
**Addis Ababa University**

**College of Natural and Computational Sciences**

**Department of Zoological Sciences**

# ASSESSEMENT OF PREVALENCE OF BARS, KHAT AND SHISHA HOUSES AND SUBSTANCE USE PRACTICES BY SCHOOL-AGE ADOLESCENTS AROUND HIGH SCHOOLS IN GULLELE SUB CITY GOVERNMENT

*A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Biology*

**By**

**MESFIN TESFAYE**

**Advisor**

**Dr. TILAYE WUBE**

**December, 2021**

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## Acronyms

CDC—Centers for Disease Control and Prevention

CSA-- Central Statistical Agency

DACA—Deferred Action for Childhood Arrivals

EPHA-- Ethiopian Public Health Association

LSD—Lysergic acid Di-ethylamide

NCPC—National Crime Prevention Council

NIDA—National Institute on Drug Abuse

UNDP—United Nations Development Programme

UNODC-- United Nations Office on Drugs and Crimes

UNODCCP-- United Nations Office on Drugs Control and Crime Prevention

NSDUD—National Survey on Drug Use and Health

STIs-- Sexually Transmitted Infections

WHO-- World Health Organization

## Abstract

The study assessed the prevalence of school-age adolescents substance use (alcohol, khat and shisha) within vicinities of three high schools in Gullele sub-city. The study was an effort to assess availability and accessibility of addictive substances and the extent of adolescents of school-age use of such substances. Data were through counting, direct observations, random sampling and conducting interview. A total of 210 bars, khat shops and shisha houses were identified around the studied high schools. Of these, 114 were bars, 72 khat shops and 24 were shisha houses. On the other hand, 772 (589 males and 183 females) alcohol users, 416 (319 males and 97 females) khat users and 117 (85 males and 32 females) shisha users of school-age adolescents were recorded. Most substance users were identified around Dilber High school followed by Miraf High school and Kechene Debereselam High school. The number of houses, and substance user school-age adolescents increased as the distance from the school increases. As far as sex is concerned, females were less involved in substance use than males. In the categories of time of the day, substance use practice by school-age adolescents was highest during the late afternoon and lowest during the morning.

**Keywords:** Adolescent, Alcohol, High schools, Khat, Shisha, Substance use

## Keywords

**Adolescent** – a boy or girl between the ages of 15-20.

**Alcohol** -- ethanol-containing beverages.

**Khat**: - is a plant whose leaves and stem tips are used as stimulants.

**Shisha**- the water pipe tobacco smoking often fruit-flavored passes prior to inhalation

**Substance abuse:** For this study it was defined as the abuse of alcohol, khat and shisha by school-age adolescents.

# 1. INTRODUCTION

## 1.1 Background of the Study

Substance abuse is one of the most undeniable biological, psychological and social problems that can weaken the basis of the individual, family, social, and cultural life of a person and society and make it collapse (Taremian, 2014). Use of substances such as alcohol, khat and tobacco has become one of the rising major public health and social and economic problems worldwide (Odejide, 2006).

Globally, there were about 190 million substance users, out of these substance users, around 40 million serious illnesses or injuries were identified in each year (Rapeah et al., 2008). Substance abuse leads to decreased academic performance, increased risk of contracting HIV/AIDS and other sexually transmitted infections, or other psychiatric disorders such as lethargy, hopelessness and insomnia (Volkow et al., 2005).

Regarding to World Drug Report (2017) by United Nations Office on Drugs and Crime in the years 2006-2015 for world population aged 15-64, it was estimated that 208 million (4.9%) people were drug users out of which 26 million (0.6%) people had drug user disorders. This rose to 255 million (5.3%) drug users in 2015 out of which 29.5 million (0.6%) had drug user disorders which resulted in 5.4% burden of disease most of which caused life loss (Zaman et al., 2015).

Society for the Study of Addiction (2018) also identified that in 2015, globally, the estimated prevalence among the adult population was 18.4% for heavy alcohol use; 15.2% for daily tobacco smoking; and 3.8 for past-year cannabis use. In 2016, it was estimated that globally, around 164 million people had an alcohol or drug use disorder. The global burden of disease attributable to alcohol and illicit drug accounts for 5.4% of the total burden of disease. Another 3.7% of the global burden of disease is attributable to tobacco use.

Africa occupies second position worldwide in the trafficking and consumption of illegal drugs (Ndinda, 2013). According to United Nation (UN) statistics 37,000 people in Africa die annually from diseases associated with the consumption of illegal drugs. The UN estimates there are 28 million drug users in Africa, the figure for the United States and Canada is 32 million. The rapid economic, social, and cultural transitions that most countries in sub-Saharan Africa are now experiencing have created a favorable condition for increased and socially disruptive use of drugs and alcohol (WHO, 2010).They further argue that substance use is a growing problem in Ethiopia, as in

many developing countries. Alcohol, tobacco and khat are the most frequent substances of abuse (John-Lengba et al., 2004).

Alcohol, a central nervous system depressant and intoxicant, is the most commonly used psychoactive substance in both the mentally healthy and the mentally ill. Alcoholism is the excessive use of ethanol-containing beverages (Yigzaw et al., 2005). The 2016 Ethiopian Demographic and Health Survey showed that 35% of women and about half of men (46%) reported drinking alcohol at some point in their lives (CSA, 2016). With regard to alcohol consumption, nearly 41% had consumed alcohol during the past 30 days prior to the survey. About 36.6% of young people aged 15–29 years are current alcohol users. The proportion of men who consumed alcohol (46.6%) was higher than that of women (33.5%) (Gebreslassie et al., 2013).

Alcohol intake following khat chewing, commonly known in Ethiopia as *"chebsi",* is perceived to overcome the effect of khat chewing. Therefore, most khat chewers are believed to drink after chewing. Some people, however, use drugs with sedative or hypnotic effects (Elizabet, 1995).

Khat is a plant whose leaves and stem tips are used as stimulants. It is widely used in East Africa and the Arabian Peninsula for its euphoric effect. The use is deeply rooted in the regional customs and traditions. College and university students consume khat to get mental alertness and to work hard in their academic endeavors. In a study conducted in 2001 among college students and instructors in Northwest Ethiopia, the lifetime prevalence of khat chewing were 26.7% and 42% respectively (Ayana and Mekonen, 2004).

Tobacco smoking is the major single known cause of non-communicable diseases (Abdullah, 2004). It is the most important risk factor for cardiovascular diseases(CVD), obstructive pulmonary disease(OPD), malignancies of the respiratory and upper gastrointestinal tract, and causes death among millions of people worldwide (Atwoli, 2011). Cigarette smoking also is becoming an important public health problem in the developing countries (Abdullah, 2004). Cigarette is rolled into cigars, shredded for use in cigarettes and pipes, processed for chewing, or ground into snuff a fine powder that is inhaled through the nose. Cigarette smoking contains noxious and cancer-producing ingredients. A long-term effect of tobacco is dependence and other health ill effects such as bronchitis and coronary heart disease (Medline Plus, 2003).

Water pipe tobacco smoking involves the use of a multi-stemmed instrument containing water at its base through which tobacco smoke, often fruit-flavored, passes prior to inhalation. According to the Ethiopian Public Health Institute (EPHI, 2018), there are currently over three million tobacco users in Ethiopia. According to the World Health Organization (WHO) (2014), 8.9% of Ethiopian men and 0.5% of Ethiopian women age 15 years and older smoke tobacco products. The above researchers

findings show the substance use practice become a common problem among university and high school adolescents in Ethiopia, but there is no enough information about the prevalence of bars, khat, and shisha houses and substance use practices of high school adolescents in those houses in Addis Ababa.

In this study, the prevalence of adolescent substance use (alcohol, khat and shisha) is investigated within vicinities of three high schools in Gullele sub city. The study is an effort to assess availability and accessibility of addictive substances described above and the extent of adolescents of school age use of such substances.

## 1.2 Objectives of the study

### *1.2.1 General objective*

To assess the prevalence of bars, khat and shisha houses and school-age adolescent substance use practice in three selected high schools located within Gullele sub city.

### *1.2.2 Specific objectives*

- Assess variability in substance use between male and female adolescents.
- Assess the effect of distance of bars, khat and shisha houses from school compounds on substance use by adolescents.
- Determine the prevalence of substance use practice and related factors in school-age adolescents.
- Examine the prevalence of bars, shisha and khat houses around sampled high Schools in Gullele sub city.

# 2. REVIEW OF RELATED LITERATURE

## 2.1 Substance abuse

Substance abuse refers to the use of all chemicals, drugs and industrial solvents that produce dependence (psychological and physical) in a percentage of individuals who take them. It can also be used to refer to repeated non-medical use of potentially additive chemical and organic substances. According to WHO (2000), substance abuse includes the use of chemicals in excess of normally prescribed treatment dosage and frequency, even with knowledge that they may cause serious problems and eventually lead to addiction (Atwoli et al.,2011).

Substance abuse can simply be defined as a pattern of harmful use of any substance for mood-altering purposes. "Substances" can include alcohol and other drugs (illegal or not) as well as some substances that are not drugs at all.

According to UNODC (2018) world drug report, substance abuse is also defined as “use of a drug by an individual when there is no legitimate medical need to do so”. Substance abuse is the risky use of psychoactive substances, including alcohol and illicit drugs (WHO, 2011). The substances that are used most by adolescents are alcohol, nicotine (in tobacco or vaping products), and marijuana (Henok, 2015).

## 2.2 Classification of drugs and other substances

In the broadest terms, a drug is any substance which changes the way the body functions, mentally, physically or emotionally defined by UNDP (2015). Table 1 lists commonly used addictive substances (source: **www.PublicSafety.gc.ca/NCPC**).

**Table 1:** Some of the substances that are commonly abused and their effects

| Type of substance | Examples | Effect |
|---|---|---|
| Depressants | Alcohol, barbiturates Sedatives-hypnotics | Drowsiness, pleasant Relaxation, disinhibition |
| Opiates | Morphine, methadone, pethidine | Relief of pain, Pleasants, detached dreamy, euphoria |
| Stimulants | Cocaine, khat, Amphetamines | Exhilaration, reduced fatigue, and hunger |
| Hallucinogens | LSD, mescaline, peyote | Other-worldliness, perceptual distortions |
| Cannabis | Marijuana, hashish | Relaxation and hallucinogenic effects |
| Nicotine | Tobacco | Sedation and stimulation |
| Volatile inhalants | Benzene, glues, lacquer, paint thinners, gasoline | Drowsiness, relaxation, perceptual disturbances |

## 2.3 Prevalence of substance use

In Ethiopia, alcohol, khat and tobacco are commonly used in both urban and rural areas especially by youngsters. Khat chewing, drinking alcohol and using drugs are taken as means of spending surplus time and entertainment (EPHA, 2003).Alcohol, khat and cigarette users are estimated about 27 million, which is 0.6% of the world adult population (Shimelis and Wosen, 2015). It is estimated that 9% of the global population age 12 or older are classified with dependence on psychoactive substances such as alcohol (Tsegay and Esmael, 2013).

The use of alcohol, khat and tobacco among adolescents can be harmful, leading to increased health problems, decreased academic performance, reduced productivity, hopelessness and increased risky sexual behaviors (Belew et al., 2000; Kebede et al., 2005). Many youngsters are also suffering from lack of self- esteem and future hope, victims of different forms of violence and abuse, or obliged to live with harmful habits like smoking, drug abuse and alcoholism (Abebe et al., 2005).

Among some studies done in Ethiopian universities and colleges, a study in Axum University showed a lifetime prevalence of khat chewing 28.7%, alcohol drinking 34.5%, and cigarette smoking 9.5% (Gebreslassie et al., 2013). A study done among college students in North west Ethiopia revealed a life time prevalence of 13.1% for cigarette smoking and 26.7% for khat chewing (Kebede et al., 2005).The prevalence of khat is different from place to place in Ethiopia. In a study conducted in 2002 among students of Jimma university in southwestern Ethiopia showed that the prevalence of khat chewing was 24.8% (Ayana and Mekonen, 2004).

In other similar studies, the prevalence of khat chewing in Butajira and Adamitulu were 50% and 31.7% respectively. In a study conducted among college students and instructors in Northwest Ethiopia, the lifetime prevalence rates of khat chewing were 26.7% and 42% respectively (Schoemaker et al., 2005)

According to EPHI report, there are currently over three million tobacco users in Ethiopia, accounting for a third of the adult population and close to 1,000 people die due to tobacco related illnesses in Ethiopia every year. https//ephi.gov.et

Tobacco consumption by water pipe or shisha has become a pressing public health issue in tobacco control worldwide. According to EBR, "It is almost impossible to find bars that don't serve shisha" (EBR, 2018). Tobacco attribute mortality is expected to increase from 14% of total mortality worldwide in 1990 to 23% in 2020. And lifetime prevalence of cigarette smoking among college students was reported to be 31.9%. Studies have shown that the probability of dying from all causes is 2.3 times higher for current male smokers of cigarettes than males who are non-smokers. These indicate that the risk of dying from all causes is about two times higher for current female smokers compared to those females who do not smoke cigarettes. Approximately 90% of individuals who become cigarette smokers initiate the behavior during adolescence (EBR, 2018).

More recent survey on tobacco, global youth tobacco survey, conducted in 2003 in 25 secondary schools in Addis Ababa indicated a prevalence of 10.1% among the youth covering grades 9-12, that is one in ten students have ever tried smoking cigarettes, and currently 9% students use any form of tobacco, 3% smoke cigarettes and 8% use some other form of tobacco (DACA, 2005).

## 2.4 Common features of substance abuse

According to 2017 drug report of FDRE Drug Administration and Control Authority, around the Globe, an estimated 3.1 % of the world population or 4.3% of the population aged 15 and above abuse substances. Addicts range from the homeless to white-collar professionals, college students, sex workers, farmers and street children (DACA, 2005).

In 2008 national survey on drug use and health conducted by Drug Administration and Control Authority revealed that current abuse of illicit drugs was higher for young adults aged 18 to 25 than for youths aged 12 to 17 and adults aged 26 or older. The research that was made on substance abuse revealed common and unique features of drugs. The common features of substances include; they:

- are potentially capable to produce addiction,
- are open to be abused potentially,
- led to multifaceted consequences,
- produce tolerance and withdrawal syndrome and
- create physical and psychological dependence on those individuals who abuse these substances.

## 2.5 Common characteristics and personality of drug users

According to the DACA (2005) report based on certain behaviors and attitudes that people who abuse substances and on those individuals with addiction tend to reflect the following state of existence such as suffering from anxiety and depression, appear anxious, feel awkward, impatient, arrogant or angry.

Some kinds of characteristics and behaviors that tend to accompany addiction are;

- Making emotional choices
- Constantly seeking excitement and new sensations
- Feeling alienated from mainstream society
- Valuing abnormal or nonconformist behavior
- Lacking patience such as having trouble waiting for delayed gratification

Beside the above points, these individuals seem to have Anti-Social Personality Disorder or what we call it having no regard for either social norms or other people's feelings. The typical traits include:

- Constantly breaking the law
- Acting deceitful, such as lying, using false names or trying to con other people
- Failing to plan ahead
- Acting irritable or aggressive, and getting into physical fights
- Behaving recklessly or putting other people in danger
- Failing to hold a job, pay bills or keep up with other responsibilities
- Lacking remorse for wrong-doing, including for hurting others

Those people with these disorders have trouble maintaining healthy relationships. Typical characteristics include:

- Fear of abandonment
- A pattern of unstable relationships
- A tendency to see people as either wonderful or awful
- Poor self-image
- Impulsivity
- Suicidal or self-harming behavior, such as cutting
- Intense moods which change fairly rapidly
- Inappropriate or uncontrollable anger
- Paranoia

An individual who abuses drugs, the substance becomes more important than almost anything else. Substance abusers may lie about situations so that they can abuse drugs without being discovered. They may spend their savings to get more drugs. People with addictions often become defensive or angry if the addiction is addressed. They may also feel guilty and go through periods of remorse during which they decide to get help, only to relapse later (UNODCCP, 2000).

## 2.6 Effects of substance abuse in school-age adolescents

Worldwide, the harmful use of alcohol results in 2.5 million deaths each year. 320,000 young people between the age of 15 and 29 die from alcohol-related causes, resulting in 9% of all deaths in that age group. At least 15.3 million persons have drug use disorders. Injecting drug use reported in 148 countries, of which 120 report HIV infection among this population (WHO, 2011). Substance abuse (alcohol, tobacco and other drugs) is associated with a range of physical, psychological, social and occupational problems. It is a complex problem having medical and social consequences which impacts all social strata. It affects not only the user and their families but all sections of the society (Teaotia, 2005).

Young people who continuously abuse substances often experience several problems, including academic difficulties, health-related problems (including mental health), poor peer relationships, and involvement with the adolescent justice system. Additionally, there are consequences for family members, the community, and the entire society. Broadly, consequences of substance abuse/addiction can be categorized under the following:

### *2.6.1 Effect on school performance*

Declining grades, absenteeism from school/college and other activities, and increased potential for dropping out of school/college are problems associated with youth substance abuse (Hawkins, et al., 1992), indicating that a low level of commitment to education and higher absenteeism rates appear to be related to substance use among youth. Cognitive and behavioral problems experienced by alcohol and drug using youth may interfere with their academic performance and also present obstacles to learning for their classmates (Meressa et al., 2009).

### *2.6.2 Effects on health*

Psychoactive drugs affect the central nervous system (CNS) and act by changing a person's feelings, thoughts and behaviors. They act by directly affecting the brain or the central nervous system leading to various complexity and health and behavioral problems. Injuries due to accidents (such as car accidents), physical disabilities and diseases, and the effects of possible overdoses are among the health-related consequences of youth substance abuse. Disproportionate numbers of adolescence involved with alcohol and other drugs face an increased risk of death through suicide, homicide, accident, and illness (Shoemaker, 1984). Trauma, violence, organ system damage, various cancers, unsafe sexual practices, premature death and poor nutritional status of families with heavy drinking fathers are associated with substance abuse (CDC, 2020).

Transmission of HIV/AIDS primarily occurs through body fluids contact with an infected person during sexual contact or through sharing of unsterile drug-injection equipment. Another primary means of transmission is from mothers to infants during pregnancy or the birth process. Many substance-abusing adolescence engage in behavior that places them at risk of contracting HIV/AIDS or other sexually transmitted infections. This may include the actual use of psychoactive substances (particularly those that are injected) or behavior resulting from poor judgment and impulse control while experiencing the effects of mood-altering substances. Rates of AIDS diagnoses currently are relatively low among teenagers, compared with most other age groups. However, because the disease has a long latency period before symptoms appear, it is likely that many young adults with AIDS were actually infected with HIV as adolescents. These limited examples illustrate the catastrophic health-related consequences of substance abuse among adolescents. Besides personal and family distress, additional healthcare costs and loss of future productivity place burdens on the community (Crowe and Bilchik, 2011).

Mental health problems such as depression, developmental delays, apathy, withdrawal, and other psychosocial dysfunctions frequently are linked to substance use practice among adolescents. Substance use adolescent are at higher risk than non-users for mental health problems, including depression; conduct problems, personality disorders, suicidal thoughts, attempted suicide, and suicide. Suicide is the second leading cause of death among college students (CDC, 2020).

### *2.6.3 Social and economic effects*

In addition to personal adversities, the abuse of alcohol and other drugs by adolescence may result in family crises and risk many aspects of family life, sometimes resulting in family dysfunction. Both siblings and parents are extremely affected by alcohol and drug involved adolescence. Substance abuse can drain a family's financial and emotional resources (WHO, 2011).

Many of the families with a substance user also had difficulty in running the day-to-day activities of the household, as the available resources were spent on substance rather than on basic needs. This has a great psychological impact on other family members. Consequently, this leads to a disturbed emotional and psychological state among family members, which in turn affects their level of happiness and psychological strength (Deressa and Azazh, 2011).

The social and economic costs related to adolescence substance abuse are high. They result from the financial losses and distress suffered by alcohol and drug related crime victims, increased burdens for the support of adolescents and young adults who are not able to become self-supporting, and greater demands for medical and other treatment services for these adolescence (Mulugeta, 1983; Gropper, 1998).

### *2.6.4 Delinquency*

There is an obvious link between substance abuse and delinquency. Arrest and intervention by the juvenile justice system are eventual consequences for many adolescents engaged in alcohol and other drug use. It cannot be claimed that substance abuse causes delinquent behavior or delinquency causes alcohol and other drug use. However, the two behaviors are strongly correlated and often bring about school and family problems, involvement with negative peer groups, lack of neighborhood social controls, and physical or sexual abuse (Hawkins et al., 1987; Wilson and Howell, 1993). Possession and use of alcohol and other drugs are illegal for all adolescence. Beyond that, however, there is strong evidence of an association between alcohol and other drug use and delinquent behavior of juveniles. Substance abuse is associated with both violent and income-generating crimes by youth.

This increases fear among community residents and the demand for juvenile and criminal justice services, thus increasing the burden on these resources. Gangs, drug trafficking, prostitution, and growing numbers of youth homicides are among the social and criminal justice problems often linked to adolescent substance abuse (Shoemaker,1984).

## 2.7 Risk and protective factors for substance use

There are risk factors that contribute to substance abuse among adolescence including age, gender, poverty, peer pressure, media, family structure and relations, and the affordability and accessibility of drugs (Stoolmiller et al., 2012). Understanding the risk factors can help health professionals as well as the community at large, to address the increase demand of substance abuse among adolescence (Aliiaskarov, 2013).

### *2.7.1 What is high-risk substance use?*

For the purposes of addressing HIV and STD prevention, high-risk substance use is any use by adolescents of substances with a high risk of adverse outcomes (i.e., injury, criminal justice involvement, school dropout, and loss of life). This includes misuse of prescription drugs, use of illicit drugs (i.e., cocaine, heroin, methamphetamines, inhalants, hallucinogens, or ecstasy), and use of injection drugs which have a high risk of infection of blood-borne diseases such as HIV and hepatitis (NCPC, 2009).

### *2.7.2 Risk factors for adolescent substance use*

Risk factors for adolescent high-risk substance use can include:

- Family history of substance use
- Favorable parental attitudes towards the behavior
- Poor parental monitoring and management
- Parental substance use
- Perceived availability of drugs
- Family rejection of sexual orientation or gender identity
- Association with delinquent or substance using peers
- Lack of school connectedness and commitment
- Low academic achievement
- Childhood sexual abuse

- Mental health issues (Clayton et al.,2016)

### *2.7.3 Protective Factors for Substance use*

According to CDC (2020), research has improved our understanding of factors that help to protect adolescents from a variety of risky behaviors, including substance use. These are known as protective factors. Some protective factors for high risk substance use include:

- Community cohesion
- Community norms not supportive of drug use
- Participation in school activities
- School bonding
- Parent or family engagement
- Family support
- Family sanctions against use
- Positive parent relationships
- Positive peer relationships
- Network of non-drug using peers
- School connectedness (NCPC, 2009; CDC, 2020).

## 2.8 Intervention

Intervention refers to attempts to help drug users to positively modify their behavior and change their attitude towards misuse of drugs. It also includes activities and programs put in place to address substance abuse.

***2.8.1 Prevention*** **-** is best understood when explained at all three levels i.e., primary, secondary and tertiary.

- Primary prevention of substance abuse is preventing the initiation of psychoactive substance use or delaying the age at which use begins (WHO, 2000).
- Secondary prevention is the intervention aimed at individuals in the early stages of psychoactive substance use. The aim is to prevent substance abuse from becoming a problem thereby limiting the degree of damage to the individual (World Drug Report, 2000).
- Tertiary prevention aims at ending dependence and minimizing problems resulting from use/abuse. This type of prevention strives to enable the individual to achieve and maintain

improved levels of functioning and health. Sometimes tertiary prevention is called rehabilitation and relapse prevention (WHO, 2000).

### *2.8.2. Control Methods*

Control of substance abuse in general includes:

1. Control of production, supply and availability
    - Stopping the supply process at its source.
    - Crop eradication
    - Crop substitution: - provision of suitable alternative sources of income
    - Control of distribution and access.
2. Demand reduction: - Reducing consumption.
    - Increase prices
    - Control of advertising and promotion.
3. Increase individual resistance from social pressure through health education (Gossop and Grant, 1990).

Legislation on substance abuse by WHO:

- Control of alcohol and tobacco advertising and promotion.
- Health warnings and statement and control of alcohol, tar and nicotine content.
- Restriction on places of sale
- Restrictions on smoking cigarette and shisha in public places.
- Preventing young people from drinking alcohol, smoking cigarette and chewing of khat.
- Health education on substance abuse.
- Legislation establishing a national organization for policy development and coordination (Ruth, 1993).

Ethiopia is a party to the Single Convention on Narcotic drugs of 1961 and the 1971 convention on psychotropic substances. In accordance with the obligations of the conventions, the Ministry of Health, Pharmacy Department is the central body to exercise all control measures to reduce the supply and demand for drugs and thereby limit the use of drugs to exclusively medical and scientific purposes (WHO, 2014).

### *2.8.3 Prevention strategies*

There are three major approaches frequently used to prevent school-age adolescent substance use, including the following:-

**School-based prevention programs**

School based prevention programs usually provide drug and alcohol education and interpersonal and behavior skills training.

**Community-based prevention programs**

Community- based prevention programs usually involve the media and are aimed for parents and community groups programs such as mothers against drunk driving and students against drunk driving are the most well know community-based programs.

**Family- focused prevention programs**

Include family, skills training, children's social skill training and family self help groups.

Research literature available suggests that components family-focused prevention programs have decreased the use of alcohol and drugs in older children and improved effectiveness of parenting skills that favorably affected their children's risk factors (Khanyisile, 2005).

# 3. MATERIALS AND METHODS

## 3.1 Study site and student population

### *3.1.1 Description of the study area*

Gullele is the sub-city of Addis Ababa, Ethiopia. As of 2011 its population was of 248,865. It is located in northern suburb of the city, near the mount Entoto and Entoto Natural Park. It borders with the districts of Kolfe Keranio, Addis Ketema, Arada and Yeka Sub-cities. It has ten Woredas.

The schools which were included in this study were Dilber, Kechene Debreselam (Kechene D/S) and Miraf High schools. These grades 9 and 10 high schools are located in Gullele sub-city. Dilber high school was established in 1994E.C. It is found around Addisu Gebeya wereda 7 and received students from different areas for example; Arada, Kechene, and Sululta to high school. The other high school, Kechene Debreselam was founded in 1970 E.C. It is located in Kechene Wereda 5 and receives students from different areas including Sululta. Miraf high school was established in 2003E.C found around Shegole area in wereda 10 and located in front of the main gate of Gullele botanical center.

### *3.1.2 Student population*

According to the schools record officers, 5021 students were registered in the academic year of 2012 E.C. Out of these, 2411(48.0%) are males and 2611(52.0%) are females (Table 2).

**Table 2:** Total number of students enrolled in 2012 E.C at each high school

| **Name of the school** | **Grade 9th** | | **Grade 10th** | | **Total** |
|---|---|---|---|---|---|
| | **Males** | **Females** | **Males** | **Females** | |
| Dilber high school | 444 | 542 | 320 | 477 | **1783** |
| Kechene D/S high school | 556 | 410 | 397 | 338 | **1701** |
| Miraf high school | 389 | 421 | 304 | 423 | **1537** |
| **Total** | **1389** | **1373** | **1021** | **1238** | **5021** |

### *3.1.3 Target population*

For the purpose of this study, the primary target population constituted both male and female school-age adolescents who use alcohol, khat and shisha houses around the selected three high schools.

## 3.2 Data collection instruments

Relevant data were collected by employing different data collection instruments such as counting, direct observations, random sampling and conducting interview. The substance supplying houses (bars, khat and shisha houses) were counted and identified randomly as a sampling site within the vicinity of the three high schools. The number of school-age adolescents who visit bars, khat shops and shisha houses were recorded. In addition, complementary data were collected by interviewing school guidance officers on records of substance use by the students.

### *3.2.1 Determination of bars, khat shops and shisha houses*

The number of bars, khat shops and shisha houses were determined at different distances (0.5km, 1km and 1.5km) from schools by a thorough ground survey.

The researcher determined the approximate distances within 0.5km each selected high school by estimation while walking and the distance between 1km and 1.5km was determined using car and mobile GPS in the four directions (North, South, East and West).

During these times, the researcher was able to see most houses were convenient to transportation. However, the shisha houses were out of the main street and at the back of the bars and khat shops. Few shisha houses were found at residences or dwellings. Overall, the determination and counting of bars, khat and shisha houses took one month.

### *3.2.2 Observation of substance use activities*

#### *3.2.2.1 Data collection period*

Data collection was conducted twice per week during school days from October 2020 to March 2021. At the beginning, all bars got the opportunity to be visited at once, and were selected as the target houses by their customer numbers and specifically visited by school-age adolescents. Since khat shops and shisha houses were few in numbers compared to the bars, they were thoroughly visited.

The number of visits of bars, khat shops and shisha houses at each distance was three to four times. Each visit was subdivided into three time blocks; morning (8:00-10:00 am), mid-day (12:00-2:00 pm) and late afternoon (5:00-6:30 pm).

#### *3.2.2.2 Data recording mechanism during each visit*

School-age adolescents that use substances (alcohols, khat and shisha) were identified by looking or direct observation and estimation of their ages and the uniforms they were wearing (usually they wear their uniform either trousers or shirt separately so that they could not be easily identified).

Data were recorded using various methods:

1. Alcohol users: the researcher ordered a drink while recording school-age adolescents who were drinking alcohol in the bars.
2. As for their use of khat, the researcher watched them standing near the khat shops and shopping.
3. Regarding shisha houses, the researcher tried to get in with some friends but the condition was not conducive. So the researcher tried to record as the school-age adolescents entered and left the shisha house.

### *3.2.3 Interview*

Interviews were conducted with selected high school guidance officers one from each school. Totally three participants were interviewed. The guiding questions focused on the substance use practices of students and records of violence among high school students, and on the suggestion points about what should be done on the issues. The interviews were taken at their work place by using short notes. After the interview, transcription of the information was done and written as a text.

## 3.3 Methods of Data Analysis

Data were analyzed and summarized by computing percentages and presented as tables and text.

# 4. RESULTS

## 4.1 Prevalence of bars, khat shops and shisha houses around the three selected schools

A total of 210 bars, khat shops and shisha houses were recorded around the three schools within distance of 1.5km. Out of 210 houses, the number of bars, khat shops and shisha houses were 114(54.3%), 72(34.3%) and 24(11.4%) respectively. The percentage was calculated by using the total number of houses in each high school. The houses were observed randomly and identified half of each total houses during direct observation. The majority of bars, khat shops and shisha houses were identified at Dilber High schools 47.6%. The highest number of bars and khat shops were identified around the same high school while the number of shisha houses was nearly similar for the three high schools. Kechene Debreselam and Miraf High school had nearly the same number of bars, khat shops and shisha houses. In terms of distance, the number of bars, khat shops and shisha houses increased with distance from school for all the three high schools (Table 3).

**Table 3:** Prevalence of bars, khat shops and shisha houses around the three selected schools

| List of the three high schools | Distance for each study site | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.5km | | | 1km | | | 1.5km | | | |
| | Bars | Khat shops | Shisha shops | Bars | Khat shops | Shisha shops | Bars | Khat shops | Shisha shops | |
| **Dilber** | 11 (5.2%) | 5 (2.4%) | 2 (1.0%) | 20 (9.5%) | 10 (4.7%) | 4 (1.9%) | 28 (13.3%) | 17 (8.1%) | 3 (1.4%) | **100(47.6%)** |
| **Kechene D/S** | 4 (1.9%) | 2 (1.0%) | - | 9 (4.3) | 7 (3.3) | 3 (1.4) | 15 (7.1%) | 11 (5.2%) | 3 (1.4%) | **54(25.7%)** |
| **Miraf** | 2 (1.0%) | - | 2 (1.0%) | 7 (3.3%) | 4 (1.9%) | 2 (1.0%) | 18 (8.6%) | 16 (7.6%) | 5 (2.4%) | **56(26.7%)** |
| **Total** | **17 (8.1%)** | **7 (3.4%)** | **4 (2.0%)** | **36 (17.1%)** | **21 (9.9%)** | **9 (4.3%)** | **61 (29.0%)** | **44 (20.9%)** | **11 (5.2%)** | **210 (100%)** |

## 4.2 Prevalence of alcohol use along distances in kilometer

The prevalence of alcohol use along the different distance categories in each study site within 0.5km-1.5km is shown in Table 4, Most of the school-age adolescents visited the bars that are in the category of 1.5km distance (59.3%) and the least was within 0.5km (8.3%). This pattern of alcohol use practice was similar for the three schools where incidences are lower at nearby and increasing as distance from school increases (Table 4). The identified number of adolescent's alcohol users were highest for Dilber (39.0%) while that of Kechene D/S and Miraf High schools was almost similar (Table 4).

**Table 4:** Prevalence of alcohol use along distance in kilometer

| Name of the school | 0.5km | 1km | 1.5km | Total |
|---|---|---|---|---|
| Dilber High school | 44(5.7%) | 96(12.5%) | 161(20.8%) | **301(39.0%)** |
| Kechene D/S High school | 13(1.7%) | 98(12.7%) | 129(16.7%) | **240(31.1%)** |
| Miraf High school | 7(0.9%) | 56(7.2%) | 168(21.8%) | **231(29.9%)** |
| **Total** | **64(8.3%)** | **250(32.4%)** | **458(59.3%)** | **772 (100%)** |

## 4.3 Prevalence of khat use along distance in kilometer

As indicated in Table 5, the relationship between distance and the school-age adolescents who visited khat shops increased as they get far away from the schools (61.3%) and the least was identified in 0.5km radius (10.8%). Khat use also showed similar pattern of incidence for distance where more adolescents appear to be involved in using khat at farthest distances. Again, similar to alcohol use, more adolescent khat users were identified around Dilber (49.3%) followed by Miraf High school (27.9%).

**Table 5:** Prevalence of khat shopping along distance in kilometer

| Name of the school | 0.5km | 1km | 1.5km | Total |
|---|---|---|---|---|
| Dilber High school | 23(5.5%) | 58(13.9%) | 124(29.8%) | **205(49.3%)** |
| Kechene D/S High school | 9(2.2%) | 29(6.8%) | 57(13.7%) | **95(22.8%)** |
| Miraf High school | 13(3.1%) | 29(6.8%) | 74(17.8%) | **116(27.9%)** |
| **Total** | **45(10.8%)** | **116(27.9%)** | **255(61.3%)** | **416 (100%)** |

## 4.4 Prevalence of shisha use along distance in kilometer

With regarded to the prevalence of shisha, there were no school-age adolescents identified entering shisha houses in 0.5km study sites. Out of total number of shisha houses, 67.5% shisha users were observed within 1.5km radius. School-age adolescents who visited shisha houses increased as they went away from the schools as showed in Table 6. Almost similar numbers of adolescent shisha users were identified around Dilber (41.0%) and Miraf High school (40.2%).

**Table 6:** Prevalence of shisha houses along distance in kilometer

| Name of the school | 0.5km | 1km | 1.5km | Total |
|---|---|---|---|---|
| Dilber High school | 0(0%) | 12(10.3%) | 36(30.7%) | **48(41.0%)** |
| Kechene D/S High school | 0(0%) | 10(8.5%) | 12(10.3%) | **22(18.8%)** |
| Miraf High school | 0(0%) | 16(13.7%) | 31(26.5%) | **47(40.2%)** |
| **Total** | **0(0%)** | **38(32.5%)** | **79(67.5%)** | **117 (100%)** |

## 4.5 Prevalence of alcohol use among males and females

As it is shown in Table 7, the prevalence of alcohol usage between males and females of school-age adolescents showed marked difference where males comprise much higher percentage (76.3%) than females (23.7%). This was also true when the data for each school was considered.

**Table 7:** Prevalence of alcohol use among males and females

| Name of the school | Males | Females | Total |
|---|---|---|---|
| Dilber High school | 222(28.7%) | 79(10.2%) | **301(39.0%)** |
| Kechene D/S High school | 178(23.1%) | 62(8.0%) | **240(31.1%)** |
| Miraf High school | 189(24.5%) | 42(5.4%) | **231(29.9%)** |
| **Total** | **589(76.3%)** | **183(23.7%)** | **772 (100%)** |

## 4.6 Prevalence of khat use among males and females

As it is depicted on Table 8, among the total of 416 khat users, 75.7% were male and 23.3% were female school-age adolescents. This pattern of khat use practice was similar for the three schools where incidences are lower in females and higher in males. More females used Khat from Dilber (13.2%) than the other two high schools (Table 8).

**Table 8:** Prevalence of khat use among males and females

| Name of the school | Males | Females | Total |
|---|---|---|---|
| Dilber High school | 150(36.1%) | 55(13.2%) | **205(49.3%)** |
| Kechene D/S High school | 77(18.5%) | 18(4.3%) | **95(22.8%)** |
| Miraf High school | 92(22.1%) | 24(5.8%) | **116(27.9%)** |
| **Total** | **319(76.7%)** | **97(23.3%)** | **416 (100%)** |

## 4.7 Prevalence of shisha use among males and females

As it can be seen from Table 9, among the total of 117 shisha users, 72.6% were male school-age adolescents and 27.4% were female school-age adolescents. Females who used shisha much more in Miraf High school (15.4%) compared to the other high schools. Again, similar to alcohol and khat use, more male adolescent shisha users were identified in the three schools.

**Table 9:** Prevalence of shisha use among males and females

| Name of the school | Males | Females | Total |
|---|---|---|---|
| Dilber High school | 38(32.5%) | 10(8.5%) | **48(41.0%)** |
| Kechene D/S High school | 18(15.4%) | 4(3.4%) | **22(18.8%)** |
| Miraf High school | 29(24.8%) | 18(15.4%) | **47(40.2%)** |
| **Total** | **85(72.6%)** | **32(23.4%)** | **117 (100%)** |

## 4.8 Prevalence of alcohol use at different time of the day

As it is depicted in Table 10, the majority of alcohol users (79.5%) used alcohol in the late afternoon while alcohol use was least frequent during the morning (3.2%). Also, time of alcohol use across distance categories showed the same pattern with highest frequency during the late afternoon and lowest during the morning. Forty six percent of school-age adolescents used alcohol at late afternoon within 1.5km and 26.4% within 1km radius and 7.1% within 0.5km (Table 10).

**Table 10:** Prevalence of alcohol use at different time of the day

| **Time** | **0.5km** | **1km** | **1.5km** | **Total** |
|---|---|---|---|---|
| Morning | 3(0.4%) | 7(0.9%) | 15(1.9%) | **25(3.2%)** |
| Mid-day | 6(0.8%) | 39(5.1%) | 88(11.4%) | **133(17.3%)** |
| Late afternoon | 55(7.1%) | 204(26.4%) | 355(46.0%) | **614(79.5%)** |
| **Total** | **64(8.3%)** | **250(32.4%)** | **458(59.3%)** | **772 (100%)** |

## 4.9 Prevalence of khat use at different time of the day

According to Table 11, the majority of khat users (53.8%) used khat in the late afternoon along each distance. A total of 255 (61.3%) of school-age adolescents used khat within 1.5km and the least number of school-age adolescent khat users (10.8%) was identified within 0.5km radius. This pattern of khat use practice was similar for the three schools where incidences are lower in the morning and increasing as time of the day increased (Table 11).

**Table 11:** Prevalence of khat use at different time of the day

| **Time** | **0.5km** | **1km** | **1.5km** | **Total** |
|---|---|---|---|---|
| Morning | 4(1.0%) | 24(5.8%) | 38(9.1%) | **66(15.9%)** |
| Mid-day | 16(3.8%) | 28(6.7%) | 82(19.7%) | **126(30.3%)** |
| Late afternoon | 25(6.0%) | 64(15.4%) | 135(32.5%) | **224(53.8%)** |
| **Total** | **45(10.8%)** | **116(29.9%)** | **255(61.3%)** | **416 (100%)** |

## 4.10 Prevalence of shisha use at different time of the day

As indicated in Table 12, there were no school age-adolescents identified entering shisha houses at any time of the day within 0.5 km. The observed numbers of adolescent shisha users were highest in the late afternoon (57.3%). This pattern of shisha use practice was similar for the three schools where incidences are lower in the morning and increasing as the time of the day increases (Table 12).

**Table 12:** Prevalence of shisha use at different time of the day

| **Time** | **0.5km** | **1km** | **1.5km** | **Total** |
|---|---|---|---|---|
| Morning | 0(0%) | 0(0%) | 0(0%) | **0(0%)** |
| Mid-day | 0(0%) | 17(14.5%) | 33(27.2%) | **50(42.7%)** |
| Late afternoon | 0(0%) | 21(18.0%) | 46(39.3%) | **67(57.3%)** |
| **Total** | **0(0%)** | **38(32.5%)** | **79(66.5%)** | **117 (100%)** |

## 4.11 Prevalence of alcohol use at different time of the day within each sampled high school

The pattern of alcohol use in the three schools showed similarity in the time of the day. As it was the case for distance categories, alcohol use was most and least common during the late afternoon (79.5%) and morning (3.1%) respectively the three schools (Table 13).

**Table 13:** Prevalence of alcohol use at different time of the day for each sampled high school

| **School** | **Morning** | **Mid-day** | **Late afternoon** | **Total** |
|---|---|---|---|---|
| Dilber High school | 12(1.5%) | 44(5.7%) | 245(31.7%) | **301(39.0%)** |
| Kechene d/s High school | 11(1.4%) | 43(5.7%) | 186(24.1%) | **240(31.0%)** |
| Miraf High school | 2(0.2%) | 46(6.0%) | 183(23.7%) | **231(30.0%)** |
| **Total** | **25(3.1%)** | **133(17.4%)** | **614(79.5%)** | **772 (100%)** |

## 4.12 Prevalence of khat use at different time of the day for each sampled high school

As it is depicted in Table 14, the majority of school-age adolescent khat users increased with time of the day for each school. In the late afternoon more khat users were observed (53.8%) while lower percentage (15.9%) khat users were identified in the morning time block. This pattern of khat use practice was similar for the three schools where incidences are lower in the morning and increasing as time of the day increased (Table 14).

**Table 14:** Prevalence of khat use at different time of the day for each sampled high school

| School | Morning | Mid-day | Late afternoon | Total |
|---|---|---|---|---|
| Dilber High school | 35(8.4%) | 62(15.0%) | 108(25.9%) | **205(49.3%)** |
| Kechene d/s High school | 19(4.6%) | 26(6.2%) | 50(12.0%) | **95(22.8%)** |
| Miraf High school | 12(2.9%) | 38(9.1%) | 66(15.9%) | **116(27.9%)** |
| **Total** | **66(15.9%)** | **126(30.3%)** | **224(53.8%)** | **416 (100%)** |

## 4.13 Prevalence of shisha use at different time of the day for each sampled high school

With regarded to shisha, the result showed zero value in the morning and also most frequent shisha use was identified during the late afternoon (57.3%) for the three schools combined (Table 15). Shisha use also showed similar pattern of time variation in the three schools where the number of users was higher in the late afternoon hours (Table 15).

**Table 15:** Prevalence of shisha use at different time of the day for each high school

| School | Morning | Mid-day | Late afternoon | Total |
|---|---|---|---|---|
| Dilber High school | 0(0%) | 20(17.1%) | 28(24.0%) | **48(41.0%)** |
| Kechene d/s High school | 0(0%) | 10(8.5%) | 12(10.2%) | **22(18.8%)** |
| Miraf High school | 0(0%) | 20(17.1%) | 27(23.1%) | **47(40.2%)** |
| **Total** | **0(0%)** | **50(42.7%)** | **67(57.3%)** | **117 (100%)** |

## 4.14 Substance use record at the three schools

Data obtained from interviews showed a high percentage of marijuana (40.5%) use compared to alcohol (23.8%) and khat (35.7%). Dilber and Miraf high schools comprised the highest records of substance use within schools with percentages of 42.9% and 40.5% respectively. Out of a total of 42 substance use incidences, only four cases involved female students while the remaining 38 (90.5%) cases were due to male students (Table 16). Students in these records of substance use were identified based on their behavioral misconduct under the influence of substance use including creating havoc in the school, showing aggressive behavior towards students, teachers and other staff, harassment of female students, breath of alcohol, and khat.

**Table 16:** The prevalence of substance use records in the sampled high schools in Gullele sub-city

| **Name of sampled high schools** | **Number of alcohol recorded** | | | **Number of Khat recorded** | | | **Number of marijuana recorded** | | | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total | |
| Dilber High school | 2 | - | 2 (4.8%) | 2 | - | 2 (4.8%) | 14 | - | 14 (33.3%) | 18 (42.9%) |
| Kechene d/s High school | 3 | - | 3 (7.1%) | 3 | 1 | 4 (9.5%) | - | - | - | 7 (16.6%) |
| Miraf High school | 4 | 1 | 5 (11.9%) | 8 | 1 | 9 (21.4%) | 2 | 1 | 3 (7.1%) | 17 (40.5%) |
| Total | 9 (21.4%) | 1 (2.4%) | 10 (23.8%) | 13 (31.0%) | 2 (4.8%) | 15 (35.7%) | 16 (38.1%) | 1 (2.4%) | 17 (40.5%) | **42 (100%)** |

## 4.15 Causes and school administrative actions on substance users

The schools guidance officers said the major causes for students' exposure to substance use practice are peer pressure, accessibility of drugs, poor student-teacher interaction in the school, academic failure, lack of family control, and media influence

The schools guidance officers also said that the actions taken by the school administrators on substance users were; those who were found red handed using the drugs and others who repeatedly violated the school rules and regulations and had records were expelled from the schools directly. Others were given order to bring their parents to discuss on their problems and if they admitted their wrong doing they got a chance to continue their education; however, they agreed and signed to be expelled if they were caught in any kind of misconduct behavior in the school compound again.

# 5. DISCUSSION

The study assessed the prevalence of school-age adolescents substance use (alcohol, khat and shisha) within vicinities of three high schools in Gullele sub-city. The study is an effort to assess availability and accessibility of addictive substances and the extent of adolescents of school-age use of such substances.

As results of this study showed, males were more vulnerable than females in drinking alcohol, buying khat and smoking shisha at each selected high school surrounding. This finding is consistent with those finding of Meressa et al. (2009) who indicated that 56% of male and 42% of female Jimma University students were drug users. National Survey on Drug Use and Health (NSDUH) also indicated that men substance abuse rates about double those of women, 10.8% versus 5.8% respectively (NSDUH, 2013). A similar finding also indicated in Kenya, about 43% male and 37% female adolescents abuse drugs (WHO, 1989). The reason could be due to the fact that among male students the level of substance exposure is high and peer pressure is more common than female students. This can also be explained by stricter parental supervision and monitoring on females than males (Hemovich et al., 2011). It is also reported that in some of the Asian countries, parents provide more supervision to their daughters. This could be one of the reasons that females practice substance use at a much lower rate than males (Hemovich et al., 2011).

The result of the study also indicated that the prevalence of substance use practice in both male and female school-age adolescents increased as distance from school increased from 0.5km to 1.5km. An apparent explanation for this is fear of detection of substance users by their teachers and friends.

The results also showed higher number of bars, khat shops and shisha houses away from schools and lesser numbers close to schools. This has good implication in protecting students from easily accessing addictive substances.

Substance use was most commonly identified around Dilber High School compared to Miraf and Kechene. This could be attributed to proliferation of bars, khat and shisha houses around the school, the presence of many businesses and shopping malls, and the proliferation of youth congregation centers such as pool houses. On the other hand, the lowest record of substance use was from Kechene Debreselam High school because it is located in the vicinity of the church and this church is

worshiped by their parents, relatives and other community members who do not encourage these school-age adolescents use alcohol, khat and shisha. The adolescents are also cautious not to be caught that they would totally lose the acceptance and the faith from their parents and the community at large.

With regard to time of the day, the study result shows high prevalence of adolescent substance users at late afternoon than the morning and mid-day in all the three selected high schools. The reason could be, use of addictive substances is commonly practiced within the society during late hours. This result suggests that the students might not skip classes during the morning but in the afternoon shifts students missed classes.

The result of the study also showed that 40.5% cannabis (marijuana) user students were reported by those selected high school guidance officers. This finding is consistent with those survey conducted in South Africa in 2008 amongst young people of age 13 to 22 years, the rate of cannabis abuse was 12.7%, whilst in the USA cannabis usage by grade 10 students in 2010 was 33.4%. With regard to cannabis abuse, a similar study conducted in Kenya in 2007 revealed that 1.1% of adolescents of age 15 to 17 years had used cannabis (WDR, 2011).

# 6. CONCLUSIONS AND RECOMMENDATION

## 6.1. CONCLUSIONS

A difference has been observed in the number of bars, khat shops and shisha houses among sampled high school vicinities and this had direct implication on the number of adolescents using addictive substances.

Shisha was the least commonly used and least accessible addictive substance while the reverse was true for alcohol.

Male school-age adolescents are involved in substance use practices significantly more than their female counterparts.

Most substance use practices by school age adolescents were observed during late afternoon hours.

## 6.2 RECOMMENDATIONS

- Although substance use and accessibility appears to be low close to school compounds, efforts still should be employed to further reduce bars, khat shops, and shisha houses to ensure more complete protection of students form substance use.

- Teachers should work corporately from the staff members and then governmental officers (sub-city, woreda, police officials…) to create suitable, safe and attractive environment to the student.

- The school administration should increase bonding with stakeholders (student-parents-teachers) and create positive peer-relationship among students by encouraging them to participate in co-curricular activities and help them to create network of non-drug peers.

- The government should give more attention to minimize the adverse effect substance abuse among high school students by implementing laws on drug and supervising bars, khat and shisha houses.

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# Annex A

## ADDIS ABABA UNIVERSITY

## COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

## DEPARTMENT OF ZOOLOGICAL SCIENCE

***An Assessment of Prevalence of Bars, Khat and Shisha Houses and Substance Use Practices by Students in Gullele Sub City Government High Schools***

*School guidance officers interview guidelines*

1. Are there any documents that show records of substance use practice of students?
2. What are the possible risk factors that make high school students to abuse substances?
3. What measures taken to those students who have drug related violence?
4. What else you would like to add as a closing remark?

THANK YOU!