ከአዲስአበባ በስተሰሜን 783 ኪሎ ሜትር ርቀት ላይ በሚገኘው መቀሌ ከተማ ፣መቀሌ ዩኒቨርሲቲ ውስጥ ይሆናል። ይህ ጥናት አሰሳዊ ወይም ቃኚ ምርምር እንዲሁም ሁለቱም የምርምር ዘዴዎች ማለትም መጠናዊና አይነትዊን ያጠቃለለ ነው።እርስዎ የተመረጡት በቀላል የዕጣ ናሙና ዘዴ ነው።

ጥናቱ የሚያስከትለው ችግር:-መረጃው የሚሰበሰበው በተዘጋጀው የመጠይቅ ቅፅ ራስዎ በሞሙላት ሲሆን ለሞሙላት የሚወሰደው ጊዜ 30 ደቂቃ ነው። ምስጢራዊነቱ እስከተጠበቀ ድረስ በጥናቱ በመሳተፍዎ ምንም ዓይነት ጉዳት አይደርስም።ምስጢራዊነቱ ለመጠበቅም ስም ወይም ማንነት የሚገልፅ ነገር አይፃፍም፣የሰጡት መረጃ ሙሉ በሙሉ ለዚህ ምርምር ብቻ ይውላል፤ እንዲሁም ጥያቄው የሚሞሉት በተለየ ክፍል ሲሆን ሞልተው ሲጨርሱም የሚመልሱት በተዘጋጀው ፖስታ ውስጥ በመክተት ነው። ሌላ ሶስተኛ ወገን ስለማያየው ምስጢራዊነቱ የተጠበቀ ነው።

ፍቃደኝነት:-በዚህ ጥናት የሚሳተፉት በፍቃደኝነትዎ ነው። ለመመለስ ያልፈለጉት ጥያቄ አለመመለስና በፈለጉት ጊዜ ተሳትፈውን ማቋረጥ ይችላሉ። ተሳትፎዎን በማቋረጥዎ በቀጣይ የትምህርት ህይወትዎ የሚያመጣው ምንም ዓይነት ተፅዕኖና ችግር አይኖርም።

አድራሻ:- ማንኛውም ዓይነት ጥያቄ ወይም ቅሬታ ካለዎት ቀጥሎ በተዘረዘሩት አድራሻዎች ማግኘት ይችላሉ።

➤ኪዳን አብርሃ

ሞባይል ስልክ ቁጥር 0912334989 ወይም 0914747759

ኢ-ሜይል:-kidanabrha@gmail.com ወይም kidanabrha@yahoo.com

➤ Institutional Review Board (IRB):

ስልክ ቁጥር:- 251-1-15157701 ፋክስ:-251-1-15157701

ii. የጽሑፍ መጠይቅ የስምምነት ውል መረጃ

አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት

በመቀሌ ዩኒቨርሲቲ ተማሪዎች ስላለው የማነቃቂያ መድኃኒት አለአግባብ መጠቀምና ለማቆም ያላቸው ፍላጎት በተመለከተ ለሚደረገው የዳሰሳ ጥናት የቀረበ የመጠይቅ ቅፅ፡፡

የጽሑፍ መጠይቅ ጥያቄዎች ከመመለስዎ በፊት ስምምነትዎን የሚያረጋግጡበት የስምምነት ቅፅ፡፡

ይህ የመጠይቅ ቅፅ የተዘጋጀው በመቀሌ ዩኒቨርሲቲ የማነቃቂያ መድኃኒት (ጫት፣ አልኮል፣ሲጋራ፣ሄሮይን፣ኮኮይን ወዘተ) እና የእንቅልፍ መድኃኒቶች (ዲያዜፓም፣ፒቲዲን ወዘተ)አለአግባብ የሚጠቀሙ ተማሪዎች ብዛትና ለማቆም ያላቸው ፍላጎት ለማጥናት ሲሆን ጥናቱ የሚካሄደው በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት ጋር በመተባበር ነው፡፡

የዚህ ጥናት ጠቀሜታ ማስረጃዎች እንደሚያመለክቱት በዓለማችን አየተበራከተ የመጣውን የማነቃቂያና የዕንቅልፍ መድኃኒት አለአግባብ መጠቀም በመቀሌ ዩኒቨርሲቲ ተማሪዎችም ያለውን ብዛትና ተጠቃሚዎች ለማቆም ያላቸው ፍላጎት በማጥናት የዩኒቨርሲቲ ተማሪዎች ያተኮረ ወይም ያማከለ የመከላከል፣የህክምና የማገገም ስራዎች ለመቀረፅ መሰረታዊ መረጃ እንዲሆን በማሰብ ነው፡፡ ጥናቱ ለታለመለት ዓላማ የሚውልና መፍትሄ ጠቋሚ የሚሆነው ደግሞ የእርስዎ በጎ ፈቃድና ታማኝ መረጃ በማበርከት ነው፡፡መረጃው የሚሞሉት በተዘጋጀው የመጠይቅ ቅፅሲሆን ቅፁ ለሞሙላት የሚወስደው ሰዓት 30 ደቂቃ ነው፡፡ምስጢራዊነቱ የተጠበቀ ሲሆን የተመረጡትም ለሁሉም በተሰጠ ዕድል ወይም በዕጣ ስለሆነ በጥናቱ በመሳተፍዎ የሚደረስበዎት ችግር አይኖርም ፡፡ምስጢራዊነቱ ለመጠበቅ መጠይቁ ከተሞላም ብኃላ በተዘጋጀው ፖስታ አሸገው በቅርጫት ውስጥ ያስቀምጡታል፤ ስም ወይም ማንነትዎ የሚገልፅ ነገር አይጠቀስም እንዲሁም የሚሰጡት መረጃ በምስጢር የተጠበቀና ሙሉ በሙሉ ጠቀሜታው ለዚህ ጥናት ብቻ ነው፡፡ የመጠይቁ ቅፅ የሚሞሉት በፈቃደኝነትዎ ሲሆን መመለስ የማይፈልጉት ማንኛውም ዓይነት ጥያቄ መዝለል ወይም መተው ይችላሉ፤ እንዲሁም በፈለጉት ጊዜ መረጃውን መስጠት ማቋረጥ ይችላሉ፡፡ መጠየቁን ባለሞሙላትዎ ሆነ መሳተፍዎን በማቋረጥዎ በቀጣይ የትምህርት ህይወትዎ ምንም ዓይነት ተፅዕኖ አይኖረውም፡፡

በዚህ ጥናት ለመሳተፍ ይስማማሉ?

☐ አስማማለሁ

☐ አልስማማም

የመጠይቁ መለያ ቁጥር _____

የትምህርት ክፍሉ ስም _____

ውጤት

ለመጠይቁ ምላሽ የሰጡ

☐

ምላሽ መስጠት ያልፈለጉ

☐

በክፍሉ ምላሽ የሰጡ

☐

ሌላ ካለ ይገለፅ _____

የመረጃ ስብሰባ ስም _____ ፊርማ _____

የመጠይቅ ቅፁ የተሞላበት ቀን _____

መጠይቁን ለመሙላት የተጀመረበት ሰዓት _____ ያበቃበት ሰዓት _____

የተቆጣጣሪው ስም _____ ፊርማ _____

iii. የጽሑፍ መጠይቅ አማርኛ ጥያቄዎች

ክፍል አንድ፡አጠቃላይ የግለሰብ መረጃ

ተ.ቁ.	መጠይቅ	መልስ	ማብራርያ
101	ያለፈው የልደት ቀን ስንት ዓመት ነበርክ/ሽ?	_____	
102	ፆታ?	<input type="checkbox"/> 1. ወንድ <input type="checkbox"/> 2. ሴት	
103	የየትኛው የብሔረሰብ አካል ነዎት?	<input type="checkbox"/> 1. አማራ <input type="checkbox"/> 2. አሮሞ <input type="checkbox"/> 3. ትግራይ <input type="checkbox"/> 4. ጉራጌ <input type="checkbox"/> 5. ሌላ (ይጠቀስ)_____	
105	የየትኛው ሃይማኖት አማኝ ነዎት?	<input type="checkbox"/> 1. ኦርቶዶክስ ተዋህዶ <input type="checkbox"/> 2. እስልምና <input type="checkbox"/> 3. ፕሮቴስታንት <input type="checkbox"/> 4. ካቶሊክ <input type="checkbox"/> 5. ሌላ(ይጠቀስ) _____	
106	ስንተኛ ዓመት ተማሪ ነዎት?	<input type="checkbox"/> 1. 1ኛ ዓመት <input type="checkbox"/> 2. 2ኛ ዓመት <input type="checkbox"/> 3. 3ኛ ዓመት <input type="checkbox"/> 4. 4ኛ ዓመት <input type="checkbox"/> 5. 5ኛ ዓመት <input type="checkbox"/> 6. ሌላ(ይጠቀስ)_____	
107	ቤተሰብዎ በምን ዓይነት ስራ ላይ ይገኛሉ?	<input type="checkbox"/> 1. ነጋዴ <input type="checkbox"/> 2. የቤት እመቤት <input type="checkbox"/> 3. የመንግስት ቅጥርተኛ <input type="checkbox"/> 4. የመንግስታዊ ያልሆነ ድርጅት ቅጥርተኛ <input type="checkbox"/> 5. የቀን ሰራተኛ <input type="checkbox"/> 6. የግል ተቀጣሪ <input type="checkbox"/> 7. ገበሬ <input type="checkbox"/> 8. ሌላ ካለ(ይጠቀስ)_____	
108	በየወሩ ከቤተሰብዎ የምግብን ሳይጨምር ምን ያህል ገንዘብ በብር ያገኛሉ?	_____	

ክፍል ሁለት: የመድኃኒት መጠቀምና ለመቆም ያለው ስሜት

ተ.ቁ.	መጠይቅ	መልስ	ማብራርያ
201	ከተዘረዘሩት ማነቃቂያዎችና መድኃኒቶች የትኞችን አይተው ያውቃሉ? የ✓ ምልክት በሳጥኑ ያስቀምጡ?	<input type="checkbox"/> 1. ጫት <input type="checkbox"/> 2. ሲጋራ <input type="checkbox"/> 3. አልኮል <input type="checkbox"/> 4. ሄሮይን <input type="checkbox"/> 5. ካናቢስ(ሃሽሽ) <input type="checkbox"/> 6. ዲያዜፓም <input type="checkbox"/> 7. ኮከየን <input type="checkbox"/> 8. ፔቲዲን <input type="checkbox"/> 9. ሌላ ካለ ይጠቀሱ ----	
202	በህይወት ዘመንዎ ጫት ቅመም ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
203	ላለፉት 12 ወራት ጫት ቅመሙ ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
204	ላለፉት 30 ቀናት ጫት ቅመሙ ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
205	ለጥያቄ 203 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለዎ ነው?	_____	መልስዎ 2(አላውቅም) ከሆነ ወደ ጥያቄ ቁጥር 206 ይለፉ
206	በህይወት ዘመንዎ የትንባሆ ዓይነቶች (ሲጋራ፣ሲጋር፣ የሚመጠጥ ትንባሆ፣ የሚላመጥ ትንባሆ) አጭሰው፣ አላምጠው፣ አሸትተው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
207	ላለፉት 12 ወራት የትንባሆ ዓይነት የሆነ ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
208	ላለፉት 30 ቀናት የትንባሆ ዓይነት የሆነ ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
209	ለጥያቄ 209 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	_____	መልስዎ 2 ከሆነ ወደ ጥያቄ ቁጥር 210 ይለፉ
210	በህይወት ዘመንዎ የአልኮል መጠጦች (ጠላ፣ጠጅ፣ አረቂ፣ ካቲካላ፣ቢራ፣ ወይን፣ወዘተ) ተጠቅመው ታውቃለህ/ሽ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
211	ላለፉት 12 ወራት የአልኮል መጠጦች የሆነ ጠጥተዎ ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	

212	ባለፉት 30 ቀናት የአልኮል መጠጦች የሆነ ጠጥተዎ ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
213	ለጥያቄ 212 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	መልስ 2 ከሆነ ወደ 214 ጥያቄ ይለፉ
214	በህይወት ዘመንዎ ከካናቢስ ዓይነቶች (ማሪዋና፣ ፖት፣ ሃሺሽ፣ ሃሽሽ ሳር፣ በሃንግ፣ ጋንጃ) ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
215	ባለፉት 12 ወራት ከካናቢስ ዓይነቶች የሆነ ተጠቅመው ያውቃሉ?	_____	
216	ባለፉት 30 ቀናት ከካናቢስ ዓይነቶች የሆነ ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
217	ጥያቄ 216 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	_____	መልስዎ 2 ከሆነ ወደ ጥያቄ ቁጥር 218 ይለፉ
218	በህይወት ዘመንዎ ሄሮይን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
219	ባለፉት 12 ወራት ሄሮይን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
220	ባለፉት 30 ቀናት ሄሮይን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
221	ለጥያቄ 220 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	_____	መልስዎ 2 ከሆነ ወደ ጥያቄ ቁጥር 222 ይለፉ
222	በህይወት ዘመንዎ ኮኬን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
223	ባለፉት 12 ወራት ውስጥ ኮኬን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
224	ባለፉት 30 ቀናት ውስጥ ኮኬን ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
225	ለጥያቄ 224 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	_____	መልስዎ 2 ከሆነ ወደ ጥያቄ ቁጥር 226 ይለፉ
226	በህይወት ዘመንዎ ከነዚህ የማኒቃቂያ መድኃኒቶች ውስጥ (ዲያኬፓም፣ ፔቲድን፣ ኮዴይን፣ ሞርፊን፣ ወዘተ) ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
227	ባለፉት 12 ወራት ውስጥ ከነዚህ የማኒቃቂያ መድኃኒቶች ውስጥ ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	

228	ባለፉት 30 ቀናት ውስጥ ከነዚህ የማከቃቂያ መድኃኒቶች ውስጥ ተጠቅመው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
229	ለጥያቄ 228 መልስዎ አዎ ከሆነ ፣ ለምን ጥቅም ብለው ነው?	_____	መልስዎ 2 ከሆነ ወደ ጥያቄ ቁጥር 230 ይለፉ
230	ከላይየተዘረዘሩት(ጫት፣አልኮል፣ሲጋራ፣ሃሽሽ፣ኮኬይን፣ዲያዜ ፓም ፣ፔቲዲን ወይም ሄሮይን) ተጠቅመው የሚያውቁ ከሆነለመጀመርያ ጊዜ መቼ ወሰዱ?	<input type="checkbox"/> 1.አንደኛ ደረጃ ት/ቤት <input type="checkbox"/> 2.ሁለተኛ ደረጃ ት/ቤት <input type="checkbox"/> 3.መሰናድዎ ት/ቤት <input type="checkbox"/> 4.ዩኒቨርሲቲይ <input type="checkbox"/> 5.ሌላ/ይገለጽ	በሳጥኑ የ"√" ምልክት ያድርጉ፡፡
231	መድኃኒት ስለመጠቀምዎ ገደኞችዎ ሲወቅስዎት ይበሳጫሉ?	<input type="checkbox"/> 1. አለ <input type="checkbox"/> 2. የለም	
232	የማከቃቂያ መድኃኒት በመጠቀምዎ ይፀፀታሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አልፀፀትም	
233	ይወስዱት የነበረው የማከቃቂያ መድኃኒት ለማቆም ፈልገው አቅቷት ያውቃል?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
234	ከአንጎበር (ድብርት) ለመዳን በጥዋቱ ተነስተው የማከቃቂያ መድኃኒት ወስደው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
235	በሚወስዱት የማከቃቂያ መድኃኒት ችግር ምክንያት ከሰዎች እርዳት ፈልገው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
236	ከማከቃቂያ መድኃኒት ለመላቀቅ መታከም ይፈልጋሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አልፈልግምም	
237	ከማከቃቂያ መድኃኒት ለመላቀቅ ፈልገው የህክምና ማእከል ተሳትፈው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
238	ማከቃቂያ መድኃኒቱ ለማቋረጥ ወይም ለማቆም አስበህ/ሽ ታውቃለህ/ሽ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	

ክፍል ሦስት: ማህበራዊና ባህላዊ ሁኔታዎች

ተ.ቁ.	መጠይቅ	መልስ	ማብራሪያ
301	መድኃኒት/ቶች በቀጣይነ የሚጠቀሙበት ምክንያት ለምንድን ነው?	<input type="checkbox"/> 1. ለመዝናናት <input type="checkbox"/> 2. ለመነቃቃት <input type="checkbox"/> 3. ለድፍረት <input type="checkbox"/> 4. ላለመጨነቅ <input type="checkbox"/> 5. ከጓደኛ ላለመለየት <input type="checkbox"/> 6. ሌላ/ይገለጽ	
302	መድኃኒት/ቶች እንዲጠቀሙ የሚያበረታታዎት ወይም ያሳየዎት ማን ነው?	<input type="checkbox"/> 1. ጓደኛ <input type="checkbox"/> 2. በአቅራቢያ ስለሚገኝ <input type="checkbox"/> 3. የማነቃቂያ መድኃኒት በመጠቀም አርአያ የሆነ ስላለ <input type="checkbox"/> 4. ህብረተሰቡ <input type="checkbox"/> 5. ሃይማኖት <input type="checkbox"/> 6. ቤተሰብ <input type="checkbox"/> 7. ሌላ ካለ ይጥቀሱ_____	

ክፍል አራት: የህመም ምልክቶች

ተ.ቁ.	መጠይቅ	መልስ	ማብራሪያ
401	በመጠጥ ምክንያት ራስዎን ስተው ያውቃሉ?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	
402	መድኃኒት መጠቀም በማቀረጠዎ ህመም ተስምቶት ያውቃል?	<input type="checkbox"/> 1. አዎ <input type="checkbox"/> 2. አላውቅም	

ጊዜዎን ሰጥተው ፤ ፈቃደኛ ሆነው በመጠይቁ ቅፅ ያሉ ጥያቄዎችን በመመለስዎ አመሰግናለሁ፡፡

Annex-III: Information sheet, Consent & Interview Questionnaire (English Version)

i. Information sheet for in-depth semi-structured interview

Addis Ababa University, College of Health Science, School of Public Health

Title: Psychoactive substance abuse and intention to stop among students of Mekelle University, Ethiopia, 2011.

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 Mekelle 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 September 1, 2010 – February 30, 2011 in Mekelle University, Mekelle, capital city of Tigray, and 783 km from Addis Ababa, Ethiopia. Cross-sectional mixed type (Quantitative, qualitative) method will be used. You will be selected voluntarily by key informant due we expect you have helpful information.

Potential risk: Data will be collected by in-depth semi-structure interview and invasive procedure will not be taken place. Compensation will be given for the time waste to interview. There will not be potential risk as far as confidentiality will be kept. To protect confidentiality participant's name or any identity will not be recorded and the information you give us will not be used other than this study. Study subject will be interviewed in isolated class and will be involved voluntarily and have a full right to jump any question that will not want to answer and to withdraw from the study at any time. Your refusal will not have had any impact on your subsequent life of education.

Addresses: If you have any questions and/or complaints contact us by the following addresses.

Principal investigator: Kidan Abrha

Mobil: 0914747759/0912334989 E-mail: kidanabrha@gmail.com/kidanabrha@yahoo.com

Institutional Review Board (IRB): Tel.251-1-15157701 Fax: 251-1-15157701

ii. Consent form for in-depth semi-structured interview

Addis Ababa University, School of Public Health

Psychoactive substance abuse and intention to stop abuse among students of Mekelle University, Ethiopia, 2011.

Consent form that certify respondent's agreement before in depth interview.

My name is _____, I am data collector. You will be selected voluntarily to be one of the participants in the study by key informant. I am here to in-depth interview about psychoactive substance abuse and intention to stop among students of Mekelle University, Ethiopia. This is voluntary in-depth interview. There is no right and wrong answer. All answers, positive and negative, are all welcome. Would you agree to participate in the study? If you agree, I would like to open in-depth interview, so feel free to answer honestly and openly in order to miss any points in this in-depth interview. I will use a tape recorder. Your name is not going to be recorded and the information you give us would be kept confidential and will be used only for study purpose. The in-depth semi structured interview is voluntary; you have the right to participate, or not to participate, to interrupt and not to answer some questions you don't like to answer at any time during the interview. Your refusal will not have any effect on services that you are or any member of your family receives. However, your participation is important to fulfill the study and in order to help base line information in the designing of interventions focusing university students.

Thanks in advance for your willingness; and these will be the questions:

iii. In-depth semi-structured interview Questions

1. How is education? How is life? How is study? Have ever used any substance to be energetic at time of the study?
2. Mention substance abuse or drug you know?
3. Which of the substance mentioned do you use?
4. When did you begin to use the substance?
5. How did you begin to use the substance(s)?

6. Who did introduce the substance(s) to you (Your friend, parent, family or by yourself)?
Don't mention his/her name.
7. With whom (friend, parent, family, other) do you use the substance(s)? Don't mention his/her name.
8. For how long do you use the substance(s)?
9. At what time do use the substance(s)?
10. Mention how you feel after using the substance(s)?
11. Have you ever thought to stop abusing substance(s)?
12. What difficulties do you face to stop abusing substance(s)?
13. Did you ever feel angry when people criticized on your using substances?
14. Did you ever feel guilty of abusing substance(s)?
15. Do you ever need a drink to get started in the morning or to stop the shakes?
16. Do you want to stop the drug you are using?
17. If no, what do you think are the reasons?
18. If yes, why?
19. Do you know the presence of rehabilitation and treatment center for substance abusers?
20. Do you want to be treated?

Annex-IV: Information sheet, Consent & Interview Questionnaire (Amharic Version)

i. የክፍል ነፃ ቃለ መጠይቅ መረጃ ሰጪ ገፅ

አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት

ርዕስ:- በመቀሌ ዩኒቨርሲቲ ተማሪዎች ስላለው የማከቃቂያ መድኃኒት አለአግባብ መጠቀምና ለማቆም ያላቸውን ፍላጎት በተመለከተ የዳሰሳ ጥናት ትግራይ፣ኢትዮጵያ፣2003 ዓ.ም.

የጥናቱ ዳራ:-የማከቃቂያ መድኃኒት አለአግባብ መጠቀም በአገራችን የህብረተሰብ ጤና ችግር እየሆነ እየመጣ ነው።የህብረተሰባችን እንዲሁም አካል ከሆኑት ውስጥ በከፍተኛ ትምህርት ቤቶች አየተከታተሉ ያሉ ተማሪዎች ማከቃቂያ በመውሰድ ችግር ላይ መሆናቸውን መረጃውች ያስረዳሉ።

የጥናቱ ዓላማ:-በመቀሌ ዩኒቨርሲቲ የማከቃቂያ መድኃኒት አለአግባብ የሚጠቀሙ ተማሪዎች ብዛትና ለማቆም ያላቸውን ፍላጎት መዳሰስ።

የጥናቱ አስፈላጊነትና ጠቀሜታ:-የዚህ ጥናት አስፈላጊነት የማከቃቂያ መድኃኒት አለአግባብ በመጠቀም የሚመጣውን የጤናና ማህበራዊ ችግር የተሰጠው ትኩረት ከሚጠበቀው በታች ሲሆን፤ ጠቀሜታውም ይህን ችግር ለመግታት ዩኒቨርሲቲ ተማሪዎችን ያተኮረ የመከላከል፣የህክምና እና የማገገም ስራዎችን ለመቀረፅ መሰረታዊ መረጃ ይሆናል።

የጥናቱ ጊዜ ቦታና ሂደት:-ጥናቱ የሚካሄደው ከመስከረም 1 እስከ የካቲት 30 2003 ዓ.ም. ሲሆን የጥናቱ ቦታ ደግሞ ከአዲስ አበባ በስተሰሜን 783 ኪሎ ሜትር በሚገኘው መቀሌ ከተማ ፣መቀሌ ዩኒቨርሲቲ ውስጥ ይሆናል።ይህ ጥናት አሰሳዊ ወይም ቃኚ ምርምር እንዲሁም ሁለቱም የምርምር ዘዴዎች ማለትም መጠናቂያ አይነትዊን ያጠቃለለ ነው።የተመረጡትም በፈቃደኝነትም ለጥናቱ ጠቃሚ የሆነ መረጃ ይሰጣሉ ተብሎ ስለታመነበት ነው።

ጥናቱ የሚያስከትለው ችግር:- መረጃው የሚሰበሰበው በክፍል ነፃ ቃለ መጠይቅ ነው።ምስጢራዊነቱ የተጠበቀ እስከሆነ ድረስ በጥናቱ በመሳተፍም ምንም አይነት ጉዳት አይደርስም።በዚህ ጥናት በመሳተፍም ምክንያት ላጠፉት ጊዜ በማስላት መካካሻ ክፍያ ይሰጣል።ምስጢራዊነቱ ለመጠበቅም ስም ወይም ማንነት የሚገልፅ ነገር አይፃፍም፣የሰጡት መረጃ ሙሉ በሙሉ ለዚህ ምርምር ብቻ ይውላል፤የክፍል ነፃ መጠይቅ ጥያቄው የሚካሄደው በተለየ ክፍል ነው። ይህም ነፃ ሁኔታ መረጃዎን ለመስጠትና ምስጢራዊነቱ ለመጠበቅ ሲባል ነው።

ፍቃደኝነት:-በዚህ ጥናት የሚሳተፉት በፍቃደኝነት ነው። ለመመለስ ያልፈለጉት ጥያቄ አለመመለስና በፈለጉት ጊዜ ተሳትፈውን ማቋረጥ ይችላሉ። ተሳትፎዎን በማቋረጥዎ በቀጣይ የትምህርት ህይወትዎ የሚያመጣበት ምንም አይነት ተፅዕኖና ችግር አይኖርም።

አድራሻ:- ማንኛውም አይነት ጥያቄ ወይም ቅሬታ ካለዎት ቀጥሎ በተዘረዘሩት አድራሻዎች ማግኘት ይችላሉ።

➤ ኪዳን አብርሃ

ሞባይል ስልክ ቁጥር 0912334989 ወይም 0914747759

ኢ-ሜይል:-kidanabrha@gmail.com ወይም kidanabrha@yahoo.com

➤ Institutional Review Board (IRB):

ስልክ ቁጥር:- 251-1-15157701 ፋክስ:-251-1-15157701

ii. የክፍል ነፃ ቃለ መጠይቅ የስምምነት ቅፅ

አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት

በመቀሌ ዩኒቨርሲቲ ተማሪዎች ስላለው የማከታተያ መድኃኒት መጠቀም መጠንና ለማቆም ያላቸውን ዕቅድ በተመለከተ ለሚደረገው የዳሰሳ ጥናት የቀረበ የክፍል ነፃ የቃለ መጠይቅ ቅፅ፡፡

የክፍል ነፃ ቃለ መጠይቅ ጥያቄዎች ከመመለሰዎ በፊት ስምምነትዎን የሚገልፁበት የሚከተለው ስምምነት ቅፅ፡፡

ሰሜ_____ ይባላል፡፡ መረጃ ሰብሳቢ ነኝ፡፡ይህ ጥናቱ የሚካሄደው በዋና አጥኝዋና በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ትምህርት ቤት ጋር በመተባበር ነው፡፡ እርስዎ የተመረጡት በፈቃደኝነትዎ ለጥናቱ ጠቃሚ የሆነ መረጃ ይሰጣሉ ተብሎ ስለታመነበዎት ነው፡፡ እኔ የመጣሁት በማከታተያ መድኃኒት (ጫት፣ አልኮል፣ሲጋራ፣ሄሮይን፣ኮኮይን ወዘተ) እና የእንቅልፍ መድኃኒቶች (ዲያኬፓም፣ፒቲዲን ወዘተ)አለአግባብ የመጠቀም ብዛትና የማቆም ፍላጎት በሚል ርዕስ ዙርያ የክፍል ነፃ ቃለ መጠይቅ በማድረግ ለጥናቱ መረጃ ለመስጠት ነው፡፡ የዚህ ጥናት ጠቀሜታ በዓለማችን አየተበራከተ የመጣውን የማከታተያና የዕንቅልፍ መድኃኒት መጠቀም፣ በመቀሌ ዩኒቨርሲቲ ተማሪዎች ያለውን ተጠቃሚዎች ብዛትና ለማቆም ያላቸው ፍላጎት በማጥናት የዩኒቨርሲቲ ተማሪዎች ያተኮረ ወይም ያማከለ የመከላከል፣የህክምና የማገገም ስራዎች ለመቀረፅ መሰረታዊ መረጃ እንዲሆን በማሰብ ነው፡፡ ጥናቱ ለታለመለት ዓላማ የሚውልና መፍትሄ ጠቋሚ የሚሆነው ደግሞ የእርስዎ በጎ ፈቃድና ታማኝ መረጃ በማበርከት ነው፡፡ምስጢራዊነቱ የተጠበቀ እስከሆነ ድረስ በጥናቱ በመሳተፍዎ የሚደረስበዎት ችግር አይኖርም፡፡መረጃ ለመስጠት ያባከኑት ጊዜም በማሰላት ይከፈለዎታል፡፡ምስጢራዊነቱ ለመጠበቅም ስም ወይም ማንነትዎ የሚገልፅ ነገር አይቀዳም እንዲሁም አይጻፍም፡፡ የሚሰጡት ማስረጃ በምስጢር የተጠበቀና ጠቀሜታውም ሙሉ በሙሉ ለዚህ ጥናት ብቻ የሚውል ነው፡፡ ይህ የክፍል ነፃ ቃለ መጠይቅ የሚደረገው በፈቃደኝነትዎ ሲሆን መመለስ የማይፈልጉት ማንኛውም ዓይነት ጥያቄ መዝለል ወይም መተው እንዲሁም በፈለጉት ጊዜማቋረጥ ይችላሉ፡፡በማቋረጠዎ በቀጣይ የትምህርት ህይወትዎ ምንም ዓይነት ተፅዕኖ አይኖረውም፡፡ ለክፍል ነፃ ቃለ መጠይቅ ፍቃደኛ ነዎት? ፍቃደኛ ከሆኑ መረጃው የሚሰጡት በቃለ መጠይቅ ሲሆን የተዘጋጀው የክፍል ነፃ ቃለ መጠይቅ ጥያቄና የእርስዎ መልስ በድምፅ መቀረጫ ይቀረጻል፡፡ስለሆነም ትክክለኛ ወይም ትክክለኛ ያልሆነ የሚባል መልስ የለም በመሆኑም የሚሰጡት መረጃ ጠቃሚ ስለሆነ መረጃ ከመስጠት አይቆጠቡ፡፡

iii. የክፍል ነፃ ቃለ መጠይቅ የአማርኛ ጥያቄዎች

በቅድሚያ ለቃለ መጠየቁ ፍቃደኛ በመሆኑዎ አመሰግናለሁ፡፡

1. ትምህርት እንዴት ነው? ህይወትስ? ጥናትስ? ለጥናት ማከታተያ መድኃኒቲት ተጠቅመው ያውቃሉ?
2. የምታውቃቸው/ቀያቸው የማከታተያ መድኃኒቶች ብትዘረዝርልኝ/ሪልኝ?
3. ከገለፅካቸው/ሸቸው አንተ/ቺ የትኛውን ነው የምትጠቀሙት?
4. የስንት ዓመት እያለህ/ሽ ማከታተያ መድኃኒቱ ጀመርክ/ሽ?
5. ማከታተያ መድኃኒቱ እንዴት ጀመርክው/ሽው?
6. ለመጀመሪያ ስትጠቀም/ሚ ያሳየህ/ሽ ማን ነው? ስሙን/ሚን መጥቀስ አያስፈልግም፡፡ ጓደኛ፣ ወላጅ፣ቤተሰብ ፣በራስህ ወይስ ሌላ?
7. ማከታተያ መድኃኒቱ ስትጠቀም ከነማን ጋር ሆነህ ነው?ስሙን/ሚን መጥቀስ አያስፈልግም፡፡ ከጓደኛ፣ ከወላጅ፣ ከቤተሰብ

8. ለስንት ዓመት ማነቃቂያ መድኃኒቱ ተጠቀምክ/ሽ?
9. መቼ መቼ ማነቃቂያ መድኃኒቱ ትጠቀማለህ/ሽ?
10. የማነቃቂያ መድኃኒቱ ከተጠቀምክ/ሽ ብኃላ የሚሰማህ/ሽ ስሜት ካለ ጥቀስ/ሽ?
11. ማነቃቂያ መድኃኒቱ ለማቋረጥ ወይም ለማቆም አስበህ/ሽ ታውቃለህ/ሽ?
12. ማነቃቂያ መድኃኒቱ ለማቋም የሚያዳግትህ/ሽ ነገር ካለ ብትዘረዝርልኝ/ሪልኝ?
13. ሰዎች አነዚህ/ይህ መድኃኒት/ቶች በመጠቀምህ/ሽ ሲወቅሱህ/ሽ ተበላጭተህ/ሽ ታውቃለህ/ሽ?
14. አነዚህ/ይህ መድኃኒት/ቶች በመጠቀምህ/ሽ ፀፅቶህ/ሽ ታውቃለህ/ሽ?
15. አልኮል ወይም ማነቃቂያ መድኃኒት ተጠቅመህ/ሽ አድረህ ከአጎበርህ/ሽ ለመንቃት ከአንቅልፍ እንደነቃህ/ሽ ተጠቅመህ/ሽ ታውቃለህ/ቂያለሽ?
16. የምትጠቀመውን/ሚውን ማነቃቂያ መድኃኒት ማቆም ትፈልጋለህ/ጌለሽ?
17. አዎ ከሆነ መለስህ/ሽ፣ እንድታቆም ያደረጉህ ሁኔታዎች ምንድን ነው/ናቸው?
18. አላቆምም ካልክ/ሽ፣ ምክንያትህ ምንድን ነው?
19. ለማቆም የሚረዳ ህክምና እንዳለ ታውቃለህ/ሽ?
20. ለመታከምስ ትፈልጋለህ/ጌለሽ?

Annex V: Declaration

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirement for the Degree of Masters of Public Health in Reproductive Health and has not been presented for a degree in this or any other university. All source of materials used for this thesis have been duly acknowledged.

Name: Kidan Abrha Teferi

Signature: _____

Place: College of Health Sciences, School of Public Health, AAU

Date of submission: _____

This thesis work has been submitted for examination with my approval as the university advisor

Name: Professor Damen H/Mariam (MD, MPH, PHD)

Signature: _____

Place: College of Health Sciences, School of Public Health, AAU

Date: _____