



**Bio-Psychosocial Effects of Khat Use on High School Students in Lideta Sub-City, Addis
Ababa**

**By
Gizachew Berhanu**

A Thesis Submitted to Addis Ababa University School of Social Work in Partial
Fulfillment of the Requirements of the Degree of Masters of Social Work

Advisor: Mengistu Legesse (PhD)

Addis Ababa University

College of Social Science

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June, 2020

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MSW Examining Committee

This is to certify that the thesis prepared by Gizachew Berhanu entitled “Bio-Psychosocial Effects of Khat Use on High School Students in Lideta Sub-city, Addis Ababa” submitted in partial fulfillment of the requirements for the Degree of Masters of Arts (School of Social Work) complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

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Abstract

Khat use among high school students has become an increasing public health concern on account of the implications of early substance dependence on the future of the youth. Many studies have been done on the prevalence of khat chewing and factors associated with it but little is done on the bio psychosocial effects of khat use. This study explored the bio psychosocial effects of khat use on high school students in Lideta Sub-city, Woreda 01(A.A). The study applied the qualitative method with exploratory purpose. The qualitative method adopted a case study approach. In-depth interview, key informant interview, focus group discussion and observation were used to collect data and thematic analysis was applied to analyze data. It employed the non-probability sampling method with both purposive and snowball sampling techniques. The findings of the study showed that khat use has adverse health effects on the users (high school students in this study) which include biological, psychological and social effects. Accordingly, the major biological effects of khat use include gastrointestinal effects, effects on the reproductive system, cardiovascular effects and other physiological problems associated with 'mirqanna' and withdrawals. The psychological effects of khat use include psychological dependence, major psychiatric disorders (such as anxiety, insomnia, nightmare, depression, euphoria and excitement) and other psychological problems associated with 'mirqanna' and withdrawals. Socially, khat use is associated with criminal and anti-social activities, interaction problems, wastage of time, low academic performance or low productivity, family discord and breakdown, and social stigma and discrimination. Moreover, the study revealed that khat use among high school students has an impact on the general well-being of the individual users and the society. Finally, coordinating with different stakeholders, the establishment of a department or commission (which should be assigned with different responsibilities) at the national level under the supervision of Ministry of Health, Ministry of Education or Ministry of Women, Children and Youth Affairs is highly recommended. Besides, incorporating character count traits programs in the education policy; filling the legal gap with regard to khat use; and expanding rehabilitation centers for the students affected by khat use are also recommended.

Key words: *Exploring, Bio psychosocial effects, Khat use, High school students, Addis Ababa*

Abbreviations and Acronyms

CND	Commission on Narcotics Drugs
CVDs	Cardiovascular Diseases
ECDD	Expert Committee on Drug Dependence
FGD	Focus Group Discussion
HIV	Human Immune Deficiency Virus
KG	Kindergarten
STD	Sexually Transmitted Disease
UK	United Kingdom
UNFDAC	United Nations Fund for Drug Abuse Control
UN	United Nations
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
WHO	World Health Organization

CHAPTER ONE: INTRODDUCTION

1.1 Background of the study

Khat (*Catha edulis* Forsk), a mild stimulant consumed by chewing, is a psychoactive shrub or plant chewed for its stimulating effects. It is a species belonging to the kingdom plantae family Celastraceous. Although home birth of khat tree is contested, many believe that it is originated from Ethiopia (Lomina, 2010). Obviously, people in East Africa and the Arabian Peninsula chewed the leaves of the *Catha edulis* for their stimulant effects. Reports from experts of khat use in the hinterlands of the Horn of Africa argue that the consumption of khat goes back at least eight centuries (Apps, Matloob, Dahdal & Dubrey, 2011; Ezekiel, 2010; Ong'ayo, 2007; WHO, 2006). For instance, according to these authors and reports, the leaves were chewed by the people lived in the medieval Islamic sultanates of the southern region in what is today known Ethiopia as early as the 14th century.

Culture of khat consumption in communities in the Horn of Africa and the Arabian Peninsula combines two main purposes; religious and cultural purposes (Ong'ayo, 2007). In Ethiopia, for example, chewing-khat is linked with agricultural labor and is also historically associated with religious contemplation and meditation (Andersson & Carrier, 2009). In the past times, the use of khat was observed frequently among Ethiopian Muslims who consumed it for prayer and during the fasting period of the holy month of Ramadan (Apps et al., 2011; Belew, Kebede, Kassaye & Enquoselassie, 2000). In other instances, there are groups of khat users who have been used khat not only for religious and cultural purposes, but for various reasons. Some of these groups aspire more on the psychosocial benefits of the group interaction that occurs during the khat sessions which is affirmed as one reason for its intake (Belew et al., 2000). While, other individuals consume khat in preparation for battle grounds, a ceremonial activity including weddings and/or it is used as an appetite suppressant (Apps, et al., 2011). Accordingly, Ezekiel (2010), an associate professor of history at Kettering University in US who contributed much to khat research, has unveiled that the use of psychoactive substances in religious and healing rituals, in semi-ritual practices which reinforce social and political bonds and simply as recreational activity is a universal cultural practice. Khat use is widely found to be socially accepted habit in most of the countries geographically situated where the herbal drug is cultivated and chewed as a

recreational and socializing drug (Ali et al., 2010; Apps et al., 2011; Manghi et al., 2009; Al-Habori, 2005). Consequently, in countries such as Djibouti, Ethiopia, Kenya, Somalia and Yemen where khat consumption is widespread and has deep-rooted cultural traditions, it is most common to see that many houses have a special room which is reserved for khat chewers where they gather each afternoon to consume the substance in a special setting (Belew et al., 2000; Cox & Rampes, 2003; Favrod Coune & Broers, 2010). However, the West's perspective on khat consumption differs from that of traditional-use regions. On account of this, Carrier (2007), in his book under the title 'A strange drug in a strange land' described that khat is a psychoactive plant taken out of its cultural environment, used in new settings, perceived as an object of abuse and targeted for elimination.

Nevertheless, there is no consensus among the prominent researchers in the field of khat use whether it is to be treated as an object of abuse or be commercialized smoothly across the world (Ezkiel, 2010). Some of these researchers have claimed that khat has yet to cross the line of becoming a new drug of abuse, but it has come to a crossroads of either following the course of the mild stimulants such as coffee, tea, and sugar that have now been successfully commercialized and globalized or of the highly refined products such as cocaine and heroin that are universally considered harmful and are under international control (Ezkiel, 2010). In Europe, a moral and political panic emerged in some circles concerning about khat use, misuse and how it may contribute to disability (Carrier, 2007; Bhui & Warfa, 2007). Because khat is reported to be an amphetamine-like substance and when used excessively it increases the risk of mental illness. Moreover, studies argue that the habit of khat consumption appears to have more of a social function akin to alcohol (Bhui & Warfa, 2007). As a result, khat use was regarded as unacceptable behavior in countries situated outside the traditional environment of khat mostly in Western nations (Sykes et al., 2009). Besides, after the introduction of khat, many of the western countries have responded to its debut with the same kind of reaction that they had shown to other psychotropic plants in the past centuries when the use of substance is reported inside their countries. This is because many drugs of abuse in the West and throughout the world such as heroin and cocaine, the most abused drugs, were once plant products like khat used for religious, medicinal and ritualistic aims. In the hands of some irresponsible individuals and groups of

people these substances tuned-out not subject to cultural proscriptions but became objects of abuse (Ezekiel, 2010).

"The plant is known by its various names: khat or jaat in Somalia; gat, khat and qat in Arabic; chat in Amharic with additional forces of these names also in common usage" (Heacocke, 1974; p. 64). Amare pointed out that the *Catha Edulis* Forsk commonly known as chat in Ethiopia but now referred to consistently in literature as Khat... (Amare, 1973), while it is known as chat in Amharic speaking people, but among Oromos of Hararghe and other ethnic groups they call it 'jimmae' or 'Djimae'. Therefore, it is unavoidable to make clear the existence of various local names for khat to avoid conceptual misunderstanding. The reader should be aware that it would be preferable and easier to use khat as it is a popular name for *catha edulis* among different communities in the world.

It is time long in history that men begin to use various kinds of plants as a medicine, as a means to control appetite, to lesson pain, to get stimulated or wake off and so on. In relation to this, Chopra (1965) described that men have long been able to discover plant which give abnormal sensation and feelings of euphoria from time immemorial. According to the author, the use of plant like cocoa leaf, cannabis, marijuana, opiate, hashish and khat for getting hilarity and excitement was known to man in old days. It is also stated that the narcotic and euphoric properties of cannabis plant were known to the Aryans. Besides, coca-leaf was used during the time of Inca civilization in South America in order to get the feeling of exhilaration and increased vigor.

It is not, thus, surprising that the history of the use of khat is antiquity in the people of East Africa, particularly among Ethiopians and those of Arab countries like Yemen. "Khat was discovered and used by people of North, East part of Africa and Arabs as a stimulant and the leaves of this plant have been long used by the indigenous people to combat fatigue and sleep" (Mahari, 1973, p. 1). Moreover, according to the author, khat is one of the oldest drugs used in Ethiopia and probably originated on the Ethiopian highlands in very ancient times.

Sociologically, khat chewing is related to socio-cultural and religious life of society. In old days, it is seriously identified with religious ceremonies among certain age categories in important social events like death, marriage and funeral ceremonies among Oromo and other ethnic groups (Amare, 1973). In Hararghe, people come to "hazenbet" or 'taziae' (in Oromifa) with their khat, and then they sit and chew khat together with the relatives of the deceased for sharing their sorrow and pain. Hill (1963) pointed out this as “great chewing takes place at festivals of birth, circumcision, marriage and in funeral” (p. 15). But, nowadays, the practice and abuse of khat has changed overtime and it is used regardless of faith of religion, income, sex and age. Andargachew (1988) stated the issue as follows:

Originally the use of khat was restricted to certain ethnic and/or religious groups. It was prohibited to members of Christian faith particularly the Ethiopian Orthodox. But now its use spread across, not only ethnic and religious groups but also across various age groups as well. It is widely used by the young generation of almost all faiths (p. 329).

The habit of khat chewing, as noted by Andargachew (1988), is nowadays becoming widespread among young generation in particular among young students in secondary and tertiary levels education. He said that they use khat in exam time to stay long in the night as well as for recreational and pastime for urban youth who is educated and unemployed. The chronic abuse of khat among youth might have some ramification on the society.

Briefly the drug problem, with particular reference to khat use, is closely associated with smoking, alcoholism and usage of other drugs. Thus, it is multi-faced social problem which adversely affects the youths. Accordingly, the biological, psychological and social effects of khat use should be investigated so that some repressive measures would be taken because of its implication on the future of the youth. Therefore, the essential role of this writing is to find out the bio psychosocial effects of khat use, the etiology of the use of drugs, i.e. khat and associated drugs and the socio economic problems that arouse from the chronic use of khat by youth with emphasis to students in high school in Lideta Sub-city, Woreda 01 and in a way to discuss various effects of khat chewing from the perspective of users. It is not easy to deal with the problems of drug addiction like khat chewing since it needs close and systematic investigation as

well as detail chemical and pharmacological analysis. However, the writer has tried to give a highlight about some aspects of the problem of khat abuse with some instance of research work.

1.2 Statement of the problem

Substance use is remaining high among the world adolescent and youth of which khat, alcohol and cigarette are among others (Kebede, Alem & Mitike, 2005). According to the authors, use of these substances has become one of the rising major public health and socio-economic problems worldwide. Recent trends, as mentioned by them, indicate that the use of substances among the youth have dramatically increased particularly in developing countries.

The use or misuse of addictive substances such as khat (*catha edulis* Forsk) is increasingly prevalent in Ethiopia (Kebede et al., 2005). Of young segment of the Ethiopian population, college and high school students are the most at risk of using khat and other additional drugs (Gelaw & Haile Amlak, 2003). In Some countries where the use of khat is widespread the habit has a deep-rooted social and cultural tradition. This is particularly true for Ethiopia (Banji, Elsanosi & Ageely, 2011). Several million people may be chewing khat worldwide, with an estimated of 10 million people chewing khat leaf daily (Device, Acik, Oguzoncul & Devicil, 2010). Up until a few decades ago, khat chewing was mainly restricted to older men or members of Muslim communities who used it in lieu of alcohol on religious grounds and therefore, the habit did not pose serious public health or socio-economic problems. In recent years, however, its use has spread across many faiths, ethnic groups, age, sex, and so on (Device et al., 2010).

High school students may be at high risk for using illicit substances during school life due to changes in life style and reduced parental control (Kebede, 2002). Entering such educational level, often leads to new opportunities, independence from family control, self-decision making, and peer-pressures to use or abuse khat, alcohol and other drugs (Abebe, Debella & Dejene, 2003).

According to Adamu (2016), substance use among college and high school students remains an important area of research due to the implications of early substance dependence on the future of the youth. He further reported that the use of khat and other additional drugs among students can

be harmful, leading to decreased academic performance, increased risk of contracting HIV and other sexually transmitted diseases, or other psychiatric disorders such as lethargy, hopelessness and insomnia. Problematic khat use, especially in high doses or when combined with alcohol, tobacco and other drugs, continues to claim the lives of many people as well as it exposes students to legal repercussions, or jeopardizes their enrollment at schools (Siziya, Babaniyi, Shango & Senkwe, 2011).

The use of khat and other drugs (such as alcohol and tobacco) is high and is most commonly found among youngsters, especially high school students (Kassaye, Sherif, Fissehaye & Teklu, 2011). According to these authors, the adverse effect is diversion of income for the purchase of drug at the expense of the needs of the family, leading to family discord and divorce, absenteeism from work or school, laziness and criminal acts. They added that like in Yemen, the use of *Catha edulis* (khat) is ever increasing in Ethiopia among youth (especially among high school students). They also indicated that *Catha edulis* previously known to grow mainly in the eastern part of Ethiopia is now widely cultivated in all parts of the country and neighboring regions. Hence, it is consumed regularly with the young generations being the primary targets. In Ethiopia, current ways of chewing *Catha edulis* has changed from traditional way of consumption, which is highly regulated, towards the use by the youth and adolescents, chewing *Catha edulis* in tea shops that operate day and night as well as early morning use (Deressa & Azazh, 2011; Kassaye et al., 2011).

Khat may result in a variety of physical adverse effects due to the different compounds in it including the gastrointestinal system effects, nervous system effects, respiratory system effects, constipation, urine retention, and cardiovascular effects (WHO, 2006; Kalix, 1988). They also stated that Cathinone, an alkaloid in khat, is considered responsible for psychiatric adverse effects such as excitement, loss of appetite, euphoria, increased alertness, dependence, tolerance, depression, insomnia, suicidal ideation, feeling of anxiousness and irritability and so on.

In addition to the above mentioned adverse effects, khat use has also adverse social effects. Evidence relating to links between khat and loss of relationships has been generated largely

through qualitative studies. For instance, loss of relationships with children and weakening of family relations even when the use is considered socially acceptable has been reported (Assefa, 1983). Daily users of khat also consume large fraction of the family budget and khat is purchased at the expense of other important family items such as meat and fruit (Griffiths, 1988). Even though the problem of khat use among high school students is getting worse, very few studies have been made so far to investigate the situation of these students (Kassaye et al., 2011).

A study done on the habit of khat chewing among students indicated that the main reason for students to chew khat is seeking concentration during study or exam times. In addition, concentration, the need for entertainment and relaxation were also identified as reasons for using khat among students (Fitsum, Teni, Surur & Tessema, 2015).

Another study done on the prevalence of khat use and factors associated with it also revealed that the prevalence of current use of khat is higher than recent study done on high school and college students in Ethiopia and heavily influenced with peer practice (Ewenat, Yemane & Alemayehu, 2015). According to these authors, Ethiopia is one of several countries in Africa and the Middle East where khat chewing is common among students. They also stated that khat is consumed by students when they wish to study for long hours especially during examination periods. Moreover, socio-demographic characteristics such as being male, having peer influence and student seniority have been associated with khat chewing. In addition, the most common reasons given for chewing khat include staying alert and achieving better concentration at work; increasing motivation when there is a need to work long hours; socializing; and other recreational purposes (Ewenat et al., 2015).

According to Adamu (2016), life time prevalence of khat chewing is higher for males than females. The same is true for alcohol and other drugs (substances). Moreover, the presence of family members who chew khat, drink alcohol, and smoke cigarette is highly associated with students' substance use.

A study done in Ethiopia by reported that generic factors including normalization in the community, social mobility, accessibility (affordability and availability of khat leaf in the whole

year) and the importance of khat as cash crop have been identified as the major contributors to the widespread of khat chewing habit (Demewoz & Yihune, 2015). However, according to these authors, very limited national studies have been available in the general community to identify contextual factors associated with khat chewing practice among students in order to influence policy and program interventions in Ethiopia.

According to the United Nations Office on Drugs and Crime [UNODC] (2008), substance abuse like khat is worsened by complex socio-economic challenges such as unemployment, poverty and crime in general. These social ills are devastating many youths, families and communities. Substances from all over the world currently flood many African countries including Ethiopia. Moreover, drug pushers are forcing young people into taking substances (like khat, tobacco, marijuana and so on) so that once they are hooked; they can manipulate their friends into taking substances. In Stellan's (2010) work it is also stated that too many youths seem to think experimentation with substances as an acceptable part of transition into adulthood, where as few take seriously the negative consequences of dependence on substances. In that work it is also depicted that as young people reach adolescence, drug consumption increases due to cultural influence and peer pressure. In addition, young people prefer strong local spirit which is easily put in miniature sachets at very low prices and other drugs like khat, cannabis, tobacco, heroin and other medically prescribed drugs. Other causes include; high illiteracy levels, high degree of unemployment, extreme poverty, peer groups, among others.

Generally, as indicated above, the researcher has tried to consult some studies. However, only few studies have been made so far to investigate the situation of high school students who use khat and other additional drugs in Addis Ababa, Ethiopia. These few studies (as indicated earlier) have shown or reported the varying levels of prevalence of khat chewing and factors associated with it. But, the adverse effects of khat use among high school students is poorly defined or poorly investigated (which means the problem is not studied by the school of social work as well as it is not that much studied by other stakeholders) or in other words the above reports simply focus on prevalence of khat use and factors associated with it without addressing the overall effects of khat use which include biological, psychological and social effects. Additionally, more focused proposals and explorations of targeted interventions and/or preventions could not be

carried out if we do not have established methods to investigate the bio psychosocial effects of khat use on high school students. Hence, the researcher believes that investigating such sensitive issues in the selected research area, that is, Addis Ababa, Lideta Sub-city, Woreda 01 (the rationale for selecting this study area is indicated in the scope of the study and methodology parts) is timely and helpful so as to understand the bio psychosocial effects of khat use on high school students and contributing to different interventions. This research is, therefore, anticipated to fill such gaps.

1.3 Objectives of the study

1.3.1 General objective

The main objective of this study is to explore the bio psychosocial effects of khat use on high school students in Lideta sub-city, Woreda 01 (Addis Ababa).

1.3 2 Specific objectives

- a) To assess the biological effects of khat use on high school students.
- b) To assess the psychological effects of khat use on high school students.
- c) To investigate the social effects khat use on high school students.
- d) To find out the aetiology of khat use and its relationship with other substances.

1.4 Basic Research Questions

- a) What are the biological effects of khat use on high school students?
- b) What are the psychological effects of khat use on high school students?
- c) What are the social effects of khat use on high school students?
- d) What is the aetiology of khat use and what does its relationship with other substances look like?

1.5 Significance of the study

This study is believed to have a number of significances. First, it will be a great solution to minimize the bio psychosocial effects of khat use on high school students and to improve the well-being of the users (students) and the teaching-learning atmosphere (it can be through teaching them about the adverse effects of khat use and moral or character development education as well as improving their well-being, interest of learning and behavior). Second, the

researcher will use the investigation as one great input to his future professional development. The other significance of the research is or will be motivating other professionals to conduct research on problems related to drug addiction, such as khat use. Getting great satisfaction on the outcome of this research is also hoped to be the other relevance of this investigation.

On the other hand, since the study primarily focuses on the bio psychosocial effects of khat use among high school students, it could be significant to enhance the awareness of the community about the adverse effects of khat use (it can be through revealing the study to the public or teaching them about the adverse effects of khat use). It also helps to improve their attitude and knowledge toward the hazardous use of khat and its adverse effects which include biological, psychological and social effects.

Moreover, the study may have an important contribution to researchers or other stake holders who want to further study the effects of khat use on the well-being of high school students, to show the gap in relation to both research and practice, to initiate further action, and to develop appropriate interventions in relation to the issue under discussion. Generally, several invaluable advantages on the teaching-learning atmosphere are also expected from the outcomes of this study (it can be through teaching students about the adverse effects of khat use and the importance of moral or character development education).

1.6 Scope of the study

This study is delimited to Addis Ababa, Lideta sub-city, Woreda 01, which has many students who chew khat and use other additional drugs on a daily basis. In fact, prior to selecting this research site, the researcher has tried to make an assessment in other areas which are very near to his work place such as CMC, Gurdshola, Ayat, Meri and Tafo. Accordingly, he found out that the problems of khat use observed in Lideta area were not that much seen in those areas. Of course, it is really quite difficult to assess many areas because of financial and time interest. The rationale for selecting this sub-city as a research site is because of its nature which means in this sub-city there are many khat shops, shisha houses, bars and other intensifying factors being located nearby to schools. The researcher has made a preliminary assessment to select this site. This was made by identifying and using one potential source of information who can provide the

researcher important information about other khat chewer students. During the preliminary assessment, the researcher observed that there are so many students who use khat and other drugs even during school hours in this Woreda (with or without school uniform). The researcher found out that it could be a valuable asset for the success of the study. Moreover, this study area has been selected to get research participants who are believed to be appropriate for the study. This study was conducted from November 2019 to June 2020. The researcher collected, analyzed and presented the data within this period.

1.7 Limitation of the study

This study has some limitations. For instance, the perceptions or attitudes of non-khat users (students), community members and many other stakeholders and professionals were not studied. This study is also a micro level study (focusing on ten students) that may not help to arrive at different results and generalizations. Inability to get enough female participants who have different perceptions about the issue under discussion is also considered as another limitation of the study. Moreover, factors that contributed to the different attitudes towards khat use were not compared in this study.

Besides, there are also challenges that were encountered in this research undertaking. So, it is worth mentioning those challenges here. For example, because of the sensitivity of the issue under discussion, the problems that khat users continuously face, and the bio psychosocial effects that go along with it, communication with khat chewer high school students is obviously a difficult task. Therefore, in order to accomplish his task, the researcher had been in their places frequently to approach them as a friend. Since the researcher shoulders many other responsibilities to be discharged, it was really quite difficult for him to spend so many hours in collecting the data. This has happened because of time limit of the study. This could be taken as one of the challenges of the study.

The other major limitation of this study is attributed to financial constraint. Because of financial and time constraints, the writer preferred to limit his sample to ten students so as to make the analysis and interpretation parts feasible and manageable. However, the sample which is taken as a case study in this research cannot be considered as an inference for the general population.

Hence, lack of generalization could be one of the major limitations of this study as well as any other qualitative research.

At the beginning, the study was planned to get both male and female khat chewer students with equivalent amounts or proportions in order to keep balance of the participants. But, during the course of the research the writer of this paper was able to get seven males and only three females despite the fact that khat chewing has become an omnipresent phenomenon in Ethiopia involving people of all categories, sexes and ages as per researcher's observation and experience. In general, access to khat chewers living in Addis Ababa, Ethiopia is really highly limited and it is difficult to find female khat users in particular. This could be somehow attributed to the social stigma that female khat users face in Ethiopia. It seems because of this factor that they do not want to use the substance openly. Moreover, they are reluctant to discuss the issue with outsiders or strangers. Thus, the researcher understood that the issue of khat use among Ethiopian females is not easy to research and is a very sensitive topic. This was also another challenge of the study.

Starting from the beginning of the study one of the major difficulties that the researcher encountered was lack of willingness from some khat chewer students to express their experiences about the substance usage, that is, khat use. The presence of this kind of people is not as simple as one might assume. So, lack of willingness or interest to be asked or to express their experiences could be taken as one of the challenges of the study. Furthermore, when asked about their habit most of the khat chewer students considered it as interference in their personal life/issue and as a result they did not want to talk about the issue under discussion openly or frankly though this did not continue for long (because of researcher's attempt to develop good rapport and to explain the purpose of the research genuinely). This is really a serious challenge that impedes the free flow of information which allows people to make early choices that can help researchers who want to explore the bio psychosocial effects of khat use on high school students or any other issues related to khat consumption. Another problem encountered in this research undertaking was that some of the khat chewer students (who were also participants of this study) asked the researcher to provide money repeatedly in order to buy khat given that they cannot always afford the expenses of khat use and its associates by themselves. To overcome this

challenge, the researcher tried to persuade them to participate in the study without any additional pay because he does not have enough money to fulfill all their demands. But when things are not good he was sometimes forced to give them money in order to get the required information.

1.8 Organization of the paper

The paper has six chapters. The first chapter mainly deals with background of the study, statement of the problem, objectives of the study, basic research questions, significance of the study, scope of the study, limitation of the study, operational definition of terms and organization of the paper. The second chapter deals with review of related literature on the effects of khat use. The research method and the research process are explained under chapter three. The fourth chapter presents the findings of the study. The fifth chapter deals with discussion of the major findings in line with literatures. Chapter six presents conclusions, recommendations and social work implications.

1.9 Operational definitions of terms

Khat: refers to a shrub/plant or psychoactive substance and whose leaves are chewed for its effects or are used as a mild stimulant.

Drug: is a term used for describing the habit-forming substance (like khat in this case) which directly affects the bio psychosocial well-being of the users and the society at large. More precisely, it refers to any chemical substance (such as khat) which affects bodily function, mood, perception, consciousness or social functioning of the individual users.

Drug Abuse: is all about the use of unacceptable drugs and the excessive or inappropriate use of acceptable drugs so that physical/biological and psychosocial harm can result.

Addiction: In this research, this word is generally used to describe the physical or psychological dependence that occurs when an individual comes to rely on a drug (for example, khat) for the feeling of well-being it produces.

Bio-Psychosocial Effects: refer to the biological/physiological, psychological and social effects of khat use. “Bio” refers to the biological and medical aspects of the person; “psycho” refers to the person’s self-worth, self-esteem, and emotional resources; and “social” refers to the social environment that surrounds and influences the person (Belder, 2006, p.4). Thus, in this study, the researcher used these terms in order to show adverse effects

of khat use related to the physical, mental and medical health status; disorders that affect the well-being and self-esteem; and social and environmental problems faced by students who use khat.

Biological Effects: the physical, mental, medical and other health related difficulties of students who use khat. This may be gastrointestinal, reproductive, cardiovascular or other physiological effects.

Psychological Effects: psychological problems and disorders that affect khat chewer students' well-being and self-esteem. This could be psychological dependence, anxiety, depression, insomnia, nightmares, misinterpretation and hallucinations.

Social Effects: the social and environmental problems encountered by khat chewer students. This could be a problem of social interaction, criminal and anti-social activities, low academic performance and productivity, family discord and marginalization.

High School: According to the new Ethiopian educational road map, there are four educational levels or cycles. Cycle one (Pre-KG to Grade 4), cycle two (Grade 5 to 6), cycle three (Grade 7 to 8), and cycle four (Grade 9 to 12), Thus, high school is a grade level that includes students of the fourth cycle, that is, from grade 9 to 12.

High School Students: are those students who are from grade 9 to 12. And also, who are most probably above 15 years old.

Youth: Ethiopia's national youth policy (2004) defines youth as those aged between 15-29. Thus, for the purpose of this study, almost all high school students (who participated in this research) are labeled as the youth because they are found in this age category (15-29).

CHAPTER TWO: LITERATURE REVIEW

2.1 Khat use in Ethiopia

2.1.1 Use of khat

From down of history, man had exploited every twigs, roots, berry and grain in nature not only for their possible use to satisfy his anger and thirst and to cure his ailments but also to satisfy another basic needs which is to heighten the state of consciousness (Nahas,1981). It is the urge for mental satisfaction and heightening the state of consciousness that would derive human beings to take drugs like khat, hashish and tobacco. According to the author, khat is one of several drugs that could alter or modify man's perception with resultant effect of relief from one's depression and attains instead pleasure and stimulation. Pela (1986) put it precisely that khat is used for pleasurable, stimulating and euphoric effect derived from it. Strengthening this idea Hill (1965) stated that khat is used mainly for its stimulating effect as masticator, in the form of fresh leaves and twigs which are chewed and usually swallowed. For example, Hughes (1973) explained the role of khat as follows:

One of the most important uses of khat (as a general stimulant) is to ward off fatigue, as in its original application as an aid to prayers. Among Yemeni students' khat use has been found to increase at examination time to promote alertness during long hours of studying (p. 10).

According to Hughes (1973), though the use of khat is prevalent, high school or college students have quite the same tendency with Yemeni's case. It is observed that similarly among Ethiopian high school or college students the number of khat chewers in schools increases during exam time so that they could stay long in night and toward off sleep and study hard. The use of drugs (like khat and tobacco) may sometimes help one to work better, to function socially, to solve problem and make decisions as well as to remain mentally and emotionally interest, used in this fusion, drugs can contribute to the individual and to society (Westermeyer, 1987). The typical example of such drug in Ethiopia is khat which is used popularly by rural and urban population to give vigor and work hard. Hill (1965) clearly cited that khat is attributed with giving strength

and power for hard laborers or workers who are acquainted with its use recommends it highly for this purpose.

Hence, people of various occupational categories such as industrial workers and motor vehicle drivers chew khat for the purpose of increasing vigor and keeping awake. Usually farm laborers in Hararghe chew khat while they are in their farm work. Among youth khat is used as past time and for recreational purpose. In relation to this, Amare (1973) wrote:

Whereas we find khat is used in rural areas or society to generate energy to do farm labor, in towns and cities it is mainly a past-time habit. When asked about it some answers "we don't have anything else to do so we sit and chew khat (p. 374).

Nevertheless, "it is believed that the use of khat was revealed to Muslim prayers in Harar by two angles sent by God so that they could stay awake in their praying night. Thus, people in Harar, believe that khat is blessed by God and they frequently offer prayer before chewing it" (Hill 1965, p.15). Not only Muslims but also Christians in Harar seem to have now begun to believe that khat is blessed by God. However, the habit of khat chewing is identified with Ethiopian Muslim from Harar and Wollo (Amare, 1973).

Gradually, khat-chewing, which had been accepted only by Muslim, is adopted by other groups, regardless of faith, age category and sex. Amare adds "At first khat was used only by older men and even then only in connection with religious rites... Later its use was extending to non-religious activities such as attending, sick, weddings, funerals, mediation and business gathering" (Amare, 1973 p. 370). Moreover, khat is used in a society for social recreation and social gathering. Rampone (1963) presented good instances as:

Predominantly khat plays an important part in the social life of many Ethiopian Muslims. It is often the first refreshment offered to guests in the home, and several types of social meetings are held in cities of Dire Dawa and Harar where khat chewing is accompanied by smoking and drinking (p. 11).

However, nowadays the use of khat as refreshment prevails among all faiths residing in Hararghe and other areas. Now, it becomes even a fashion to chew khat among urban youths. Besides, the number of students or school boy chewing it is very high (Rampone, 1963). "The use of *Catha edulis* (Khat) for medical purpose goes back to antiquity when Alexander the great used khat to treat his soldier for an epidemic disease" (Hill, 1965, p. 15). In a society where the habit of khat chewing is deep-rooted in traditional and cultural life, khat is conceived as a medicine for ailments. Amare (1973) reported that in Harar people believe that khat can have 501 different kinds of cures which respond to the numerical values of the letters of the Arabic Gaat (400+100+1). Thus, the plant is regarded as an essential constituent in their daily life and plays a role in medicine bringing about alleged cures.

Reasons for use of khat in a society are several and its use has undergone change over a period of time. Distefano mentioned this as "khat plays a critical role in a society as a recreational stimulant, an aid to work and religious practice, an appetite suppressant, a source of nutrition and as a general medicine consumer attributes many wonderful effects and properties to its use" (Distefano, 1983, p. 5).

Recent studies also support the above ideas presented by different authors. For example, in the work of Ephrem (2009) it was mentioned that processed leaves and roots of khat are used to treat influenza, cough, gonorrhoea, asthma and other chest problems. In that work it was also described that the root is used for stomach ache and an infusion is taken orally to treat boils. Besides, khat has considerable social value. It is served to welcome and entertain guests, in mourning, weddings, funerals, circumcision ceremonies and collective labor works. Khat chewing has its own associated ceremonies like smoking incense, cigarettes and use of drinks like soft drinks, tea and milk (Al-Motarreb, Baker and Broadley, 2002). Moreover, according to Eskiel (2004), khat is an important and potentially profitable cash crop. He said that the employment opportunity created through the cultivation of khat is very high in that a large number of people are involved in growing, harvesting, sorting, packing, transporting, loading and unloading the commodity. He also noted that the wood of plant is commonly used for fuel and due to its resistance to termite is used in the construction of house and fencing. According to him, it is also used for making

rafters, handles of farm tools (hammers and chisels) and handles of household articles such as pots and pans, rolling pins, and to make forks, combs, spoons and for rulers.

Recent reports suggest that 80-90% of male adult and 10-60% of female adult populations in East Africa consume khat on a daily basis and new patterns of khat consumption, including morning chewing sessions and khat parties, have emerged in these East African countries (Odenwald, et al., 2005). Traditionally, in Ethiopia, khat has been chewed by Muslims during religious ceremonies and during prayer to facilitate contact with Allah (Alem, 2004). Today, chewing is common among other religions and in most parts of the country (Eskiel, 2004). As cited in the work of Ephrem (2009), a recent survey of one region in rural Ethiopia placed the prevalence of current use about 50% of the total population. In his study, it was also cited that some of the desired effects of khat chewing are enhanced concentration, feelings of euphoria and suppression of hunger and sleep. In addition, khat is also chewed to increase work efficiency and facilitate social interactions.

According to Ezkiel (2004), the desired effect of khat varies from person to person. Some people mention that the main reason for chewing is an enhancement of socialization and that the ceremony is a nice way of spending time with friends, not as much as the physical effect of khat such as staying awake or getting “high.” Different production areas and varieties of khat are reported to give dissimilar effects on the same chewer.

Even though khat is mainly a social drug, it is taken to treat illness such as malaria (Ephrem, 2009). The medical use of khat has a long history and in Harar region people consider khat to treat more than 500 ailments. Historically, khat has also been used as medicine to treat symptoms of depression and melancholia and there are sources telling about Alexander the Great using khat to cure ill soldiers (Alem, 2004). As it was revealed in the work of Ephrem (2009), khat is known to treat influenza as well as coughs and asthma. He also mentioned that the desired effect of khat chewing varies according to the type of khat and according to the person such as euphoric, cheerful sensation and excitement stage, which last about 1-2 hours.

2.1.2 Unacceptable/Problematic use of khat

Even though khat is chewed for socio-cultural and religious purposes in Ethiopia, it has detrimental effect on the general well-being of the users (Chopra, 1965). Conversely, some people believe that khat could not be a problem if it is used in moderation (Hassan, Gunaid & Murray-Lyon, 2007). However, there is limited literature or study with regard to understanding when khat becomes problematic or unacceptable. Despite lack of literature, Yusuf (2015) described that khat could be compared to other substances of abuse and that it may become problematic when it is associated with impairment in people's level of functioning. According to the author, frequent use of khat in significant amounts; physical and mental health problems; social problems; unhygienic use of khat; and association of khat use with other substances are identified as being problematic.

Khat use can be both acceptable and problematic depending on the context and the pattern of use (Awoke, Solomon & Abebaw, 2017). According to these authors, the acceptable uses include using for religious, socio-cultural and functional purposes. Denouncing khat use without understanding the context could be in itself problematic. They also stated that khat use is considered problematic if there are impairment (in social and occupational functioning), loss of control in the use of khat, withdrawal symptoms when not using khat, and adverse effects such as biological, psychological and social effects.

Problematic khat use, for example, can be manifested with '*mirqanna*' (*feeling high*). It is defined as distressing overstimulation, which is beyond the control of the user (Awoke et al., 2017)). During *mirqanna* state, there are different signs and symptoms that cause significant subjective distress or impairment in occupational, social and other important areas of functioning even if they want it to be euphoric. The major symptoms and signs associated with *mirqanna* include dilated pupil, feeling uneasy, internal fear, involuntary movements of lips, hands, tongue or mouth, which the individual can't control, and feeling restless and taking long walks without apparent purpose.

In addition, increase in goal directed activities such as extravagancy, urgency for sex and drinking alcohol, doing or planning unachievable tasks, becoming mute or talkative with flight of

ideas, getting easily annoyed, fearful or cheerful, exaggerated attention and recall of information, confusion, increased body temperature and pulse rate, perceptual disturbances (such as feeling easily frightened by insignificant external stimulus, especially sound and touch), poor recognition of familiar environment, and misinterpretation of external stimulus are reported as serious physiological and psychological problems faced by khat users as a result of *mirqanna* (Awoke et al., 2017). According to the authors, however, the above-mentioned effects of khat use and *mirqanna* are managed normally through *chebsi*- reversing the after effects of *mirqanna* through various activities. Most of the khat users drink alcohol for this purpose and others perform risky sexual intercourse (with commercial sex workers or any other person). Religious chewers, especially Muslims, reverse the aftereffects by drinking milk. Those who haven't money to reverse the *mirqanna* through *chebsi* are the most affected by the unwanted signs and symptoms.

Furthermore, withdrawal experiences of khat use can also be attributed with the different physiological and psychological problems, signs or symptoms faced by khat users. These problems occur when users stop their use and/or when they reduce the amount of khat they use. Some of these problems include increased appetite, increased sleep, yawning, decreased energy, irritability, loss of motivation and concentration, restlessness, craving, depressed mood and unpleasant dreams (Awoke et al., 2017).

In the work or study of Awoke et.al (2017) the main indicators of problematic khat use have been identified through the emic approach. Accordingly, **quantity of khat** (using large quantities of khat, the use of increasing amounts of khat through time and the need to use other substances to either enhance the stimulating effects of the khat or to reverse the excessive stimulant effect of khat); **time of use** (use of khat in the morning, taking too much time to use khat-throughout the day or night and using during unscheduled times and if the users' life is dominated by khat users); **repeated excessive negative impact** during or after using khat, including negative behavioral effects; withdrawal effects when reducing the amount used or cessation of use, and problematic management of these withdrawal effects; **craving for khat; desire to stop** or cut down khat use but unable to do so; **social and occupational impairments** resulting from khat

use (e.g., limited time or no time for socializing, poor self-care, and giving up social responsibilities or activities; being overlooked for social responsibilities; inability to carry out responsibilities within family, school or work; not having time or money for recreational activities); **using khat even when it is hazardous** (e.g. operating machinery, driving a car); major **negative impact** on finances; and **physical, psychological and social harms** resulting from khat use are identified as indicators of problematic khat use.

2.2 Effects of khat use

2.2.1 Medical aspect

Pharmacological and chemical studies of khat are very indispensable in assessing the overall effect of khat chewing. The effect of chewing fresh khat could be explained on the basis of comprehensive study undertaken on the chemical composition of khat thus it is possible to uncover the medical aspect of khat chewing. As mentioned above in previous chapter (the use of khat), the problem of khat habituation as abuse of psycho-active substance has gradually become a global concern (Distefano, 1983).

Though detail analysis of chemical composition and pharmacological investigation is a laboratory work and very difficult to present in this paper undoubtedly, the researcher believes that it is essential to see some of the findings that indicate the pharmacological effect of khat on the habitual consumer so that it is feasible to assess some of medical aspects of khat chewing and related health and social problem.

Earlier pharmacological studies identified tannins and cathine as an active ingredient in khat. In 1930, “the potency of cathine was estimated to range between caffeine and amphetamine” (Halbach, 1979, p.318). In 1949, the British pharmaceutical index referred to khat use as one of the “substitutes and adulterants of tea” (Distefano, 1983, p.6).

Khat chewing has a stimulating effect on the central nervous system, which is the reason for the widespread of abuse of this plant, that is, its use as a Central Nervous System active stimulant (Elmi, 1986). This stimulant effect has until recently attributed to the pharmacological action of *catha edulis*, also known as cathine (Zelger, 1980) which for long time believed to be the only

stimulant in khat (Szendrei, 1980). The isolation of cathinone revived an earlier suggestion that the fresh leaves contained a substance more potent than cathine phenylalkylamine characterized as (-) aminopropiophenone (Zelger 1980). It is the main phenylalkylamine components of fresh khat, and pharmacological studies indicate that it may be the compound responsible for the characteristics of stimulant activity and abuse of potential of the plant (Szendrei, 1980).

This cathinone is now thought to be the major psycho-stimulant components of khat and high importance to producing the medical effect of the chewing of khat leaves (Distefano 1983). The author further elaborated this fact as:

Cathinone is as potent as amphetamine in increasing locomotor activity in mice; it increases oxygen consumption like amphetamine and is more potent than amphetamine in limiting food intake. A cross tolerance between cathinone and amphetamine has been established. Resemblances with amphetamine have also been seen in the psychic and as well as the somatic effect which include usually a moderate degree of central stimulation, which ensuing elation and removal of fatigue, besides suppression of hunger and sometimes libido (p. 6).

In particular psycho-active, metabolic and cardio-vascular effects of the use of cathinone are similar to those of amphetamine (Elmi, 1987). In general, the effect of khat-chewing has been reported by several authors. Among these, Halbach (1979) in his words put the pharmacological effect of khat:

The pharmacological effects of khat in human include mydriasis, tachycardia, extra systoles, headache, hyperthermia, increased respiration (through central stimulation, bronchodilation and counter regulation of hyperthermia), and inhibition of micturition, increased diuresis (from intake of large quantities of fluids together with khat) (p. 379).

However, it is essential to note here that the authorities in this drug indicate the effects of khat as being different on the occasional and on the habitual chewers. They will be strictly proportionate

to the quantity of khat taken (Chopra, 1965). The case for habitual chewers become more complex, firstly, the effect obviously includes the consequence of the khat taken as such and the habitual consumers increasing large quantities in order to obtain the same effect (Kaheri, 1973).

Recent studies are also concomitant with the above ideas. For example, Hussien and Ageely (2008) uncover that people in the region from East Africa through Ethiopia to Yemen chew khat because its leaves contain chemicals that are mildly stimulating. They revealed that khat leaves contain three alkaloids, cathine ($C_6H_5CHOH(NH_2)CH_3$), cathinine, and cathidine, as well as sugars, tannins, and vitamin c in great amounts (324 mg/100g Vs green [bell] pepper's 120 mg/100 g). According to the authors, the World Health Organization asserts that khat has amphetamine-like properties, and categorizes it as a separate drug group in which it is the sole member.

It is on the ground of the above premises that the writer tried to assess the bio psycho social effects of khat use on high school students.

2.2.2 Biological effects of khat use

Halbach suggested that norpseudoephedrine and the tannin in khat account for most of health disturbances (Halbach, 1972). Some of them are discussed as follows.

1. Gastro-intestinal effect

Halbach (1972) described that gastro intestinal tract disturbance are most often complaints of chronic khat chewers. Halbach adds that the astringent characteristics of the tannins appear to account for reports of periodontal disease, stomatitis, esophagitis and gastritis. Tannins are also believed to delay intestinal absorption and thereby contribute to some degree of malnutrition. Chronic malnutrition and loss of appetite are most frequently observed on habitual khat-chewers.

Reports of cirrhosis of the liver may be due to the tonic effect of tonic acid. Constipation, the most common medical complaints of khat users, may be attributed to both tannins and norpseudoephedrine. The anorexia associated with khat-chewing is attributed to norpseudoephedrine, as a common side effect of amphetamine types of drugs (Halbach, 1972).

The above literatures are also strengthened by recent reports. According to Hussien and Ageely (2008), gastrointestinal side-effects are often encountered with khat use, constipation being the most serious and common gastrointestinal symptom. They also stated that stomatitis, esophagitis and gastritis and periodontal disease believed to be the result of the presence of strongly astringent tannins and alkaloid components which are noted in chronic users. As to them, antispasmodic action of khat on the fundus and pylorus could account for higher incidence of gastritis and gastric ulcers.

Moreover, the WHO's nutritional assessment finding reported hepatic, gastric, and urinary-tract problems to be far more common among khat users (Hussien & Ageely, 2008). Al- Hadrani, in a 2000 study, revealed a significant association between the habit of khat chewing and the development of haemorrhoidal disease. According to this author, the combined effects of khat on the brain and the gastrointestinal system result in anorexia which when prolonged leads to malnutrition and immune deficiency (Al-Hadrani, 2000).

2. Cardiovascular and circulatory System effects

The fact that the habitual chewers suffer from cardiac disorders as consequence of khat is reported invariably by experts on drugs. Few reports of disturbance of circulatory system, says Halbach, are available even though norpseudoephedrine is thought to have a greater stimulant effect on this system than does ephedrine. However, the drug might conceivably contribute to the hypertension, migraine, cerebral hemorrhage, myocardial insufficiency and pulmonary edema (Halbach, 1979).

In a recent study, Al-Motarreb and Broadley (2004) demonstrated that cathinone, the active stimulant, has vasoconstrictor properties in the coronary circulation and in a major conducting vessel, the aorta. They also revealed that coronary vasoconstriction by cathinone could explain the increased incidence of myocardial infarction in khat chewers that is associated with the periods of khat chewing. As to them, cathinone derived from the khat could induce coronary arteries sufficiently to precipitate myocardial infarction. Besides, cardiovascular effects of khat

chewing include hypertension, elevated blood pressure and heart rate (Hassan, Gunaid & Abdo-Rabbo, 2000).

3. Effect on reproductive system

There is a belief that khat chewing reduces sexual interest and it impels sexual potency in men. Distefano (1983) considering the complaints of chewer's wife he puts as "the chewers are said to complain of their irritability (chewers) and lack of interest in sexual relation following a party (p.31). It is constantly reported by both users and their wives that users' evidence decreased sexual activity (Hughes, 1973). Kervingant (1959) adds that from the genetic point of view, deficiencies caused by khat cause a degeneration of race. As a remark, Halbach (1972) cited effect of khat on sexual functioning of the users as:

Impairments of the male reproductive system are referred to as a common occurrence among chronic khat-chewers. They are believed to have high frequency of spermatorrhea and in later stage, impotence. The pharmacological basis for this effect is not understood. (p. 29).

Recent literatures also confirmed the effect of khat use on the reproductive system of the users. For example, as it was demonstrated in the study done by Hussein and Ageely (2008), the epidemiological data derived from 118 deliveries in Yemen show that at birth the mean weight of full-term single infants born to mothers who chew khat habitually or occasionally, was below average (p-value < 0.05). They also indicated that a study on pregnancy outcome showed significantly increased incidence of infants with Low Birth Weight (LBW) born to women who chewed khat during pregnancy in comparison to those who did not. Kuczowski (2004) reported that chewing of the leaves of the khat (*Catha edulis Celestrasae*) is a habit that is wide spread among women (even during pregnancy) and men and that may in turn contribute to chest pain, tachycardia, hypertension, low birth weight and even sexual impotency.

2.2.3 Psychological effects of khat use

The effects consumers' desire in khat is psychic in nature and is generated by central nervous stimulation. Euphoria, increased alertness and general excitement and hyperactivity are commonly experienced. In addition, insomnia almost always occur (Amare, 1973).

The psychological effect of khat begins the time one starts chewing it. Guedel (1975) said that when khat is chewed, ideas become clear and brain works fast. In addition, the chewer feels fresh, willing and hard-working since khat quickens the reaction. In the first stage a feeling of alertness reign. They become talkative. They understand things easily (Mahari, 1973). For instance, taking a case of student, habitual khat chewer when he chews khat he feels activated and mental alertness reign, he understands his subject matter well and stays for long time being concentrated without any fatigue.

Trellu (1959) explained the psychological effect on three states; in the first stages there is intellectual excitation with euphoria; in the second stage the numbing of intellectual faculties prevails and the eclipse of those faculties occur, and in the third stage lack of attention and memory accompanied by the liberation of violent instincts occur. Hughes (1973) elaborated this first stage psychological effect of khat clearly as:

The users describe a period of expectation and excitement even before the chewing begins approximately 10 to 20 minutes. After chewing he develops an increased speed and clarity of thought and increased alertness. There is increased sensitivity to and appreciation of the pleasure visual surroundings (p. 39).

According to the author, the above statement generally shows the first stage of euphoric and stimulating effect of khat on the behavior or character of the chewer which is the tonic/high phase. But gradually semi-coma intervene and the depressive phase replace the tonic phase, i.e., the state of the feeling of well-being is gradually followed by the second depressive phase. Hughes (1973) explains this depressive phase like:

The (khat) party breaks up at about 3 or 6 p.m. (the time is optional and could be specified accordingly). This gives them, the most of chat-chewers sufficient time for the drug effect to wear off before bedtime, still many complain of insomnia, when they return home, they eat little or nothing which they attribute to an anorexia effect of the khat (p. 39).

A recent study described a positive association between the occurrence of anxiety and depression in khat users (Hassan, Gunaid, El-Khally & Murray-Lyon, 2002). There have been sporadic reports of a possible association between khat use and the occurrence of hypomania, aggressive behavior or psychosis among users. As indicated in the work of Hussien and Ageely (2008), subjective experiences of khat use are positive when small amounts are consumed. According to them, there is a feeling of well-being, a sense of euphoria, excitement, increased energy levels, increased alertness, increased ability to concentrate, improved self esteem and increased libido. In addition, there is an enhanced imaginative ability and capacity to associate ideas, improvement in the ability to communicate and a subjective improvement in work performance. When chewing ceases, unpleasant after-effects such as insomnia, numbness, lack of concentration and low mood tend to dominate the experience. Some chewers also reported unpleasant effects during the chewing, describing anxiety, tension, restlessness and hallucinations.

Objectively, Hussien and Ageely (2008) pointed out the fact that those who chew khat show a range of experiences, from minor reactions to the development of a psychic illness. Minor reactions include being over-talkativeness (chatty), aggression, agitation, irritability, insomnia, anxiety and hyperactivity. In their work they also depicted that the main psychiatric manifestations linked to the use of khat are a short-lived schizophreniform psychotic illness, mania and depression. On occasion, these presentations are associated with episodes of self-inflicted harm or causing harm to others. As cited by them, owing to the mode of consumption, the degree of khat tends to be self-limiting, unlike amphetamines, which are available in a pure form for oral or parenteral administration. Therefore, psychosis as a result of excessive use is much less frequent with khat than amphetamines. According to them, though the intoxication

with khat is self-limiting, chronic consumption can lead to impairment of mental health, possibly contributing to personality disorders and mental deterioration.

2.2.4 Socio-economic effects of khat use

No matter how khat-chewing is deep-rooted in social and religious life of Ethiopian society as a drug, it has some detrimental effect to the well-being of the society. Khat habituation is becoming one of a social problem which spreads widely as an epidemic.

Chopra (1965) mentioned that various medical and pharmacological studies have shown that khat-chewing has a deteriorating effect on health of an individual. Not only on health wise that khat habituation has bad effect on individual chewer but also it seriously affects the socio-economic life of the society. Khat-chewing threatens the normative expectation and normal social stability. The author said that (about habitual khat-chewer and increase of long-habitual use) khat benumbs the intellectual faculties and leads to complete stupor or madness. Hence, the eventual consequence of chronic khat-habituation is known to impair the well-being and intellectual faculties of person. In addition, the use effect of khat-chewing like insomnia and depressive reaction would weaken the wealth and economy of person as well as the society because it results lateness for school and work and diminished work and academic performance.

Some scholars associate the use of drug with criminal anti-social activities thus they object the use of drugs (Andargachew, 1988). The use of khat as an inducing factor to criminal act has been suggested in literatures. For instance, Chopra (1965) mentioned this fact as:

Khat-chewing is a vice which can entail its consumer with certain unhealthy social consequence. Its consumers who usually chew the trees/ leaves to achieve the desired effect would no longer care both about himself and his family or the society. If he has the means to procure khat, he becomes a more human wreck. If he does not have enough money, he would turn to begging or some kind of anti-social criminal activities (p.8).

Elmi (1987) stated that since khat impairs that intellectual capacity of chewer and undermines moral restraints the chewer doesn't care for society's norm, expectation that is why he/she becomes a moral human wreck and involves in anti-social criminal activity. Most of committed anti-social criminal activities by chronic khat-chewers are crime against property and crime against the person to some extent. An important example that can be cited is Somalia's experience described by the author as follows:

The economic problem associated with khat chewing include spread of corruption, the theft of public and private property to support the habit, damage to people and to property caused by accidents that occur under the Euphoric state induced by the use of drug and the loss of many working hours among civil servants and private employee (p.52).

Khat-chewing has an adverse effect on economic life and productivity of the community. Halbach (1979) explicitly wrote about this as "... There is a strong inducement for khat users to procure by any means, the necessary supplies once a day or more frequently to prolong the periods of chewing" (p. 319). Indeed, such a behavior strongly suggests the development of psychic dependence and is reflected in excessive consumption of khat, with an associated decrease in economic productivity through reduction of working hours because of time spent on chewing chat (Eddy, 1965). Moreover, work productivity is said to be reduced as a result of absenteeism, tardiness and depressed mood of khat chewers caused by insomnia and depressive reaction (Distefano, 1983). Consequently, according to Pela (1986), khat abuse affects the productivity of individual users and countries involved.

The literature sunset khat use contributes to family instability because of economic drain on the family resources and the absence of father from participation in family life (due to his presence in evening khat parties) (Distefano, 1983). Since the family is basic social unit its dissolution does affect the whole society. As a social problem, Hassan (1984) mentioned about the deteriorating effect of khat habituation on family as:

Family disruption is a prominent problem which includes frequent quarrels, break of family tie, neglect of education and care of children, waste of family resource,

encouragement of prostitution, as well as encourage of family members to become involved in khat-chewing (pp. 24-26).

A poorly psycho dependence or 'khat addiction' is said to cause 'khat addicts' to spend a large portion of their salaries on the habit even if it causes a considerable hardship to their families (Halbach, 1972). In addition, as stated by Eddy (1965), spending on a non-essential commodity at the expense of food has resulted in malnutrition and proneness to disease. Accordingly, khat chewer thinks about only his procuring money for his khat and he does not feel responsible for the care and education of his children. According to the author, malnutrition is a recurrent problem observed in a family whose income is disproportionately used for khat. Hence, malnutrition in particular and poverty in general seems to be typical indicator of khat-chewing family.

A series of recent studies has also indicated the fact that khat habit can result in adverse social effects. For example, according to a study by Aden, Dimba, Ndolo and Chindia (2006), khat has a negative impact on family relationships and health and it contributes to increased anti-social behavior; the majority of khat users have children. They also stated that many of these chewers have begun to use khat during the day to increase their work productivity but, unfortunately, most of them see a decrease in their work performance. Moreover, khat chewing is associated with lower quality of life and increased chance of death, especially for those who consume khat daily over long periods (Sheikh, et al., 2014). Chronic khat use is also linked with different social harms such as wastage of time, low productivity, unemployment, crime, public disorder, violence, family breakdown and diversion of income and problems of social interaction (David, Anderson & Carrier, 2011).

Khat is, in summary, a crop strongly linked to economic, religious, educational and socio-cultural issues; it creates, however, conflicts and confusion among khat farmers and traders who are dependent on khat consumption and has a negative and dangerous effect on school child, families, and the whole society (Said, 2018).

Khat habituation is generally one of the social problems having serious medical, biological, psychological, social and economic problems to the society. The biological and psychosocial problems recurring with khat habituation among high school students are not light problems rather they have a detrimental effect to the well-being of the individual users and the society at large. Therefore, the society and the concerned bodies should give due attention to the use and consequences of khat.

2.3 Adverse effects of khat consumption

Opponents of khat consumption claim that it damages health of the individual user and affects many aspects of life with its adverse social, economic and medical consequences. Conversely, supporters of the habit of chewing khat maintain contrary to this points of view arguing that khat is useful in diabetic patients because it lowers blood glucose, it acts as a remedy for asthma, it eases symptoms of intestinal tract disorders and upholds social contact as a socializing herb (Hassan, Gunaid & Murray-Lyon, 2007). However, expert opinion holds that most of the adverse effects of khat may result from the fact that present-day ways of chewing khat has changed from the traditional way of consumption. The current ways of khat chewing is highly regulated towards longer periods of chewing, together with smoking and in extreme cases early morning use. In addition, the use of chemical pesticides on *Catha edulis* leaves intended to speed-up its harvest adds concern to these adverse effects and imposes health risks (Al-Habori, 2005). Moreover, chronic use of khat has also been associated with the increased incidence of acute coronary vasospasm and myocardial infarction. The habit of chewing-khat was reported to be connected with acute myocardial infarction and was an independent dose-related risk factor for the development of myocardial infarction. According to a recent hospital-based case-control study, as cited by the author, chewing of khat leaf was revealed to be significantly higher among the acute myocardial infarction case group. The study has demonstrated that heavy khat chewers have a 39 -fold increased risk of developing acute myocardial infarction compared with none chewers. Recently, the relation of severe liver injury to chewing of khat leaves by the people from East African countries in the UK was reported, claiming that the current data support that long-term chewing of khat leaves can produce repeated episodes of -probably immune-allergic or idiosyncratic - hepatitis, and leads to fibrosis and cirrhosis. In addition, long-term consumers are with the complications of cirrhosis or with acute-on -chronic liver failure (Stuyt et al., 2011).

On the other hand, a year-old review of khat chewing published in 2010 has identified a broad range of adverse effects on CVDs, other internal medical problem including gastrointestinal tract and other peripheral systems (Al-Motarreb et al., 2010). More specifically, khat use is emerging as a threat to the cardiovascular system among the growing numbers of khat chewers in the UK who regularly indulge in its effects (Apps et al., 2011). According to the WHO, CVDs are the number one cause of death globally and more people die annually from CVDs than from any other cause. For instance, an estimated 17.1 million people died for CVDs in 2004. These figures represent 29% of all global deaths. The WHO also argues that 82 % of CVD deaths take place low-and middle-income countries which are disproportionately affected. Thus, WHO thought that there is a link between the burdens of CVDs with the ill-health consequences inherited from chewing of the khat plant and treats as part of the problem which aggravated the situation (WHO, 2011).

A community-based cross-sectional survey conducted to assess the attitudes and perceptions of an Ethiopian population towards the habit of khat-chewing and its possible association with risky sexual behavior have related with the mild narcotic effects of khat are conducive to casual sex, and hence constitute an increased risk for contracting and spreading HIV infections. Furthermore, a significant shift towards casual sex practices was observed in response to the effects induced by the substance and a strong association was observed between khat-chewing, indulgence in alcohol and recourse to risky sexual behavior (Dawit et al., 2006). Nonetheless, experts on the field believe that the potential adverse effects of habitual use of *Catha edulis* leaf includes psychological and behavioral, cardiovascular, gastrointestinal tract, Genotoxic and carcinogenic, oxidative radical and reproductive effects (Al-Motarreb et al., 2010; Al-Habori, 2005).

2.4 Legal situation of khat use

Through the world, the legal status of khat tree and its use varies from one country to another one. Khat is a subject to be reviewed by governments often acting on the advice of the WHO and the UNODC (Beckerleg, 2010). Meanwhile, the habit of khat chewing is spreading further throughout the world and it is also emerging as an international issue. On the other hand, elsewhere in the world, particularly in Western countries where it is on sale, the regulation of

khat remains hotly contested within different producer and consumer countries (Kelin et al., 2009; Hohenwald et al., 2010). Controversy around khat is probably as old as use itself. For instance, it has been condemned both by the Islamic schools of thought and the Orthodox Church in Ethiopia. On the contrary, Islamic Scholars in Somalia, Yemen and Ethiopia have integrated khat use into religious life, including the study of the Holy Koran or to enhance religious experience as practiced by Sufi mystics (Editorial/Journal of Ethno pharmacology, 2009). Nonetheless, the consumption of khat has begun to cause concern at a global level and the international agencies concerned with drug control have been debating what to do next (Anderson et al., 2008). Usually, decisions on the level of control of a drug are taken when three domains are considered including the physical harm to the individual user, the tendency of the drug to cause dependence; and the effect of drug use on families, communities, and society (Nutt et al., 2007). On the other hand, the two UN treaties namely the Single Convention on Narcotic Drugs of 1961 and the Convention on Psychotropic Substances of 1971, is the starting point for controlled psychoactive substances. These two conventions listed nearly 250 substances to be controlled by all signatory bodies under their national drug legislation. For example, the WHO and US slot all controlled drugs into Schedules I-IV according to risk of the drug and medical benefit. However, other systems used by some of the national governments seek to distinguish between 'hard' and 'soft' drugs as in the Netherlands or between classes A, B and C drugs as in the UK (Griffiths et al., 2010).

Historically, khat was first brought to the attention of the League of Nations, the then UN's role actor, in the early 1930s by a British colonial representative in Africa reporting on immoderate consumption in Britain's East African possessions (Klein & Metaal, 2010). The League of Nations Advisory Committee on the Traffic in Opium and Other Dangerous Drugs has discussed on the subject in 1933, but no action was proposed to be taken. In 1962, by the request of the UN's CND, the ECDD reported in its 12th report that clarification on the chemical and pharmacological identification of the active principle of khat was needed. Again, in 1971 CND has recommended WHO to review khat and at the same time it requested that the UN Narcotics Laboratory should undertake research on the chemistry of khat and its components. In 1978, a

group of experts financed by the UN Fund for Drug Abuse Control convened to consider the botany and chemistry of khat (WHO, 2006).

In 1980, the WHO has classified khat as a drug of abuse that can produce mild to moderate psychological dependence (Bruce-Chwat, 2010). In 1983, the first international conference on khat took place in Madagascar. All of these above mentioned efforts have resulted in the 2002 ECDD to pre-review khat and conclude that there was sufficient information on khat to justify a critical review (WHO, 2006). In 2009, at Linkoping in Sweden, a milestone conference took place paving the way in the study of khat in particular and in the study of mind-altering substances in general. This conference brought together more than sixty international researchers from various fields; it can be called something like the first attempt to find an interdisciplinary khat research field (Editorial/Journal of Ethno-pharmacology, 2009).

Khat leaves contain the stimulant cathinone which is under Schedule I drug as defined by the international classification of drugs under the International Convention on Psychotropic Drugs of 1971. In its purist form, cathinone's potential for dependence is even higher than amphetamines (Odenwald et al., 2010). Some authors have argued that in the khat leaves, the more harmful component of cathinone degrades within 48hr following harvest and leaves behind less harmful substances. However, as indicated by the above author, with moderate use of khat, these leaves have not been shown to have serious or dangerous side effects in healthy users. The synthesized forms of the active ingredients of khat, cathine and cathinone, are under Schedule III of the UN Convention of Psychotropic Substances. Notwithstanding this, the plant of khat is not controlled at UN level. This is because in 2006 the ECDD has unveiled that the leaves of khat do not fall under the international classification system since the level of abuse and threat it poses to public health is not significant enough to warrant international control (ECDD, 2006).

Nonetheless, a number of countries have prohibited khat use in their territory, while it is still legal in key producers' states and some of the most important export markets (Klein et al., 2009). Although it is not controlled at UN level, countries have the right to still opt to control the khat substances under their national legislations (Griffiths et al., 2010). Therefore, in different reports it was unveiled that khat is legal in UK and the Netherlands, but in the USA, Canada, Australia,

New Zealand, and thirteen EU member states and Norway the substance is controlled and illegal (Griffiths et al., 2010; Bruce-Chwat, 2010). In Africa and the Arabian Peninsula, khat has mixed regulatory status; it is legal in Ethiopia, Djibouti, Kenya, Yemen and Uganda, but illegal in Saudi Arabia, Tanzania and Eritrea (Fitzgerald, 2009). On the whole, a number of national experts based in the EU, when questioned about the legal situation of khat, stated that the khat plant itself was effectively under control in their country by virtue of its active ingredients. While some others have argued that it may depend on various legal definitions, such as ‘preparations’ or ‘mixtures’ (Griffiths et al., 2010).

2.5 The Theoretical Framework

2.5.1 The Ecological Systems Theory

The ecological systems theory is one of the sociologically based, social work theories applied in social work practice, human behavior analysis and intervention (Zastrow & Ashman, 1994). The ecological systems perspective emphasizing that people and their problems are understood holistically they have bodies (biology), minds (psychology) and a social context (Coady & Lebmann, 2008).

The theory recommends a multidimensional approach for understanding human behavior holistically. It can easily accommodate the multidimensional environment like physical environment, culture, social institutions, social structure, families, and communities (Hutchison, 1999). Another illustration of the relationship between systems perspective and behavior stated that behavior, events and social processes cannot be fully understood in isolation, but only in relation to one another. Systemic influences may be direct and indirect; connections may not be obvious (Payne, 2002).

This is one of the theories that guided this study. According to ecological systems theory, the locus of pathology is not within the person rather the system’s dysfunction. The components of this system include the environment, culture, social institutions, social structure, families and communities. Therefore, the ecological systems theory is used in this study in order to explain how the dysfunction of those components of the system contribute to the development of the person’s behavior, that is, khat use among students in our case. Moreover, this theory is helpful

to explain how the social environment plays influential role on youths to learn and opt some practice and habit of their society (family in particular) because the problem of khat use by students is not isolated from the society.

2.5.2 The Social Constructionist Theory

This research is also guided by the social constructionist perspective. To understand human behavior, the social constructionist perspective focuses on actors, the way in which they construct social reality, and the action that results from such construction. To the social constructionist, there is no singular objective reality, only the shared subjective realities that are created as people interact. Constructionists emphasize the existence of multiple social and cultural realities, developed in changing configurations of persons and environments (Hutchison, 1999).

Constructivists consider humans to be active participants in the creation of their own reality. They view that "reality" is a co-creation between the individual and the external stimuli, to which he or she is responding. Prior experiences, conceptualizations and associations mutually interact and collectively operate to affect each individual's unique brand of meaning making. They added "Reality" is dynamic, rather than a static condition. Consequently, while some meanings are rather unalterable over time, other meanings are highly subject to reconstruction. Furthermore, negative constructions often prevail over more positive meanings (Coady, 2007).

According to social constructionists, reality is subjective. Therefore, this perspective is used in this study to show how people develop different perceptions or attitudes towards the same problem, that is, khat use in our case. For example, opponents of khat consumption claim that khat damages the health of individual users and affects many aspects of their life with its adverse social, economic and medical consequences. Conversely, supporters of the habit of chewing khat maintain contrary to the above view point arguing that khat is a socializing herb which has health benefits as well as socio-cultural and religious acceptance. Thus, this perspective is used to explain how participants of the study construct or view the social reality and the action that results from such construction.

2.5.3 Erikson's Theory of Psychosocial Development

Developmental psychology refers to “the scientific study of changes in human behaviors and mental activities as they occur over a lifetime” (Bukatko & Daehler, 2011, p. 5). Erik Erikson's theory of psychosocial development considers the personal, emotional and social development of individual. Erikson divided the lifespan into eight stages, with the first five stages describing childhood, namely: infancy, early childhood, preschool age, school age and adolescence (Dewey, 2004; Harmon, 2005).

Erikson highlighted the interaction between increasing individual capabilities and an expanding social environment, with each development stage characterized by dominant psychosocial crisis (Gines et al, 1998; Louw et al, 1998). Louw puts Erikson’s psychosocial development stages and their respective psychosocial crisis as follows.

The infancy stage (0-1 year) is characterized by a psychosocial crisis of basic trust versus mistrust. Infants are helpless and dependent on the caregiver to protect and provide for them, and need to develop a feeling of basic trust. Incorporation, i.e. taking in of food and love; is considered an important social behavior (Louw et al, 1998). In the early childhood phase (1-3 years), the psychosocial crisis is autonomy versus shame and doubt. The child develops skills which contribute towards growing independence, such as toilet training, and caregivers need to encourage independence and show compassion with regard to failures. In the preschool phase (3-6 years), the psychosocial crisis is initiative versus guilt. Children have a greater degree of freedom and greater access to society and socialization influences, with gender roles becoming clearer. In school age (6-12 years), children continue to master various skills and seek to succeed at what they do. They become competitive with their peers, with industry versus inferiority forming the dominant psychosocial crisis. During adolescence (12-19 years), the child experiences identity versus role confusion, or an identity crisis. This is often a period of experimentation, as the adolescent seeks to establish their social identity, values and goals. As children progress through these developmental stages, they gain and improve upon various abilities, but may still experience risk appraisal and response limitations that would expose them to different risky behaviors. For example, in early childhood, a child can make basic decisions (based, for example on, personal preferences), but cannot yet adequately assess potential sources

of danger, while their increased curiosity about their environment and tendency and increasing capacity to explore puts them at greater risk (Gilbride et al, 2006; Jiang et al, 2010).

This is another theory that guided this study. From the five Erikson's psychosocial development stages, the researcher highly emphasized the adolescence stage (12-19 years) because most of the study participants (high school students in this study) are found under this age category. Thus, it is important to address this stage. According to this theory, children in their adolescence stage experience identity versus role confusion, or identity crisis. So, Erikson's theory of psychosocial development is used in this research undertaking in order to show how the youths (students) involved in khat chewing for the sake of experimentation, friendship and socialization. It is also used to explain how youths, particularly high school students in their early age join friends and in a way they adopt some habits from their friends (due to peer pressure) like khat use and how they develop identity crisis. Moreover, it is also helpful to describe how these students create their own social identity, values and goals.

2.5.4 The bio psychosocial approach

The bio psychosocial approach allows the social worker to view a person holistically, as both an individual with inner biological drives and as a social and cultural being. Each component in the system whether biological, psychological or social is intertwined with every other component (Wormer, 2007). The bio psychosocial approach provides a carefully balanced perspective, which takes into account the entire person in his or her environment and helps social workers in screening and assessing an individual from a multidimensional point of view. The approach considers three overlapping aspects of the patient's functioning: "bio" refers to the biological and medical aspects of the patient's health and wellbeing; "psycho" refers to the patient's self-worth, self-esteem, and emotional resources; and "social" refers to the social environment that surrounds and influences the patient (Beder,2006, p.4).

This research is also guided by the bio psychosocial approach. According to this approach, the person is viewed holistically, as both an individual with inner biological drives and as a social and cultural being. Each component in this system whether biological, psychological or social is intertwined with every other component. Therefore, this approach is used in order to assess a

person holistically and to show how the proper functioning of one aspect of a system (it can be biological, psychological or social) contributes to the smooth functioning of the other aspects of a system and the vice-versa. It is also helpful to indicate how a person's biological well-being contributes to his/her psychosocial well-being and the vice-versa. Furthermore, the bio psychosocial perspective is used in this study to assess the participants from multidimensional point of view and to understand their khat-related health problems holistically. Following or applying a bio psychosocial approach or model to help people affected by khat use and associated drugs could be a remedy.

CHAPTER THREE: RESEARCH METHODS

3.1 Study Design

Burns and Grove (2003, p. 195) define a research design as "a blueprint for conducting a study with maximum control over factor that may interfere with the validity of the findings." This research adopted qualitative study design with exploratory purpose in order to explore the bio psychosocial effects of khat use on high school students in the case of Lideta Sub-city, Woreda 01 (Addis Ababa). From the different types of qualitative studies, case study approach is used to conduct this research. From the different types of case studies, the researcher used an intrinsic case study. In relation to time dimension, the researcher used cross-sectional research so as to examine the bio psychosocial effects of khat use on high school students at one point in time.

3.1.1 Qualitative Research

In its nature, qualitative research is highly related with experience, words and language rather than numerical figures, measurements and statistics. As a result, this research adopted qualitative study because the focus was on the assessment of the adverse effects of khat use (which includes biological, psychological and social effects) on high school students. As per the explanations of many scholars, qualitative researchers study things in their natural settings, attempting to make sense of interpret, and phenomena in terms of the meanings people bring to them (Denzin & Lincoln, 2005). In a similar manner, Berg tried to append qualitative techniques all researchers to share in the perceptions and understandings of others and to explore how people structure and give meaning to their daily lives. Researchers using qualitative techniques examine how people learn about and make sense of themselves and others (Berg, 2001). As Creswell (2007) puts, qualitative study is best when the issue of concern at hand needs exploration, comprehensive understanding of the context and the phenomenon. In addition, a qualitative approach enables the researcher to get an in-depth understanding of the issue and allow research participants to express their views broadly. It is also more appropriate in terms of documenting rich and detailed information (Snap & Spencer, 2003). So, in this research undertaking, the researcher employed a qualitative study design because he believes that the issue at hand needs a comprehensive understanding.

3.1.2 Case Study Approach

In this research undertaking, the researcher believes that case study is the appropriate study approach because it gives a wide opportunity to explore the distinctive and multifaceted experience of the targeted population of this study. As indicated by Yin (2003), case study allows investigator to retain the holistic and meaningful characteristics of contemporary phenomena and real-life event desire to understand complex social phenomenon. Furthermore, case study can provide robust and important information about the issue by using various information sources (Padgett, 2008). Therefore, the study was aimed at obtaining rich information about the bio psychosocial effects of khat use on high school students. Besides, in order to better understand the case or issue under discussion the researcher used an intrinsic case study.

To sum up, the study applied the qualitative inquiry with exploratory purpose. It also employed a case study approach particularly an intrinsic case study. The reason to choose the qualitative research in this study was to have an in-depth understanding of the bio psychosocial effects of khat use on high school students in the case of Lideta Sub-city, Woreda 01. This research method has enabled the participants to tell their stories and experiences. It was for the sake of understanding and clarifying the problem in a better way that the researcher used this method. This study was conducted in the area (that is, the issue under discussion) where we do have few or no earlier studies. The results of this type of research can provide significant insight into a given situation (Abiy, Alemayehu, Daniel, Melese & Yilma, 2009). Thus, the most important justification to choose the above mentioned method in this study was also to increase our understanding of a situation, that is, the bio psychosocial effects of khat use on high school students in the case of Lideta Sub-city, Woreda 01, which is a topic rarely studied so far.

3.2. The Study Area

According to Creswell (2007), in case of qualitative research for the purpose of deep understanding of the subject matter under study or research question, it is up to the researcher to make a decision on the research participants, sites and even the material to use. The study area of this research is Addis Ababa (Lideta Sub-city, Woreda 01). Ever since its establishment in 1886, it is known that Addis Ababa has been serving as the capital city of Ethiopia and the seat of

many international and continental organizations. Nowadays, what one can easily see and understand is that Addis Ababa is growing and expanding rapidly in relation to its area and population size having distinctive characteristics.

This study was conducted in Lideta Sub-city, Woreda 01 (Addis Ababa). One of the rationales for selecting this research area from others is because of the existence of a number of students who use khat and other additional drugs on a regular basis, even during school hours. What makes this site different from the others (which were assessed by the researcher) is the existence of khat shops, shisha houses and taverns surrounding the school. In addition, some students use khat and other substances publicly. The researcher identified this site on the basis of preliminary assessment. In relation to this, the researcher made his own observation and also has identified one potential participant who can give important information about the issue under discussion. Moreover, the researcher is familiar with this community because he lives in that community. This is also another rationale for selecting this site.

The researcher was born and brought up in Lideta Sub-city, Woreda 01 (Addis Ababa). As a matter of fact, he is so highly interested to write about khat and also he is happy to have got this opportunity. Essentially, this is because he is zealous to understand the adverse effects of khat use on the well-being of individual users (high school students in our case) and the community which he is currently living in (Which is also my research site). Khat may cause family discords or breakdown, creates social disorder and more importantly is responsible for ill-health outcomes (which includes biological, psychological and social) that individual users encounter always. On the other hand, this thesis focused largely on youths from Lideta Sub-City, Woreda 01, particularly high school students who consume khat leaves and use other additional drugs on daily basis or intermittent. The researcher believes that the area has created a favorable condition for these students to chew khat and use other drugs because the school learning environment is not that much separated with other permissive factors like khat shops, khat chewing houses, shisha houses, bars, slum areas, taverns and so on. As a member of this community, he has decided to contribute something by studying one of its social problems, that is, khat use among high school students. This is also another rationale for selecting this research site or study area.

3.3 Participants

The participants of this study were ten high school students who are khat users. In addition, the study included one FGD with eight discussants and five key informants. The rationale for selecting this amount of participants is attributed with the type of research applied here, that is, qualitative study which focuses on small samples in order to get comprehensive understanding of the issue under discussion. The key informants were one School Director from Afrika Hibret Secondary School, one Medical Doctor from Lideta Health Center, one Officer from Lideta Sub-city, Woreda 01 Office of Women, Children and Youth Affairs, the General Manager Good Neighbors Ethiopia (NGO working closely with women, children and youth in that Woreda) and one Social Worker from Ministry of Women, Children and Youth Affairs of Ethiopia. Willingness to participate, resource and time availability were some of the factors that the researcher took into consideration when selecting research participants. During the research process, however, the researcher tried to consider data saturation.

3.4. Sampling Method

The target populations of this study were high school students who use khat. In addition, other key informants who have knowledge and experience about the issue under discussion as well as who are working closely with the youth and/or students were also involved. According to Merriam (1988), sampling in qualitative study tends to be small number of people nested in their context and studies in-depth unlike quantitative studies, which aim for large number of contexts of stripped cases and seek statistical significance. In this research, a combination of purposive sampling technique (in order to select key informants) and snowball sampling technique (in order to select high school students who use khat) were employed to select the research participants. Here, age, gender, religion, educational background and so on were taken into consideration as part of the demographic data so as to ensure whether the research participants are drawn from different social strata.

Purposive sampling was used in order to select key informants and getting in-depth information. According to Patton (1990), purposive sampling is popular in qualitative research because qualitative research bases itself on in-depth information from small sample. The reason why the researcher chose and used purposive sampling is that to meet directly key informants who are

believed to have special knowledge about the issue under discussion and who also closely work with the youth. The idea behind qualitative research is to purposefully select participants of sites that help the researcher understand the problem and the research question (Creswell, 2009).

In addition, snowball sampling was also used in order to find students who are khat users. Vogt (1999) describes snowball sampling as a technique for finding research subjects in such a way that one subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on. Moreover, snowball sampling is conducted when the researcher tries to access participants through contact information or a social network that is provided by other subjects or informants or in other words when the researcher's access to participants is limited. It is believed that these social networks who could potentially contribute to the study are not easily accessible to researchers (Noy, 2008; Family Health International, n.d). Thus, it is because of the above mentioned facts that the researcher used a combination of purposive and snowball sampling techniques in this thesis.

3.5. Eligibility Criteria

Eligibility criteria are defined as "a list of characteristics that are required for the membership in the target population" (Burns & Grove, 2003, p.34). Thus, participants who fulfilled the following criteria were included in the study. The participants of this study were ten high school students who use khat and other five key informants who have the knowledge and experience in the matter of the investigation of the study as well as who work closely with the youth and/or health related issues. The participants of the study were selected or recruited based on the following inclusion criteria:

- a) Willingness to participate on the study.
- b) High school students who have been using khat for at least one year and above were included in this study.
- c) These students are expected to live in the study area (in Lideta Sub-city, Woreda 01) for at least ten years and above. But their school can be within or outside of their community.
- d) The key informants are expected to work closely with students or youth-related issues and health-related issues in that community or outside of it.

- e) Key informants should have at least two years of work experience, considering the existence of high turnover rate at this time.
- f) The study is determined to include ten high school students who use khat and other additional drugs and who use the substances both in their community and outside of it.

The inclusion criteria were applied only for the selection of the in-depth interview participants as well as key informants.

3.6. Data Collection Procedure

Here, the researcher followed a number of data collection procedures or steps to accomplish the task at hand. Accordingly, going to the study area and meeting or obtaining at least one potential participant who can take the researcher to other participants was taken as the first step. To this effect, the researcher made frequent observations or contacts to the study area and created a kind of social network with the participants. The researcher has also established a good rapport and clearly communicated the purpose of the study with his participants with the assumption of avoiding uncertainty between the researcher and the participants. This is a stage that determines whether a person agrees to an interview or not because it is thought that the first impression is the last impression (which means the researcher's initial start, approach or communication will determine the latter interactions). After the willingness of the potential participants to go through the interview was attested and after they fulfilled the inclusion criteria, the way for data collection was arranged. This was another step followed in the data collection procedure. Then after, the researcher made an appointment with each participant at a time. Since the researcher employed a case study approach, there is an expectation that the researcher should establish a good rapport so as to explore the experiences and stories of the research participants. So, the researcher has tried to create a good rapport with the participants of the study. A quiet place which is suited to the participants and conducive to conversation was arranged with them. In addition, the researcher has prepared note book, pens with different colors, tape recorder and other necessary materials for the interview. During the research process, however, there were some participants who were not willing to be recorded.

As a data collection procedure, the researcher has done different things before each interviewing. For example, he has presented his special thanks to the participants for their time and willingness to be part of the study. He has noticed them about the agreement before each interviewing. As it is indicated below, the nature of the interview was unstructured interview with probing questions. And this was also well communicated to the participants. Furthermore, asking permission to record the interview was carried out as an important step ahead of each interviewing.

During the interview, the writer exerted his utmost effort to make the discussion free, open and unreserved. There was also no domination during the discussion. Efforts were made to initiate the interview with a general question. The main data collection instrument in this study was the researcher. Since the researcher is the one who is considered to be the initiator of the interview, he has played an active role in making certain decision about the progress of the interview. As a researcher, he approached all the research participants with empathetic understanding and also, he has bestowed sensitivity to the uniqueness of each participant. Moreover, being a good listener, developing friendly relationship, and becoming non-judgmental were the other qualities that he (as a researcher) has tried to uphold throughout the interview process. He has also tried to run the interview from fifty minutes to an hour because he did not want to make it boring and tiresome.

3.7. Source of Data

In this research undertaking, both primary and secondary sources of information were employed. In order to collect primary data, in-depth interview with high school students who use khat and other key informants who work closely with the youth and/or health-related issues was conducted. The primary data was also collected through observation (see Appendix E) and focus group discussion. Conversely, the researcher secured secondary sources of information from published and unpublished materials including books, journal articles, magazines, progress reports and electronic materials.

3.7.1 In-depth Interview

In this study, the researcher used an open-ended interview guiding items in order to assess the biological and psychosocial effects of khat use on high school students. According to Burns and Grove (2003), the interview guide allows the researcher to maintain a certain level of control over the process while enabling the researcher to gather the most relevant data in relation to the phenomenon of interest. Unlike close-ended interviews, open-ended interviews enable participants to discuss their opinions, feelings, views and experiences fully in detail. In addition, it permits them to express things in their own words. Interviews with close-ended questions, however, hinder participants to explicit/express their opinions, views, feelings and experiences in detail or in full manner. It was with this calculation that the writer of this paper chose open-ended interviews at the expense of close-ended interviews.

Moreover, probing questions (extracted from the main stem items) were included in this interview. Concepts that are included or examined in literature section and research questions part were also put into consideration when preparing or developing those interview guiding items. These questions are designed to explore mainly the bio psychosocial effects of khat use on high school students in the case of Lideta Sub-city, Woreda 01 (Addis Ababa).

3.7.2 Key Informant Interview

The researcher also made the interview with five key informants: one High School Director from Africa Hibiret Secondary School, one Medical Doctor/Public Health Officer from Lideta Health Center, one representative from Lideta Sub-city, Woreda 01 Women, Children and Youth Affairs, one representative from Good Neighbors Ethiopia (NGO working closely with women, children and youth in that community) and one representative from Ministry of Women, Children and Youth Affairs of Ethiopia. The researcher selected these key informants because he believes that they may have special knowledge and information about the issue under discussion. Here, the scope of the study and time and resource availability forces the researcher to select key informants from one school, one health center and one NGO. The researcher also included representatives Women, Children and Youth Affairs both at Woreda and Ministerial levels in order to cross check to what extent they work collaboratively towards the youth students affected by khat use as well as to assess their common understanding towards the issue at hand. In order

to assess the bio psychosocial effects of khat use on high school students in the study area as well as to indicate how social work intervention could be put in place to overcome those adverse effects, the researcher used unstructured questions as a tool of data collection. And that would in a way assist the researcher to triangulate key informants' data against the data obtained through in-depth interview with high school students who chew khat.

3.7.3 Focus Group Discussions

Here, one FGD was conducted with other eight high school students who were not included in the in-depth interview. The researcher conducted the FGD in order to triangulate the FGD data with that of the in-depth interview and key informants' data. The FGD consisted of both male and female participants. The researcher was unable to get enough or the required amount of female participants for the FGD. That is why he desperately included both sexes to participate together. In addition, he did this in order to get different perceptions and experiences from different people about the issue under discussion. All the participants are khat users. They were from any school. The participants were selected to include or embody different sexes which could have different perceptions and experiences toward the issue under discussion. That is also done for the purpose of gathering some information in relation to how people see the biological and psychosocial effects of khat use and what possible measures could be suggested to at least minimize the adverse health effects of khat use. In addition, the gender difference is useful to see the issue from the users' perspective (that included both sexes). Though literatures suggest that FGD participants can be from six to twelve, the researcher has simply chosen the middle one, that is, he had eight participants for this FGD. This has happened because of financial and time constraints on one hand and inability of getting enough female participants on the other hand.

3.7.4 Non-participatory Observation

Another data collecting method being employed in this study was observation. Since khat use (as an addiction, especially for the youth and students) is a sensitive issue, high school students, as participants of this study, may not tell the researcher everything. In response to this, the writer of this paper used non-participatory observation so as to see and/or examine their gesture, facial expression, feeling and the relationship between their internal feeling and external expression. In addition, the researcher attempted to observe how their interaction looks like particularly with

their families, friends, schoolmates, community members and also with each other. Besides, the non-linguistic data was also analyzed using a check list (by looking at their way of expression and feeling). They were observed while using khat other substances. They were informed about the observation and they accepted it. Moreover, they took the researcher to different khat chewing places, khat shops, shisha houses and taverns. The researcher has tried his best to respect their privacy. They were doing things freely. They chose time and places by themselves. The results of observation are somehow reported in the finding part.

3.8. Data Analysis Technique

According to Burns and Grove (2003), data analysis is a mechanism for reducing and organizing data to produce findings that require interpretation by the researcher. On the other hand, Creswell (2007) stated that data analysis consists of preparing and organizing the data for analysis, reducing the data into themes through a process of coding and condensing the codes, and finally representing the data in figures, tables, or a discussion. Thus, the steps followed (by the researcher) in the data analysis process of this study are discussed as follows.

Pre-coding the raw data is considered to be the first step in data analysis part. In this study, the researcher used Amharic language to conduct the entire interview and to collect the data. Then after, the data obtained from the field notes were transcribed into English language every day. Besides, interviews which were tape recorded based on the willingness of the participants were also transcribed following the same process identified earlier, that is, originally, they were written in text format using Amharic language and then translated to English. Subsequently, the researcher has closely read and re-read the transcripts till the understanding of the main points were attained, reached or realized. According to Boyatzis (1998), pre-coding is done by circling, highlighting, bolding, underlying or coloring rich or significant participant quotes or passages that strike the researcher (as cited in Saldana, 2008, 8:16). Hence, those important participants' quotes or statements that impressed the researcher were underlined using pens with different colors.

The step that comes next to the pre-coding process is coding. As Creswell (2007, p.165) puts, "coding means reducing the data into meaningful segments and assigning names for the segments." Furthermore, Saldana (2008, p. 10) mentioned that, "to codify is to arrange things in

a systematic order, to make something part of a system or classification, to categorize". Therefore, in this research undertaking, the codes were transcribed after the interview was conducted. In doing so, the codes were come forth after the different issues in the text (such as specific topics, words and recurrent issues) were coded. Accordingly, four major themes were identified and these are mentioned in the next paragraphs.

Transforming the codes into categorical labels is the next step followed in this study. In qualitative research, categorizing is searching for patterns or grouping exactly alike, very much alike data or data which have something in common with coded data (Saldana, 2008). In order to arrange or organize texts into different segments and make the data manageable, it is important and also helpful to categorize the transcribed data. In this study, related codes explored from the analysis of data were incorporated in a category. In addition, the similarity and relationship of codes under different headings were put into consideration when categorizing the coded data and compressing them in to categories.

After categorizing, themes were created. Saldana (2008, p. 13) stated that, "A theme is an outcome of coding, categorizing, and analytic reflection, not something that is, in itself coded". Here, the researcher extracted common and significant linkages from the categories as a prerequisite to create themes. Padgett (2008, p. 199) described that, "writing up a qualitative study takes a good deal of effort - it is a craft to be learned and honed over time." She also indicated that "writing is not merely reporting; it requires systematic thought and creativity" (P. 199). As described in the above, the researcher has come up with different steps or processes which include the pre-coding, coding, categorizing and theme development processes. Then after, the researcher combined or amalgamated those themes into a single Super-ordinate theme after they are being examined comprehensively. In addition, the researcher has created other sub-themes under each major theme during the data analysis. The major themes identified in this research include aetiology of khat use and its relationship with other substances; khat use and its biological effects; khat use and its psychological effects; and khat use and its social effects. Moreover, there are many other sub-themes created under each super-ordinate or major theme.

At this juncture, the step that comes next to the themes (which were already refined) is interpretation. This is the stage where we seek meanings. Interpretation deals with less obvious and more obstruct dimensions of the data, the act of "reading in to" and "extracting meaning from" (Padgett, 2008, p. 171). After all the steps or processes identified and followed in the above, the researcher has prepared the final report. He employed code numbers instead of pseudonyms while presenting participants' story and experiences to maintain their anonymity.

3.9 Trustworthiness of the Data

For the purpose of increasing the trustworthiness of this study, the researcher used different techniques. In this study, the research participants were carefully chosen based on the set criteria. And this was done with the objective of preserving the believability/credibility of participants' information. The researcher interviewed the participants in suitable place in order to get exact and detail information without any fear. Padgett (2008) implied that, "researcher biases emerge when observations and interpretations are clouded by preconceptions and personal opinions of the researcher" (p. 124). Subsequently, peers and teachers were requested or entreated by the researcher to comment and debrief on the prepared questions and part of the research work. And as a result, the researcher got constructivist criticism in this regard. All coding of data has been reviewed by one of the researcher's colleague (he has also the experience in qualitative research methods) in order to resolute or assure the categories and themes that might emerge from the data. In this research, trustworthiness, especially for the interview guiding items, was confirmed by avoiding long, double barreled, and complex questions. Besides, the researcher exerted his utmost efforts to avoid leading and emotional questions.

The other threat to trustworthiness as mentioned by Padgett (2008) is respondent biases. According to the author, respondents may withhold information, lie to protect their privacy or to avoid revealing unpleasant truths, may offer answers that they believe we want to hear or have faulty recall or interpret events in a way that conflicts with what the researcher "knows" from another source. In response to this, the researcher took some measures. For example, developing a good rapport (by making repeated visits and contacts with the participants) and explaining the purpose of the study genuinely were taken as important remedies for respondent biases. In addition, efforts were made to triangulate the information obtained from different sources.

Furthermore, the researcher has done a pre-exercise so as to familiarize himself to the research project and furnish himself with insight into the phenomenon. In most cases, prior to the main research, it is recommended that a pilot study could be carried out using 10% of the actual sample size. In this research undertaking, however, only two participants who met the selection criteria were included in the pilot study because of the fact that this study is a qualitative study developed with the objective of using ten participants. The next paragraph tells about what the researcher did with regard to the results of the pilot study.

The researcher tape recorded the interview in order to make sure the right use of the tape recorder and to listen to the researcher's questions with probing and verbal reactions. Efforts were also made to transcribe/translate and review these early interviews. During the exercise, the researcher has given attention to body language, nonverbal communications or responses and the manner of asking questions. And that would in a way help the researcher to raise up his level of confidence in one hand and to identify any flawed in the procedures designed by him on the other hand. Finally, the researcher made some adjustments to the interview guiding items after the pretest was over.

3.10 Ethical considerations

According to Burns and Grove (2003), ethical considerations are important particularly for the researcher to establish mutual trust and respect. Therefore, consent, confidentiality and anonymity, privacy, and the right to withdraw from the study are some of the ethical standards included in this research undertaking.

The researcher has got the support letter from Addis Ababa University School of Social Work. The first important ethical precondition was securing informed consent of all the research participants. Accordingly, they have freely decided to participate in this research. They were acquainted with all the necessary information concerning the research. The researcher told to the participants that they can withdraw from the study at any time if they have a desire to do so. Before the interview and/or anterior to their performance in this study, the researcher has elaborated them about their rights (refer Appendix A). During the interview, there may be some

probing questions that could hurt the participants psychologically. In this regard the researcher has showed sensitivity towards their emotions and gave them enough time until they become stable.

It is only after getting the oral consent of the participants that a researcher can conduct the interview, employ the tape recorder and use other instruments which are inevitable in this study. Consequently, I made the interview with all research participants and used tape-recorder only for those who were voluntary to be recorded. Moreover, issues of confidentiality, anonymity and privacy were communicated well to the participants. In relation to data usage, the researcher confirmed to the participants about the fact that the only person who knows the source of information is the researcher himself and that would in a way helps to assure issues of confidentiality and anonymity in this study. The researcher used codes rather than names to the information obtained in this study.

As Burns and Grove (2003, p.171) put, “privacy refers to the freedom an individual has to determine time extent and general circumstances under which private information will be shared with or withheld from others.” To this effect, the researcher has tried to maintain privacy by conducting the interview in appropriate place and time chosen by the participants. Besides, the writer has also tried to make the observation systematic to keep the privacy of his participants.

The researcher notified the participants that the research results do not have any other hidden purposes rather they will be propagated or spread in the form of a research report. Anonymity was attested by avoiding the names of the participants in the results of the study. After the accomplishment of the study, those tapes and written documents (which were kept or stocked in a safe manner throughout the study) were now demolished based on the agreement or consent statement. Moreover, the researcher reminded or told to the participants about some of their rights which include omitting any question they do not want to answer, having a break/rest and terminating the interview at any time if they wish.

CHAPTER FOUR: FINDINGS OF THE STUDY

Generally, this study explored the bio psychosocial effects of khat use on high school students in the case of Lideta Sub-city, Woreda 01. All the findings of the study are presented in this chapter. The first part deals with background of the respondents. The adverse effects of khat use on high school students are categorized into biological, psychological and social effects to show the finding in detail. Before the presentation of the bio-psychosocial effects of khat use, however, the aetiology of khat use and its relationship with other substances are also discussed in order to show students' source of first contact and source of getting or means of procuring khat (money) as well as to assess the relationship between khat use and other legal and illegal substances. Here, the researcher employed code numbers instead of pseudonyms while presenting participants' story and experiences to maintain their anonymity.

4.1 Background of the Respondents

To begin with, the first in-depth interview participants of this study were ten high school students who use khat. All of them are khat users. The demographic variables of students who are khat users are shown in Table one. Accordingly, all respondents belong to the age category of 17-22, which means the youngest age was 17 while the oldest age was 22. Seven of them were males, whereas three of them were females. Educationally, all of them are high school students ranging from grade 9 to 12 and of which, five of them were from grade 12, three of them were from grade 11, and the remaining two were from grade 9 and 10 respectively. In relation to religion, six of them are found to be followers of Orthodox Christians while four of them are followers of Islamic religion. When we look at the number of years in using khat, they have been chewing khat starting from one year up to five years.

Table 1: Background information of the in-depth interview participants

No.	Code	Age	sex	Educational level	religion	Years in using khat
1.	IDI 1	20	M	12 th	Orthodox	4
2.	IDI 2	20	M	12 th	Orthodox	3

3.	IDI 3	20	F	11 th	Orthodox	3
4.	IDI 4	22	M	12 th	Muslim	5
5.	IDI 5	20	M	11 th	Muslim	4
6.	IDI 6	22	M	12 th	Orthodox	5
7.	IDI 7	21	F	12 th	Orthodox	3
8.	IDI 8	17	M	9 th	Orthodox	1
9.	IDI 9	18	F	10 th	Muslim	2
10.	IDI 10	21	M	11 th	Muslim	4

The other participants of the in-depth interview were five key informants who were selected from different organizations. As table two shows all the key informants are degree holders and have more than two years of work experience. Furthermore, these key informants are working closely with the youth, students or health related issues.

Table 2: Background information of key informants

No	Code	Educational level	Profession	Institution	Position	Year of work experience
1.	KII 1	BA	Social Studies	Africa Hibret Secondary school	School Director	17
2.	KII 2	MD	Public Health	Lideta Health center	Medical Doctor	12
3.	KII 3	BA	Social work	Woreda 01 Office	Social worker	3
4.	KII 4	BA	Social work	GNE	Social worker	8
5.	KII 5	BA	Social work	MWCYA	Social worker	5

When we come to the background of the FGD discussants, there was one FGD in which eight discussants were participated. All the FGD participants were high school students who use khat. But these participants were other students who were not part of the in-depth interview. Six of them were males and two of them were females. When we see their age category, the youngest age was 17 and the oldest one was 22. Educationally, all of them are high school students (from grade 9 to 12). In terms of religion, six of them were followers of Orthodox religion while two of them were Muslims.

4.2 The aetiology of khat use and its relationship with other substances

4.2.1 The aetiology of khat use

Here, the intention of the researcher is to identify and examine students' source of first contact and source of getting or means of procuring khat (money) and how this can lead students to chronic khat use. The summary of students' response has indicated the fact that most khat chewers have got their first contact with khat through friends and the least proportion through their families. This first contact through friends' exhibits some idea about students. In general, in their early age they join friends and in a way they adopt some habits from their friends like drug abuse such as khat, cigarette, cannabis, marijuana, shisha and alcohol. It is for the sake of friendship and sociability that students (they are also youths at the same time) in their early age becoming involved in khat-chewing, which is problematic as perceived by the respondents. On the other hand, the least first contact through family showed that there is some prohibition from parents on youths to develop the habit of khat-chewing.

When asked about the aetiology of khat use, IDI 8 told to the researcher that factors like the environment and peer pressure are responsible for his involvement in khat use as well as for the pervasiveness of khat use among the youth, especially high school students. In relation to this, he said that:

I get involved in khat chewing when I was 16 years old and I have been chewing khat for almost one year. Now, I am 17. I was highly influenced by the environment (that I came from) and my friends to be enfolded in this addictive behavior, that is, khat chewing.

When another respondent (IDI 9) reported the peer pressure issue, she said following:

I have tried to stop using khat several times but those attempts were concluded with failure. They were unsuccessful because of my friends' influence. Sometimes you may decide to stop when you face different problems like sleeping difficulties and then you may start using it again because of peer pressure. As to me, this is really problematic.

The aetiology of drug use could be expressed by source of getting khat or source for means of procuring khat (money). On the basis of students' responses, this research also shows again the source of getting money for means of procuring khat. It is obvious that students in schools are likely to receive financial assistance from their families. Hence, it is not a wonder that from the sample these khat-chewer students have got their source of procuring (money) from their families. In this case the students responded that their families have been giving the money for them is not for the purpose of chewing khat rather for the purpose of educational expenses, for recreation, for buying clothes and so on. However, these students do not deny the fact that they spend much of the money for khat and for other costs like cigarette, alcohol, shisha and other drugs. But there are still some students who receive money from their families for the purpose of khat-chewing. According to the respondents, excessive financial support from the family and lack of control in using it, and students' decision in using the money for khat consumption are unacceptable because they believe that it may expose them to chronic khat use and adverse health effects.

In addition, respondents reported that there are 'others' as students' source for money which probably include organizations, close friends, relatives as well as anybody willing to do so (which they call it 'feleta') might give them financial assistance. Based on the findings of this study, there are also students who are involved in different kinds of jobs in their leisure time to get money, while others are getting monthly financial support from their families for educational, recreational or other purposes. For example, one of the respondents said, "I have monthly salary, that is, my dad is a merchant and he gives me 9000 birrs at the end of each month for recreational purposes. So, I don't worry about the money to procure khat and its associates." They buy khat from khat-retailing shops surrounding their school. Sometimes they

prefer to go to Markato when the price of khat becomes high and when they want to increase the quality and quantity of khat.

The researcher found out another result about students' family experience in chewing khat in relation to religion. Here, the intention is to show the influence of family experience on youth in being khat user because khat-chewer students cannot be treated as isolated from the environment, his/her family and society as a whole. Among the respondents of those religion is Orthodox (which are 6) four of them answered that their families do not have experienced chewing khat. Among Muslim students (which are 4), three of them responded that their family has experienced chewing khat while one of them answered that there is no family experience in terms of khat use. The finding showed that khat-chewing seems to be predominant among students who came from Muslim families though it is also adopted by students who came from Christian families.

Situation where the family chews khat clearly influences students (youths) to adopt the habit of khat-chewing since social environment plays influential role for youths to learn and opt some practice and habit of their society (family in particular). As indicated above (from the sample regardless of religion), most of them responded that their families use khat which could be considered as one of the aetiology of khat use by youth students. In relation to this, IDI 1 put the following statement to show how family can influence children to use khat:

When I was a child (an elementary student) I used to see my father chewing khat and smoking cigarette at home. At that time, I was zealous to use those things so as to taste their effects. On one of the days, I had tested the gereba (leftover khat) with sugar and tried to smoke the kuru (leftover cigarette) by hiding myself somewhere after my dad has left home. Then after, I continued to do the same thing. At the end of the day, I found myself in addiction problem, which is, using khat and cigarette. Finally, when I join high school, I become chronic khat user. This is what I bequeathed from my parent.

4.2.2 The relationship between khat use and other legal or illegal substances

In relation to khat use, the researcher had also tried to assess the use of other substances among students like smoking cigarette, drinking alcohol, using shisha, marijuana, cannabis, Ganja and

so on in order to assess their relationship with khat. Khat users usually claim that smoking cigarette, drinking alcohol and using other drugs increase the effect of khat-chewing. So, the responses of participants of this case study can be used to verify their claims. Accordingly, they had responded that they use cigarette, alcohol and other drugs with or immediately after khat use. This indicates that the association of khat use with other legal or illegal substances, which most of the respondents blamed it for its adverse health effects they encounter which include biological, psychological and social.

The respondents said that they use alcohol and other drugs in order to forestall or avert what they call the '*mirqanna*' state. According to them, '*mirqanna*' is a very elevated emotional sensation or feeling. They also implied that it is a state of tormenting excessive stimulation, which the users cannot control it. They told to the researcher about the different signs and symptoms they face during the *mirqanna* state. As to them, these signs and symptoms can cause different health problems as well as noticeable subjective discomfort or deterioration in educational, occupational, social and other important areas of functioning though they want it to bring intense happiness (characterized by euphoria). The participants of this study considered khat as catalyst or what they usually call it '*akatari*' because they believe that khat is a major factor that forces them to take other legal or illegal substances and this would in turn result in adverse health effects. In relation to this, IDI 1 said the following:

For me khat is catalyst (*akatari*) because it forces the user to use alcohol and other drugs. In the absence of khat, for example, we users may not worry about smoking cigarette, drinking alcohol, using drugs and engaging in risky sexual intercourse and the vice versa. This shows that to what extent khat is associated with other substances. Of course, this catalyst (*akatari*) nature of khat may have adverse health effects. As a result, the users may be forced to desist khat use.

The participants emphasized the relationship or association between khat use and smoking cigarette. IDI 2 said, "khat- chewing and smoking cigarette are inseparable. I think almost all khat chewers smoke cigarette. But this may not work for some of them who are very few in number." In addition, ID 2 explained how he and his friends use other things and/or substances

like sugar, candy, pungent aromatic spices (like ginger and clove), cigarette, shisha and other drugs in order to enhance the flavor as well as effect of khat.

In this study, speculative associations of khat use with cigarette, alcohol and other drugs (such as Marijuana, Cannabis, Shisha and Ganja) were mentioned by the key informants. One of the key informants and referred as KII 1 stated “khat, alcohol and drugs are alike. I reckon that users of these substances of abuse are forced to imagine/think, pretense and behave in a similar manner. Moreover, they attract each other being driven by similar disposition that they are forced to develop towards a certain issue.”

However, two participants from key informants (KII 3 and KII 4) do not agree with the above statement which says khat is identical to that of cigarette, alcohol and other drugs. For them, khat is a better choice. For example, the following quote is taken from KII 4.

I disagree with the idea that khat is alike to that of cigarette, alcohol and other drugs. For me, khat is a better alternative to other substances indicated in the above. We can at least minimize the adverse health effects of khat by chewing it alone, but if it is chewed together with other substances it can multiply its effects on the users. Thus, I don't think that khat has speculative relationships or associations with other legal and illegal substances.

Despite the above explanations, one of the key informants sees khat as part of Ethiopia's culture and history. He said that khat use becomes a problem if it is associated with other substances. The key informant, referred as KII 5, provided the following statement:

Because khat use is deep-rooted in our culture, I may not consider it as a problem. For me, it is not a problem by itself. I think khat can cause problems to the health of the users if it is associated with alcohol, cigarette and other drugs (like Marijuana, Ganja, Cannabis, Shisha and so on). I am okay with khat use. But I would like to underscore the fact that khat is not advisable for the young generation, especially for students. It may not have a problem for the older people. Even if my children are forced to become drug users, I fore choose them to use khat at the expense of that of alcohol, cigarette or other

drugs because khat chewing may not have a problem if it is done in moderation as well as if it does not take much of your time.

During the FGD, the discussants mentioned that they usually use '*chebsi*' in order to ward off or avert the different psychological, behavioral and physiological effects or changes that occur due to the '*mirqanna*' state. According to them, *chebsi* is the state of averting the after effects of *mirqanna* through various activities like drinking alcohol, smoking cigarette, using other drugs and performing sexual intercourse (it can be with female students, commercial sex workers, '*Ladas*'- their female customers, or any other person) which they labeled it risky. Some of the respondents, especially Muslim khat chewers, reported that they are likely to take milk at the expense of *chebsi* in order to prevent the after effects of khat use and its *mirqanna* state. From this study, it was found out that those who do not have money for *chebsi* or milk are the ones who are probably to suffer from the after effects of khat use. From this, we can understand the fact that most of the participants of this study use khat and other substances (like cigarette, alcohol and other drugs) to increase the effects of khat use or to avert the after effects of *mirqanna*, which is identified as being problematic by most of them.

According the FGD discussants, students who frequently use khat are initiated to take alcohol, tobacco and other drugs like Cannabis, Ganja, Shisha and so on. The discussants perceive that the use of khat and other substances may help them to work better, to function socially, to solve problem and make decisions as well as remain mentally and emotionally intact. However, these discussants have also accepted the fact that the problem of khat use and its association with other substances is multi-dimensional that impairs the mental, physical and intellectual capacities of the youth which in turn shrinks the healthy, educated and participating citizen. From this result the writer emphasizes the association of khat with other substances as a serious health risk because it can affect the bio psychosocial well-being of the user.

During the observation, the researcher noticed that khat users (who are also participants of this study) use khat and other substances mostly during or after the khat session. They do it in their own village by hiding somewhere, in shisha houses, in their friends' homes in khat shops, in bars, in '*areke*' houses or what we call taverns, in their own homes and so on. Based on the researcher's observation, the most commonly used alcohols were local drinks (like '*areke*' and

'tej'), dry gin and sometimes they drink beer or draft. Some of the participants told to the researcher that getting some of the above legal and illegal substances is becoming easy for them these days. Moreover, some of the respondents told to the researcher that they have started planting some of the drug trees in their school premises and in their home environment, but they were not willing to show these things to the researcher. The writer also observed that most of the respondents sometimes do not attend the afternoon classes for the purpose of khat chewing sessions. This shows that students' accessibility to khat and other drugs or substances is becoming easy and is highly increasing from time to time. They usually chew a bundle of khat or half of it (this is for a single person), but sometimes they cross this limit if they have enough money and if they want to highly increase its effect. The most commonly used types of khat by students include 'gelemso', 'yegurage', 'wendo', 'awoday' and 'abumismar'. On average they waste from 6 to 7 hours in using khat and other drugs in a day. In terms of money, they allocate from 100 to 200 birr in a day (which means for that specific day selected for khat chewing) for khat and its associates. Most of them chew khat from 3 to 6 days in a week. Most of the time they chew in group by sharing what they have and sometimes they may do it alone.

4.3 Khat use and its biological effects

The in-depth interview participants were asked about the different biological effects of khat use on high school students. Their responses are presented as follows in thematic areas.

Gastrointestinal effects

The respondents, from their experiences, said that khat is responsible for gastrointestinal problems or diseases. The most commonly reported diseases which the respondents face include gastritis (stomach pain), constipation, and loss of appetite, urine retention, and intestinal problems and so on. They added that the above-mentioned health problems are getting worse when they increase the amount of khat they chew, use additional stimulants like caffeine and nicotine, and use other substances like cigarette, alcohol and other drugs. According to them, chewing 'gereba' (leftover khat) and poor quality khat could intensify the above-mentioned health problems though they do not deny the fact that chewing all kinds of khat could have gastrointestinal effects. When they were asked the reason why they use gereba and poor quality khat almost all of the respondents provided the following response:

We chew different types of khat as we can as possible. As students, however, sometimes we may not have money to buy high quality khat. At this time, we are forced to chew 'gereba' (leftover khat) and other poor quality khat because of our interest to reach at the 'mirqanna' state. We know that chewing any type of khat could have gastrointestinal effects, but chewing 'gereba' and poor quality khat is more likely to intensify the gastrointestinal problems. But we do not want to compromise the quality and amount of khat if we have money to do so. (IDI 5)

One of the respondents told to the researcher about his story in relation to how he got ulcer due khat use and its associates as follows.

I lost my mother and father due to HIV/AIDS. I live with my grandmother. We have many houses for rent. I am the one who collects the money from the house rent. I don't have financial problem. After allocating some amount of money for the household expenditures, I used to spend all the remaining amount of money for khat and other substances. I used to chew excessive khat and use different substances like alcohol, cigarette, shisha and other drugs without limit. But, on one of the days, I was seriously sick and I went to hospital. Finally, I was infected with stomach ulcer. I was told not to use the above substances again and I stopped using them for around six months. But I have started using khat and other substances (but, with reduced in amount) after I saw some recovery. But still I am suffering from ulcer which I believe is a lifelong disease. (IDI 4)

Another respondent, referred as IDI 10, shared the following story to show the seriousness of the problem.

I lost my close friend due to liver disease. He was chronic khat user. In addition, he was using cigarette, alcohol and other drugs excessively. Even though he was told to refrain from such kinds of habits by the doctors, he refused to do so. At the end of the day his liver was seriously affected and damaged and this hastened his death.

Based on the interview that he had with the key informants, the researcher found out the fact that gastrointestinal adverse effects are often confronted with khat use. They reported that

constipation is the most common gastrointestinal symptom caused by khat and its tannins and alkaloid components. For example, KII 2, referring to his profession and experience, reported that chronic khat users are likely to face stomatitis, gastritis, esophagitis and other related diseases. He further added that gastritis is usual among users of khat, and replies easily to antacids. The man also indicated that the youth, especially students, are the most vulnerable group of people for the above-mentioned gastrointestinal effects of khat use. “In the few occasions in which radiograph (a photograph made with x-rays) were obtainable, it was obviously true that gastric (stomachic) ulceration was more frequent than in the duodenum (the first part of small intestine) among chronic khat users,” said the man.

According to KII 5 (from his observation and experience), however, loss of appetite could also be identified as one of the major complaints of khat users in addition to that of gastritis and constipation. He said that loss of appetite may result in malnutrition. As he puts, malnutrition can aggravate those particular inflammations identified earlier. He also noted that the tannic acids (any of various complex phenols extracted from the bark or galls of trees; used in tanning) are also believed to be hepatotoxic. As per his explanation, the development of hemorrhoidal disease is attributed to anorexia and insomnia (which are followed by khat chewing). In addition, anorexia, as indicated by him, may result from the combined effects of khat on the brain and the gastrointestinal system. According to this key informant, malnutrition, immune insufficiency and increased vulnerability to contagious diseases such as hepatitis, tuberculosis and HIV could result from protracted or extended anorexia.

Nevertheless, KII 3 and KII 4 have another concern, that is, they complained about the chemical pesticides used on khat plants these days. According to them, these chemical pesticides are responsible for body weakness, nasal problems, ulcer, cancer and acute digestive problems that most of khat users are encountering. They also added that high school students (who are also the future of the youth) are vulnerable to those adverse effects of chewing khat having chemical pesticides on it.

Some of the key informants considered the use of poor quality khat and ‘*gereba*’ (leftovers) as triggering factors for gastrointestinal health problems among the youth and/or high school students while others blamed the use of any type of khat for the above problems. Moreover, they

also reproached khat chewing places for the above health problems. These research participants, for example, claimed that ‘shisha houses’ (these are places where most of the time the youth and/or students chew khat and smoke shisha) are less hygienic, which expose chewers to different gastrointestinal problems like abdominal pains. KII 3 described the unclean situation of khat chewing places as follows:

Most of the time the youth, especially students, use khat and other drugs in different places such as in villages, school toilets, khat shops, coffee houses, restaurant, and above all in shisha houses. These places are not safe in terms of hygiene rather they become another burden for users in such a way that they may expose them to different kinds of abdominal pains or problems (such as diarrhea, constipation, vomiting, gastritis and so on).

During the FGD, participants blamed khat use for its gastrointestinal effects (by referring to their own experience as well as observation). The most common gastrointestinal diseases reported by the discussants were stomatitis, gastritis, osoph gaitis, malnutrition and loss of appetite. In addition, cirrhosis of the liver, constipation and anorexia are also the most common medical complaints of the discussants. According to them, the type and amount of khat and the frequency of its use should be regulated or limited in order to at least minimize the above-mentioned health problems. Moreover, they attributed reduced gastrointestinal problems to the removal of chewing *gereba* (leftover khat) and poor quality khat. According to the discussants, chewing any type of khat alone could bring the above-mentioned health problems, but when it is escorted by chewing *gereba*, smoking cigarette, drinking alcohol and using other drugs, those gastrointestinal effects will get worse. During the FGD, what one participant said is instructive, “what khat and its associates take from me are much greater than what I take from them.”

Effect on reproductive system and the newly born child

In the in-depth interview, the researcher had asked his subjects if they have started sexual intercourse. Here, the intention of the researcher is to show the relationship between khat-chewing and sexual interest. Thus, he found out that there are some respondents (both males and females) who have started sexual activity. According to their responses, khat-chewing reduces

sexual interest and it reduces sexual potency in men. During the interview, most of them were said to complain of their irritability (chewers) and lack of interest in sexual relation following a party (khat). Thus, it is constantly responded and /or reported by both users and their girlfriends that users evidence decreased sexual activity. But whenever there is sexual urgency, they use alcohol, Viagra drug and other drugs to reverse the above-mentioned problems, especially sexual impotency.

According to respondents, drinking ‘*aweza*’ tea (a tea or a drink made from boiling the leaves of khat in water in order to increase the effect of khat) can seriously affect the reproductive system of the users. Female participants of this study said that most of the time they use *aweza* tea for the purpose of increasing the *mirqanna* state. In addition, they also use it for the purpose of abortion. But boys claimed that they use *aweza* tea to increase the effect of khat and for the purpose of *mirqanna* (a very elevated emotional sensation or feeling). In relation to this, IDI 3 shared the following story to the researcher:

My elder sister was a chronic khat user. She used to use khat and other substances without limit. Moreover, she had multiple sexual partners and as a result she was involving in risky sexual behaviors. On one of the days she found herself being an expectant woman. Even she didn’t know the father of her child. Then after, she had decided to make an abortion and drunk too much *aweza* tea to induce the abortion. Of course, she did it. But her reproductive organs have become seriously affected. For example, she has got a pain around her reproductive organs. She has a difficulty of peeing. She can’t make sexual intercourse freely with her current husband because of the pain. She has tried to become a pregnant woman two times, but failed. All this happened when she was 25 years old. Now she is 28.

On the other hand, participants of this study (especially females) expressed about the impact of khat on the newly born child. They, from their experience and observation, said that children born to khat-chewer mothers are likely to face different behavioral changes during breastfeeding (especially, after khat chewing session) which include sleeping difficulties, shouting, weeping, and abdominal pain. They also associated loss of appetite to that of khat chewing. Plus, they indicated that decreased appetite of khat-chewer mothers could result in insufficient nourishment

of the child irrespective of its incipient health status. They further associated the decrease in the breast milk production with the loss of appetite of mothers due to khat use. Even though she knows the negative impact of khat chewing on her child, ID 7 continues chewing it. And she said that:

I became pregnant when I was 19, that is, when I was a grade 12 student. I was forced to stop my education. After 9 months, I gave birth and started to take care of my child alone because the father refused to do it. Then, my mom took the full responsibility to take care of the child. It was because of khat and its associates that I entered in to such kinds of problem. But what I cannot deny is I use khat and other substances before the child and after the child. Because of this I observe different behavioral changes in my baby when I breastfeed my child, especially after chewing khat like abdominal pain, crying, screaming, poor sleeping and so on. Even though I see such kinds of problem on my baby, I continued in using khat. After 1 year of termination, I have continued in my education. Now, I am a grade 12 student again.

This experience taken from IDI 7 strengthens the above premises.

The key informants believe that khat use can bring some biological effects on the users such as effects on the reproductive system and the newly born child. When asked about this issue, KII 2 reported that infants born to mothers who are chronic khat users do have low birth weight. He added that unlike infants born to mothers who didn't chew khat during pregnancy, those infants born to mothers who chewed khat during pregnancy are likely to exhibit increased occurrence of low birth weight. He further reported that breast or chest pain, tachycardia (a rapid resting heart rate), and hypertension (the disease or disorder of abnormally high blood pressure) are some of the problems that expectant patients are likely to face due to their khat chewing habit. According to him, khat chewing, as a habit, could affect the newly born child because nowadays it has become pervasive among females (even during gestation).

On the other hand, KII 4 and KII 5 claimed that khat is a responsible factor behind sexual impotency among the users, particularly males. As to them, chronic khat use could make the users (particularly males) infertile or sterile in the long run.

During the FGD, both discussants (males and females) said that it is not recommended or advisable for females and males to chew khat sitting together. However, it is oftentimes noticed when they do it together either publicly or hiding some were these days. They refuse this because from their experience when both sexes chew khat jointly, they are likely to involve in unintentional and risky sexual intercourse. According to them, the most vulnerable group in this regard is the youth, especially high school students. When explaining this issue one of the discussants said, “My first sexual experience began during khat session which I had with a girl. It was really risky.” The other result of the FGD indicated that participants usually drink alcohol or use other drugs (like Viagra) after having a party (khat) in order to reverse their sexual impotency due to khat use. Low weight of children, low milk production, pain on reproductive organs, behavioral changes on a child born from khat-chewer mother, and side effects of abortion were issues mainly raised by FGD discussants. One of the FGD discussant, however, has a different experience. He said that khat doesn’t decrease my sexual activity; rather it increases my urgency for sex.

Cardiovascular effects

The respondents associated khat use with cardiovascular effects. During the in-depth interview, respondents have identified a broad range of adverse effects of khat on cardiovascular systems. The most commonly reported symptoms include increased incidence of coronary vasospasm, myocardial infection, high pulse rate and heart attack. They further mentioned about the connection between the loads/burdens of cardiovascular effects with the ill-health repercussions bequeathed from khat chewing and be handles as part of the problem which exacerbated the condition. According to the participants of this in-depth interview, those cardiovascular effects will be aggravated if khat is taken together with other substances like shisha, cigarette, alcohol, marijuana, ganja and other drugs. Most of the respondents blamed khat and its associates for the cardiovascular effects that they are facing, but continued chewing khat.

Besides, the key informants reported that cardiovascular effects of khat chewing in humans include increased blood pressure and heart rate. Here, KII 2 argues that chronic khat-chewing can cause hypertension (the disease or disorder of abnormally high blood pressure) among the youth like students, with an autonomous regression once khat chewing ceases. He also said that

high school students (who are also the future of the youth) in Ethiopia are susceptible to an elevated occurrence of acute myocardial infarction due to khat chewing.

Moreover, KII 2 reported that the vasoconstrictor properties (any substance that causes vasoconstriction- constriction of a blood vessel) in the coronary circulation and in the major conducting vessel (the aorta) have come from the cathinone (the active central nervous system stimulant). He associated the elevated occurrence of blood pressure and myocardial infarction (heart attack) in khat chewers with that of the vasoconstrictor action of cathinone (a stimulant obtained from khat). He continued his explanation and said that the cathinone could also instigate coronary vasospasm (coronary artery or heart disease) which may obstruct coronary arteries in a sufficient manner to hasten myocardial infarction. According to him, tachycardia (a rapid resting heart rate, especially one above 100 beats per minute), palpitation (an abnormal awareness of the beating of the heart) and elevated blood pressure (mainly from 30-45 minutes of khat consumption) are also some of the cardiovascular effects of chronic use of khat. He further noted that antihypertensive (an agent that prevents or counteracts hypertension) effect has also been associated with chronic khat use.

The FGD discussants on the other hand indicated that they face disturbance of circulation system of khat use. The major problems reported by most of the discussants during the FGD include hypertension, myocardial infarction, pulmonary edema, migraine and cerebral hemorrhage. They reported these symptoms referring to their medical history. The discussants also blamed khat use for the different cardiovascular problems that they are facing from. In addition to the above-mentioned health problems, high pulse rate, high heartbeat, heart attack, myocardial infarction, increased blood pressure and sometimes heart failure are the major cardiovascular effects of khat use raised by most of the discussants.

Physiological effects of mirqanna (a very elevated emotional sensation or feeling)

Respondents reported that they encounter a number of physiological symptoms and changes after khat use, especially during or after the *mirqanna* state. The major problems that were mentioned by participants of this study (who are also khat users) include sleeping problem, loss of appetite, loss of weight, change of face color, blenching, periodontal diseases, an insist to

chew more khat being driven by internal drives and so on. According to them, the seriousness of the above-mentioned problems could be ascertained by the quality and amount of khat a person uses and its *mirqanna* state. Consequently, as noted by them, the life of the users could be highly affected by those problems. According to the interviewed people, the more the *mirqanna* state, the more physiological problems will be and the vice-versa. In relation to sleeping problem, for example, IDI 6 attributed the sleeping difficulties that he has with khat chewing and that of *mirqanna*. This respondent said: -

After I am done with chewing khat, I usually encounter serious sleeping difficulties when I go to my bed. I chew 6 to 8 hours a day and go to sleep in the evening though I know that I have to confront the sleeping difficulties that I usually have at night. By the way, this will become harsh if I do not take chebsi to reverse the *mirqanna* state, which I believe is the cause for my sleeping problem. Because of this I wake up very late in the morning. I have many tardiness cases in my school. As a result, I cannot be prompt or uniform to school. Sometimes, I don't even want to go to school.

When respondents were asked whether they had experienced physiological effects due to khat use, they reported that they have experienced some kind of physiological problems after using it. They said that if khat is chewed occasionally and in great amount, it can lead to adverse physiological health problems including oral infection (particularly when it is chewed together with sugar, candy or nut), periodontal diseases, problems associated with consuming khat that has pesticides on it (such as abdominal pain, ulcer, cancer and weight loss), and as frequently indicated by almost all respondents, khat-induced psychosis (a severe mental disorder, sometimes with physical damage to the brain, marked by a deranged personality and a distorted view of reality).

Participants of this in-depth interview claimed khat, as a catalyst, which may urge active and passive smoking because as indicated by these people, most of the time khat chewer students prefer closed and warm rooms in most of their khat sessions that embodied both smokers and non-smokers. They further added that this situation also incites absence of physical activity, causes nervous tension, and attacks the body. The following statement taken from IDI 5 strengthens the above idea:

I prefer to chew khat in group setting than using it alone because when we khat chewers are in group we may have many things to talk and share. I do it also for socialization purpose. In most cases we choose closed and warm rooms that included both smokers and non- smokers. Since we are students, we hide out somewhere in small rooms and we close doors and windows and we chew khat, smoke cigarette and also other drugs. But undeniably, all these practices may expose us to different problems including respiratory problems, becoming skinny, lack of physical activity, weight loss, blenching, change of face color, periodontal diseases and so on.

Another respondent and referred as IDI 4 attributed the user's less physical care and less hygienic situation with chronic khat use. The following quote is taken from this respondent:

Most of the time if you see khat users, they are physically careless, skinny, less hygienic, hairy, and they may also have blenching as well as periodontal diseases. Above all, the user's carelessness and less hygienic situation may result in other ill-health outcomes too.

In relation to the above statements, the key informants argued that nowadays dental cavities (a hole or hallow depression or a soft area in a decayed tooth) are hardly observable among the youth (which also included students) who are users of khat. This may be partly because of the fact that they scantily use sweets (like sugar, candy and nut), fluoride water, and traditional tooth brush to clean the teeth. They claimed that local irritation and secondary infection are attributable to that of stomatitis, which again results from chronic khat use. As perceived by them, stomatitis may also result from the co-occurrence of smoking of cigarette. Being participant of this study, KII 2 has reported some of the oral adverse effects of khat use including periodontal diseases (surrounding a tooth), dental caries (tooth decay), temporomandibular joint dysfunction (pathology, pain or dysfunction of the muscles of mastication- the muscles that move the jaw as well as the dysfunction of joints which connect the mandible to the skull) and keratosis of buccal mucosa (the condition of unnecessary keratin/protein growing on the skin, relating to the mouth or mucous membrane). According to this respondent, oral ulcers and cancers have been noticed in some of chronic khat users that also included students from secondary and tertiary levels.

Based on the FGD result, the researcher has identified a number of physical /physiological changes that participants face during the *mirqanna* (a very elevated emotional sensation or feeling) state. Some of the symptoms reported by the discussants include inner fear, simply moving on foot for nothing, loss of weight, urgency for sex, enlarged/dilated pupil, feeling of restlessness, developing the sense of uneasiness, talkativeness or becoming mew, and uncontrollable movements of lips, hands, tongue or mouth. Participants also face elevated body temperature and pulse rate during or immediately after chewing khat or during the *mirqanna* state. The discussants further stated about the elevated mental and physical tempo (the timing of a particular event) that they face during *mirqanna* state. According to them, this condition can expose the user to physically risky damages or causalities such as accidents associated with machine, electricity or car accidents.

Withdrawal experiences of khat use and its physical effects

When respondents were asked about whether they face physiological effects because of their withdrawal experiences of khat use, they responded that they face those problems when they try to stop their use, when they reduce the amount of khat they use, when there is no khat or when they are unable to procure with. The respondents argued that the ‘*ayre*’ time (their regular time, which is 2:00 p.m.) is the most critical time because it is during or close to this time that they face those withdrawal signs and symptoms. During the in-depth interview and the FGD, the most commonly described physiological effects due to withdrawal experiences of khat use include yawning, yearning (a strong desire or craving), greater appetency, reduced energy, greater sleep, moving here and there, scratching the body, itching, inability to be still or quiet, at peace or comfortable and so on.

4.4 Khat use and its psychological effects

In this study, respondents were asked about their experience regarding the psychological effects of khat use and they provided their responses through the in-depth interview. Then, the summary of their responses is presented as follows in thematic areas.

Psychological dependence

From the research finding the respondents believe that the psychological effect of khat begins the time one starts chewing it. They said that when khat is chewed ideas become clear and brain works fast. They feel fresh, willing and hard working since khat quickens the reaction. When these respondents chew khat, they feel activated and mental alertness reign, they understand their subject matter well and stay for longer time being concentrated without any fatigue.

However, these respondents have accepted the fact that khat could also bring psychological dependence which could be explained in terms of the feeling of depression, uneasiness, unhappiness and frustration. Another outcome of this research revealed the fact that in the absence of khat there would be lack of interest to study, work hard, share ideas, stays longer as well as unable to understand their subject matter very well. From the in-depth interview the researcher found out that there are also some participants who may abandon their study if they don't chew khat. From this case study, we can understand the fact that there is the development of psychological dependence among participants of this study, who are also khat users and at the same time high school students.

The following example is taken from IDI 6 in order to show the psychological dependence of khat use:

For me it is impossible to stop chewing khat entirely. I remember that I stopped khat chewing only for around 6 months because of sickness. Then after, I have started chewing it again after I get recovered from my health problem. I can't make a pledge because I know my weakness, that is, I can't do anything without chewing khat especially in my education. Moreover, I mostly run to chew khat when I see my friends are doing it and enjoying it. I feel depression, uneasiness, unhappiness and frustration if I couldn't chew khat for different reasons.

When explaining the psychological dependence resulting from khat use, another respondent and referred as IDI 1 confirmed that:

I have decided to stop khat chewing several times, but it was completed without success because of my dependency on khat. I was sentenced to 3 months of imprisonment

because of robbery. It was this event that cut off me from khat. But the moment I was released I started chewing it again. You would rather expect me to stop it after prison, but I couldn't do it because I believe that I can't perform or execute any important tasks without chewing khat. You know it is for this reason that you are forced to chew. Contrastingly, you may not be pushed to chew by the khat itself. Thus, I have started chewing it again.

One of the research participants and referred as IDI 9, however, has a different experience. He said, "I feel indifferent and insignificant or nothing and I can endure and continue my study even in the absence of khat." This reveals the fact that the withdrawal of khat may not result in any morbid physical condition or organic disturbance on some of the users. But most of the research participants in this study said that they could abandon their study if they lack khat which means they are habituated and developed psychological dependence.

Besides, the researcher had also made an in-depth interview with key informants about the anticipated effects of khat on the users due to lack of khat or money to buy with. Here, the intention of the researcher is to show the extent khat-chewing results in dependence. In relation to this interview question, the key informants argued that users can develop and /or feel depression, uneasiness, unhappiness and frustration which indicate that khat could bring psychological dependence to the chewer. KII 1 stated this situation as, "If a person is unable to execute or carry out a certain task without having khat, that person is hooked and there by developed psychological dependence."

When KII 3 explaining the increasing number of students and/or youths who developed psychological dependence towards khat, he provided the following statement:

These days we see youths and /or students holding and chewing khat publicly without any restriction. These groups of people do not want to learn or work because they are swamped in chewing khat for almost the whole day. They are not constructive in their education. For example, if you give them homework, classwork or any other activity, they don't want to do those activities. They can't even review or study their subject matter without having khat. Moreover, they can't perform any task or chore without

chewing khat. Thus, I think this shows that these people have developed psychological dependence.

The FGD discussants agreed up on the psychological dependence that khat could bring on the individual users. During the FGD, discussants expressed their insistently repetitive wish to cease or terminate khat chewing for different reasons, but unable to do so. Their major reasons for the desire to stop khat include the association of khat with other substances (the catalyst nature of khat, that is, its propensity to force one to do other things), family influence, peer influence, bio psychosocial and economic effects, and above all, as indicated by most of them, psychological dependence. However, the participants were unable to stop khat use and their attempt or desire was concluded without any success. The most important reason for this, as mentioned by the FGD participants, was the psychological dependence which came as a result of khat use and its associates like cigarette, alcohol and other drugs.

Major psychiatric disorders

Respondents blamed khat for the different psychiatric disorders that they are facing now. The most commonly reported psychotic disorders in the in-depth interview include anxiety or apprehension, sleeplessness/insomnia, frightening dream/nightmares, unhappiness/depression, excitement, loss of appetency, intense happiness/euphoria, greater alertness, dependence, suicidal ideation, state of anxiousness and fretfulness/irritability. Almost all of the in-depth interview participants associated the above-mentioned problems with khat use based on their experiences and observation. In relation to this, one of the respondents, IDI 6, said that:

From my experience I usually encounter anxiety, insomnia, nightmares and depression because I am habituated to khat. These disorders may happen during or immediately after chewing khat. A khat user may also develop these manifestations or indications after some period of time (it can be within some hours, few days or months). But I continued chewing khat knowing that it can result in different ill-health outcomes that may lead to death in addition to those symptoms mentioned earlier.

Similarly, IDI 4, who has been chewing khat for almost 5 years, has another proposition. This respondent claimed that khat has a catastrophic effect on the user's lifestyle. Furthermore, he said that:

I think khat is a very damaging substance that interrupts the user's lifestyle. As soon as a person is habituated to khat, his/her diurnal life movements or actions will be controlled/managed by khat. Moreover, it can make the user aggressive, nervous, depressed, suspicious, tired, stressful, irritable, anxious and dependent.

On the other hand, the key informants claimed that the different psychological disorders such as hypomania (a mild form of mania) and aggressive behavior of psychoses (a severe mental disorder) are attributable to chronic khat use. They considered euphoria, excitement, insomnia, numbness, depression, lack of concentration, dependence and low mood as some of the psychiatric disorders that are likely to control or overwhelm youth khat users, especially high school students these days. In addition, anxiety, tension, irritability, restlessness and hypnagogic hallucinations were also identified as the most common problems of khat users by these key informants.

According to KII 5, those students who chew khat could show a number of experiences that extends from minor reactions to the growth of a psychotic illness. Minor reactions include being over-talkativeness (chatty), irritability, hyperactivity (excessive and pathological movement and restlessness), excitement/agitation, insomnia, aggression (hostile or destructive behavior or actions) and anxiety. In a wide manner, as he puts, the main psychiatric symptoms concomitant to khat use are a short-lived psychotic illness, long-lived depression and mania.

Similar to the above findings, the FGD discussants also associated the different psychiatric disorders to khat use. During the FGD, discussants reported that dependence, increased alertness, euphoria, excitement, depression, nightmares, anxiety, insomnia, feeling of anxiousness and irritability are the major psychiatric disorders encountered by khat users. The participants said that whenever they are having the above-mentioned problems, they use more additional khat, cigarette, alcohol or other drugs as coping mechanisms or in other words to reverse those problems.

Psychological effects of mirqanna (a very elevated emotional sensation or feeling)

Participants of the in-depth interview blamed *mirqanna* for its adverse psychological effects. The major problems respondents face during the *mirqanna* state include designing or executing unattainable chores/tasks, unreasonableness/extravagancy, insistence for sex, using alcohol and other drugs. According to them, some chewers may be silent while others become gabby having flight of ideas during *mirqanna*. When explaining his feeling of excitement during khat sessions and how he experiences flight of ideas, respondent IDI 4 said the following:

I have started chewing khat when I was 17 years old. I usually experience flight of ideas during khat sessions, especially when I reach to the *mirqanna* level. At this time, I lose my attention and can't focus on the task at hand. I get overwhelmed in flight of ideas (dreaming a lot) which in return affect my personal emotions or sensations. Surprisingly and more interestingly enough, I can't even study my subject due to lack of concentration which again is attributed to the flight of ideas that I face during khat sessions or *mirqanna* state.

Moreover, participants of the in-depth interview reported a number of psychological impacts of *mirqanna*. During the *mirqanna* state, they get easily irritated, frightened or joyful. In addition, misunderstanding/confusion, inability to acknowledge known environment and an instance of misinterpreting the outside impetus were also reported by most of the respondents as psychological effects of *mirqanna*. The following statement is taken from IDI 3 in order to confirm how khat and its *mirqanna* state could lead to confusion and misinterpretation.

After I chew khat and reached at *mirqanna* state, I usually lose my feeling of certainty/confidence. For example, where ever and whenever I go for something, I feel as if I did something faulty, sin or a criminal act. Though I want to speak or express my opinion in different circumstances, I don't have enough confidence to do so. In addition, I consider it as if others are aware of the fact that I chewed khat. Moreover, when people are laughing, I accept it as if they are laughing at me. And when they are talking about their own business, I consider it as if they are talking about me.

And strengthening this idea, IDI 8 said the following:

During or after *mirqanna*, I usually face the problems of confusion or misinterpretation of things. For example, I don't feel comfortable when rats are moving here and there or when I listen to their voice. The rats were moving or shouting in another room while I am in my room because I feel disturbed when rats are moving considering that as if they are with me on my bed.

In addition, IDI 2 described his experience as follows:

I have different experiences when I chew khat and when I don't chew khat. For example, when I go to bed after I chew khat and reach to *mirqanna* level, I do have sleeping difficulties because I usually get confused or distressed as if I got some kinds of insects in my bed such as spiders, centipedes, millipedes, ants, louse and so on. But I don't feel those things in the absence of khat. Being in my bed, for example, I couldn't even study my subjects well though I want to do so because of the above situation.

From the above consecutive cases, we can understand the fact that khat and its *mirqanna* state are attributable to confusion and misinterpretation of the external environment.

Furthermore, psychological health problems associated with khat use and its intensive feeling called the *mirganna* state (a very elevated emotional sensation or feeling) were also foregrounded concerns underscored, particularly by key informants. When he describes his understanding of the psychological impact of khat use and its *mirqanna* state, KII 4 said that:

I think when khat is taken alone or together with other substances it will result in psychological problems. Because of khat and its *mirqanna* state, users may be forced to visit doctors such as psychiatrists in order to get solution for its psychological problems. From my experience, the most important problems that I have observed among khat users in this regard include confusion, fear, misinterpretation, hallucinations and so on.

Another key informant and referred as KII 3 confirmed that khat users are likely to face hallucinations. He said:

Nowadays the youths, especially high school students, are chewing khat with increased amount and also use other substances during or after khat sessions. When they reach

what they call it the *mirqanna* state, they experience hallucinations and as a result they see something that doesn't really exist.

Similarly, one of the in-depth interview participants, IDI 1, declared that khat and its *mirqanna* state can result in psychological problems such as hallucinations. In relation to this, he further described his experience as follows:

On one of the days I chewed too much amount of khat and I reached to great *mirqanna*. Then, I went to a bar for chebsi, that is, to drink alcohol to reverse the *mirqanna* state. While I was drinking alcohol, I heard some disruptive voice from outside and I assumed that people were fighting. Then, I left the bar, went to home and changed my shoe so as to make myself ready for the fighting. But this didn't happen in reality and there was no voice and no fighting. For me, this was just hallucination.

During the FGD, the discussants associated the development of the user's fear, irritability or cheerful behavior to that of *mirqanna* state. They also attributed confusion to that of overstated mental focus and remember of information experienced by khat users during *mirqanna* state. In addition, a serious of mental illness, imbalances or disturbances were also reported as psychological complaints of chewers during *mirqanna* state. Based on the result of the FGD, most of the discussants get easily frightened by outside impetuses which are not significant (for example, when they hear sound and sense touch). Moreover, they become hyper-vigilant when they increase the amount of khat or reach at *mirqanna* state. One of the FGD discussants stated the above situation as, "I mostly hear sound, sense touch or see movement as if they are too near to me while they are very far from me." Fear, confusion, poor recognition of familiar environment, and misinterpretation of external stimulus were some of the psychological problems faced and reported by most of the FGD participants (who are also khat users) as a result of khat use and its *mirqanna* state.

Withdrawal symptoms

Sometimes khat users may stop their use or reduce the amount of khat they use for different reasons (it can be because of financial problem or health problem). Therefore, the intention of the researcher is to explore the anticipated effects of lack or absence of khat use or in other

words to explore the withdrawal signs and symptoms of khat use. And he found that withdrawal experiences of khat use could bring psychological impacts on the users. Respondents confirmed that yearning (a strong desire or craving), restlessness, depressed mood, unpleasant dreams, loss of motivation, irritability and lack of concentration are the major psychological problems that they encounter because of withdrawal experiences of khat use. According to them, unlike the morning khat session (*'yejebena'*) and evening khat session (*'ketira'*), they face the above-mentioned symptoms if they couldn't get khat during their regular time or day time (*'ayre'*). As a coping mechanism, some of them take excess caffeine and smoke cigarette, while others chew khat in increased amount and use other drugs in order to get out of those withdrawal symptoms.

One of the in-depth interview participants, IDI 4, described his withdrawal experience of khat use as follows:

I was forced to cease khat use for some days (nearly for a week) due to health problem, which was serious stomach pain. Initially, my plan was to stop it forever, but I couldn't challenge the withdrawal symptoms in those days. For example, I become sleepy, fatigued, irritable, restless and depressed. Surprisingly, I couldn't even go to school and study my subject. Because of this I have started chewing it again after one week of termination.

Participants of the in-depth interview considered *'wusewase'* or *'arara'* as a complement to that of *mirqanna*. They described *wusewase/arara* as the inability of the users to experience intensive feeling or a very elevated emotional sensation or feeling of khat. As per their explanation, the behavioral changes encountered by khat users because of reduction in the amount of khat use (for different reasons) are also referred to as *wusewase/arara*. In addition, they defined it as the state of yearning manifested by the users when they observe others are carrying or chewing khat or when they see the khat itself. At this time, their interest or ardent desire to chew khat (just like others) will go up. Unlike the *mirqanna* state, they don't experience intensive feeling or a very elevated emotional sensation or feeling of khat use during the *wusewas/arara* state. Respondent IDI 6 declared that students are the most vulnerable group of people who face the effects of *wusewase/arara* given that sometimes they may not have enough money to buy and chew enough amount of khat. So, they may be forced to use khat in

decreased amount. In explaining this issue, this respondent (IDI 6) provided the following statement:

We students are not employed. So, at times we may not have enough money to buy khat. Sometimes we share what we have, buy khat and chew together. But we know that it can't be enough for us plus it can take us to wusewase/arara state. By this time, we have to look for other means of getting khat so as to satisfy our desire and experience intensive feeling of khat use. Otherwise, we can't confront the problems of wusewase/arara. To this effect, we may ask money from others ('feleta'), ask others to give us some khat from their own or involve in begging or theft. We do all this to combat what we call 'dukak'-the unnecessary hopes, wishes, dreams or daydreams which we most of the time face during wusewase level.

4.5 Khat use and its social effects

No matter how khat-chewing is deep-rooted in social and religious life of the Ethiopian society as a drug, it has some detrimental effects to the well-being of the individual users and the society. Khat-habitation is becoming one of a social problem which spreads widely as an epidemic among the young generation, particularly high school students, these days. In relation to this, a cumulative or summary of respondents' responses, views or experiences are interpreted and presented in thematic areas as follows.

Criminal and anti-social activities

Here, the intention of the researcher is to investigate whether the use of drugs (such as khat) has an association with criminal and anti-social activities. This research finding has confirmed this statement because respondents have accepted the fact that khat use could lead the user to be involved in criminal and anti-social activities in order to satisfy his /her addictive demand /need. According to their responses, even though they chew khat to achieve the desired effect, they would no longer bother about themselves and their families or the society. If they don't have enough money to procure khat, they would turn to begging from anybody whom they know or to some kind of anti-social activities like theft (from their family, friend or others either in terms of kind which could be sold or of money). From the in-depth interview, committing anti-social

criminal activities by chronic khat chewers (like the youth or high school students these days) may be crime against property and crime against the person to some extent (for example, kicking, beating or stabbing a person). The following cases stated below, which are taken from respondents, show to what extent khat use could lead the user to be involved in criminal or anti-social activities. For example, IDI 10 said the following:

I have sisters abroad. One day, they came to Addis Ababa with some gold like jewelries and gave the gold to my mom. Then, my mom took all the jewelries and locked them in cupboard. I was following all these things purposefully. On one of the days, I have broken that board and stolen the gold together with three of my friends because we didn't have money to procure khat on those days. Then after, we sold the gold jewelries for around 100,000 birr. We become rich. We chewed as we like, smoke, drank, and even went to Debre Zeit for recreation and did many things with that money. But when we came back we were caught by police and imprisoned for nearly a year. Because of this we were forced to lag behind from other classmates in one year.

Another respondent, IDI 8, confirmed the above idea as follows:

At times of shortage of money, I sometimes check my father's pocket and my mother's bag. Moreover, I may take items from home and sell them. This may go to neighborhood or school. You know what happened one day, I and other five students have stolen our school's computers at mid night. Then, we sold them and get relaxed- 'feta alin.' By the way, no one knows about this case other than me, my friends and now you. We do all this because we are addicted with khat.

When explaining how he and his friends could involve in anti-social activities like begging, respondent IDI 2 shared the following experience:

Sometimes we students may be involved in begging in order to satisfy our demand, that is, khat use and its associates. You know what we do, we change our uniform and go out of our sub-city to another sub-city and get involved in begging. Most of the time we go to Bole, CMC, Megenagna and other places which are believed to have many rich residents.

The key informants and the FGD discussants do have similar responses which are concomitant with the above premises. According to these research participants, khat is an addiction that could lead users to some anti-social behaviors and crimes such as begging, theft or murder. Besides, they reported that in order to solve their financial problem or to get more money so as to satisfy their addictive behavior such as khat use, most of the youths and/or students these days are highly involved in a kind of gambling called betting, which most of the participants considered it as a social problem.

Impact on social relationship and interaction issues

Respondents attributed weak social interaction and relationship of the users with that of khat habituation. Some of them believe that khat could affect the users' social interaction and relationship in general, while others believe that this interaction problem could be tough for females because of cultural influence. According to these respondents, khat chewing is less likely acceptable for females in our culture at the expense of that of males. They declared that khat chewers have limited time to their families, friends, relatives or community members given that much of their time is preoccupied by khat chewing sessions. And as a result, they can't attend funerals, weddings, festivals or other social gatherings, which in turn affect their social relationship and interaction. In relation to this, IDI 7 said that:

You know still today I don't have a good relationship and interaction with my aunt because I didn't attend her daughter wedding. This has happened because I didn't want to miss my khat session at that time.

Strengthening the above idea, IDI 1 stated that:

I was told to stop khat repeatedly by my families, friends and relatives because khat controlled me. I don't give them enough time because my time is already preoccupied by khat sessions. Moreover, I failed to attend funerals, birthdays, weddings, festivals and other social gatherings prepared by any of the above people. Because of this I don't have a good interaction and relationship with them. Though they want to give me any responsibility, they don't want to do it because in their eyes I am not a trustworthy person. And this in turn affects my social interaction.

Besides, the study participants, mainly from the key informants, confirmed that khat use is an obstacle to social interaction and khat users are marginalized. Consequently, according to KII 4 for example, they create their own sub-culture and may become passive with regard to their interaction with non-khat user friends, family members and the wider community. This key informant declared that:

Let alone trying to interact with non-khat chewer friends, families and community members properly, it is really quite difficult for them to interact among themselves. And if I am not exaggerating, it is impossible for khat users to chew khat and at the same time to mix and interact with others who are not khat chewers (such as friends, families or other community members).

In addition, KII 2 and KII 3 associated khat users' poor social participation and social interaction to that of the amount and time of khat use, and the separating character of places where khat is chewed. For example, KII 1 said that khat users, especially high school students, are likely to chew khat by isolating or hiding themselves somewhere. Based on the observation, the researcher also recognized that most of khat users are chewing khat by hiding somewhere, for example, in shisha houses, khat shops, bars, unrecognizable places and so on.

During the observation, the researcher has noticed that most of the participants of this study do not have a good interaction with other members of the community as well as with their families. Sometimes they also contradict and fight with each other.

During the FGD, the discussants reported that they have poor social interaction and relationship because of khat habituation. They said that they don't give enough time to their families, friends, relatives and others because they don't want to miss their khat sessions. Based on the FGD result, the participants do not attend funerals, weddings or other social gatherings. And as a result, they do have poor social relationship and interaction. According to the discussants, females are more exposed to those interaction problems than males because of cultural influences (which banned khat chewing to females, as perceived by most of them).

Wastage of time, low academic performance and low productivity

According to the participants of the in-depth interview, khat chewing sessions and the after khat sessions (especially the *chebsi* session) could take too much of the users' time. They implied that khat should be chewed in the noon-time ('*ayre*' time) and reproached those who chew the whole day including the morning session ('*yejebna*') and the night session ('*katira*'). They declared that a person who starts to chew '*yejebna*' should also chew the '*ayre*' and '*katira*' sessions too. Otherwise, from their experience, that person will be in a depressed mood the whole day. According to them, those who chew the whole day (starting from morning to night times) are killing not only their time or themselves but also are neglecting other significant responsibilities of life such as learning. Thus, they become careless and less productive in different activities like in academics. And this would in turn contribute to their low academic performance.

One of the respondents, IDI 4, described time issues as follows:

I cannot do anything if I could not get khat at 2:00 p.m.-which is my normal '*ayre*' time. For me, khat may not be a problem if it is controlled/regulated and chewed in a planned manner. It will be a difficulty if it is chewed the whole day, which is, starting from '*yejebna*' via '*ayre*' to '*katira*' times.

From the above case we can infer the fact that khat kills the user's time.

As a grade 12 student and participant of this study, IDI 7 knows the biological, psychosocial effects of khat use on the users, but continues to chew khat with distresses. She provided the following statement to show the impact of khat use on the user's time management and productivity.

A friend of mine didn't have a job. She was simply chewing khat and killing her time moving here and there for nothing. After some ups and downs, she was hired in a certain organization relatively with a good salary. However, she was forced to quit the job after some days because she was unable to execute her tasks properly without having khat and as a result, she became less productive. I think this is the impact of khat use on the user's productivity and social life in addition to its impact on the user's health.

She continued her explanation by saying:

I think khat can bring financial problem, wastage of time, low productivity and other effects on the users. For example, from my experience, when khat users do have more money, their costs or expenditures will also increase. They will waste their time and spend their money by chewing more, smoking more cigarettes, and drinking more alcohol. They may also use more drugs. Therefore, what you can expect from these people is low productivity or low academic performance at the expense of progress.

In contrary to the above statements, another respondent and referred as IDI 9 claims that he chews khat for socialization. He said that:

I use khat because it is an instrument to get information from my friends or community members. Most of the time, I chew khat in group setting whereby we exchange ideas, information and feelings. We do it as part of our culture as well as for socialization purpose irrespective of its ill-health outcomes as well as our low academic performance.

On the other hand, the key informants claimed that nowadays the youth and high school students do not want to work and learn, but chew khat most of the time. They argued that these people chew khat the whole day, go to bed very late after having '*chebsi*', and wake up very late. Oftentimes after they wake up, they may go to school late or be absent from school or go to other places so as to look for other means of procuring khat for the day like theft, begging or '*feleta*' (asking money from those whom they know). They further reported that even those of them who have part time work or have other source of income usually consume all of their money and they wind up asking for handouts in different places. KII 4, he is also khat user, said that:

There are people who are killing their time by chewing khat the whole day. These days, khat is being used without any limit among the youth, particularly high school students. Unlike these people, I usually chew khat with a scheduled time. Therefore, there should be a law that can forbid the youth, especially, students from the involvement of such behavior (khat use). I believe that it may not have a problem for adults if they use it in a temperate way.

From the above statement it is important to understand that KII 4 himself is a current khat user, but gave his proposal/suggestion to protect the youth, particularly, high school students from such behavior. Nevertheless, KII 1 argued that:

Khat users are oftentimes motivated to take other substances such as alcohol, cigarette or other drugs. For me all kinds of substances are alike. They take much of the user's time. Thus, users may not execute their tasks properly at school or work because much of their time is preoccupied by khat use. As a result, they become less productive and underdeveloped. I recommend that khat should be banned by law for all, especially for students.

On the other hand, KII 5 explained the impact of khat use as follows:

I think khat users allocate much of their time for chewing khat and are likely to face a sleeping disorder that is known for its symptoms of unrest and the inability to sleep. As a result, they may go to school late or be absent at all and this would in turn affect their academic or work performance.

According to KII 1, students who come from khat-chewer families are likely to become khat users and perform below the expectation in education. He claimed that:

In schools, when we compare students whose families are khat users and non-khat users, students who come from khat user families are the ones who are likely to become khat users and to perform less in their academics. This is partly because of the inability of family members to discharge their responsibilities properly. Moreover, khat user students are likely to have low academic performance at the expense of non-users.

The other finding which is extracted from the FGD also indicated that khat use and the time spend on the behavior is attributed to low academic performance, low productivity and underdevelopment of the users and the society at large. Most of the FGD discussants blamed khat for the amount of time it requires for chewing session as well as '*chebsi*' session. They declared that khat should be chewed in the afternoon time ('*ayre*' time) at the expense of morning time ('*yejebena*') and evening time ('*ketira*') because unlike the former, the latter two can lead the user into depression. They also regarded khat use as an unhealthy action which

causes poor performance in ones endeavor given that khat chewers allocate much of their time for khat chewing and its associates. During the FGD, some of the participants considered khat use as a custom or a practice widely observed in a group, especially to facilitate social interaction, harmony, and common decision-making in essential matters of life, whereas the majority of the FGD discussants claimed that khat use has a negative effect on users' health and on their general well –being, social interaction issues, academic performance, productivity and economic prosperity. This impact may also extend to their families too.

Family discord and breakdown

Respondents in this study attributed khat use with disagreements or breakdown within familial units. They believe that their addictive behavior could affect their families in different ways. For Example, they may be absent from the family for some days; they may loot their families' property or money and they may contradict with their families because they may do wrong things. They added that their addictive behavior could also affect themselves and their families economically. All this, as noted by them, could lead to disagreements, conflicts and breakdown within familial units. They indicated that they may have their own family and children in the future though they are students now. However, they declared that khat could affect their future families and therefore, family discord, disagreement, breaks down and malnutrition are inevitable in their future families. Moreover, they associated the occurrence of malnutrition with the money that they allocate for khat use and its associates rather than for food.

Being participant of this study, IDI 6 declared that:

Khat retards the economy of the users and their families. The users may spend much of their money for khat and its associates rather than for important household expenditures, which in turn leads to disagreement between the users and their family members. This family discord and disagreement will finally end up with secession from the family members or family breakdown will happen.

In addition, the key informants mentioned social problems associated with khat use, especially, they underscored family breakdown. They also attributed family breakdown with the inability of khat users to discharge their responsibility at home, in schools or community. Some of them,

however, argued that khat cannot be a problem by itself but what matters is the way how students or youths are using it. These key informants believe that khat may not bring any of the above problems if it is used in a regulated way. But the repeated use of khat with increased amount among the youth and students was identified as problematic by most of the key informants given that it may result in different social problems such as disagreement and breakdown within familial units.

The key informants also associated the deterioration of familial as well as social roles of the users with that of khat use though they have limited knowledge about the issue under discussion. When describing this situation, KII 4 stated that:

Khat is a drug that impairs the usual roles of the users within their family and community. In addition, users may not give enough time to their families. As a result, conflict and disagreements will occur in their families. This again will affect their family life. Separation from family members or family breakdown will be the final outcome.

Another key informant and referred as KII 5, seems to agree with the above statements. This key informant confirmed that:

Khat has a negative impact on a family. Most of the time khat users may face shortage of money because they spend their money to satisfy their addictive behavior. Sometimes they become absent from home and another time they may come back to home to look for means of procuring khat. They may take 'chebsi' to reverse the after-effects of khat use. They may ignore important duties at home. Furthermore, they may neglect their families too. All this could create disagreements, conflicts, tension and breakdown within familial units.

Persistent to the above findings, the FGD discussants confirmed that khat use could lead to disagreement and breakdown within the familial units. Based on the result of the FGD, most of the participants, they are also khat users; do not have a good interaction with their families because of their habituation to khat. They don't support their families with important household chores. Sometimes they beg their families to satisfy their habit and other time they may steal their families' money or property. If they have money to procure khat and its associates, they may not

come home at all for some days. Because of all these situations, as described by the participants, their interaction with their families is characterized by full of tension, arguments, conflicts and disagreements. They believe that if these things continue and get worse, their life will finally end up with separation from their families.

Social stigma and discrimination

Some of the respondents argued that some of khat users do not consider khat as a social problem and therefore they do not want social support and they do not want to involve themselves in different social activities, while others recognized that stigma and discrimination highly affect the users' interest regarding the need for social support as well as their involvement in social activities. According to these respondents, the society excludes khat users from different social responsibilities and activities. They also reported that the community members do not respect and trust them because of who they are and the negative meaning they uphold towards khat users, particularly the youth and high school students. They claimed that being students and khat users at the same time could aggravate the above problem, that is, social stigma and discrimination.

Participants of this study have argued that khat use harms the image of the youth, particularly students, in their own community of origin and outside of it. They declared that khat users are marginalized. Being the participant of the study, IDI 5 said that:

Our community members have negative image towards the youth, especially high school students who use khat. They consider us as noisy, lazy, cheater, disturber and unproductive citizens. As a result, they don't trust us and they don't want to involve us in different social activities and responsibilities. Hence, they exclude us. But the reality could be different because there are khat users (youth or students) who don't have any of the above negative characteristics.

On the other hand, IDI 1 confirmed the above statement by saying:

It is because of some irresponsible khat users that the society upholds negative image towards all youth khat users, especially high school students and treat or exclude them accordingly. Of course, there are some khat users who are noisy and lazy and also who don't want to learn, work or give attention to social interaction. I think it is wrong to

hasty generalize all the youth or students who use khat because of these few irresponsible khat users. For example, I am a khat user but act responsibly at home, in class, in the community and outside of it and sometimes I do different jobs to support myself and my family economically. So, am I supposed to be marginalized? It shouldn't be.

Similarly, the key informants agreed with the idea that khat users face stigma and discrimination within their community and outside of it. But, they also argued that khat chewers are isolated from others who don't chew khat rather than from those who are engaged with the same behavior. In relation to this, one key informant and referred as KII 3 said the following:

I think khat is a very dangerous addictive substance which damages not only the health of the individual users but also their social interaction and life style too. For example, khat disallows the users from active engagement in education, work, family issues and social issues. Therefore, as per my understanding, what makes them together and marginalizes them from others is their addictive behavior, that is, khat use. For me, they are not excluded by non-users or other members of the community.

Furthermore, social stigma and discrimination was also identified as one of the social effects of khat use by most of the discussants during the FGD. They said that they created their own sub-culture to combat those problems of marginalization and discrimination.

Effect on the general well-being of the individual users and the society

From the finding, khat-chewing has detrimental effect on the health of the individual users which in turn affects the socio-economic life of the society. According to the respondents, khat chewing threatens the normative expectation and normal social stability. Hence, the eventual consequence of chronic khat habituation is known to impair the general well-being and intellectual faculties of the users and the society at large. From the in-depth interview, the writer of this paper has found the fact that the use effect of khat chewing like insomnia and depressive reaction would weaken the education, wealth and economy of the individual users as well as the society because it results in lateness /absent to school or for work and diminished academic or work performance. In relation to this, almost all of the participants of this study argued that khat affects their way of life and well-being directly or indirectly though it is evident that they are

currently involved in khat use. The following statement is a summary of these participants' responses:

It is undeniable that khat results in different health problems. In addition, it contributes to lateness or absenteeism to home, school or work and diminished academic or work achievement of the users as well as disagreement with family members. Moreover, it depletes families and bolsters social stigma and discrimination. And all this in turn affects the general well-being of individual users and the society at large (IDI 5).

The key informants argued that the use and effects of khat use should not be underestimated because it may bring about very serious socio-economic repercussion in the society in the long run. They believe that the youth group is susceptible to drug abuse (such as khat use) which leads to ant-social activities unless some corrective measures are taken. The use of khat seriously affects high school students (who are also youths) who are supposed to enter the labor force and the involvement of the youth, particularly students, in khat use may exhaust the man power resource capable of bringing socio-economic progress which in turn affects the well-being of the individual users and the society. They also reported that the number of khat chewers is increasing in alarming rate in urban and rural areas. Moreover, the number of students who chew khat in high schools is not negotiable. As to them, students who frequently chew khat are initiated to take other substances such as alcohol, cigarette, shisha and other drugs. Thus, they argued that the problem of khat use is multi-dimensional that impairs the mental, physical, social and intellectual capacities of youths which in turn shrinks the healthy, educated and participating citizens. This indicates the fact that khat use is becoming one of the major social problems which adversely affect the well-being of the individual users and the society.

Another result from the FGD participants indicated the fact that khat chewing has an adverse effect on the economic life and productivity of the users as well as the community. These participants believe that the behavior of being chronic khat chewer strongly entails the development of psychic dependence and is manifested in excessive consumption of khat, with an associated decrease in academic and economic productivity through reduction of learning and working hours because of time spent on chewing khat. They also confirmed that productivity may be reduced as due to absenteeism in class, lack of interest to study and work hard, tardiness,

lack of interest in education and depressed mood of khat chewers. Consequently, according to this research finding, khat use affects the productivity and academic performance of users involved.

In a nut-shell, from the above findings, the writer of this paper emphasizes the fact that khat use is generally one of the social problems having serious biological, psychological and socio-economic effects on the individual users and the society at large. The bio psychosocial problems recurring with khat use among the youth, particularly high school students shouldn't be considered as a light problem rather it has a detrimental effect on the general well-being of individual users and the society. Therefore, as indicated by most of the study participants, the society and the concerned bodies should give due attention to the use and consequences of khat.

CHAPTER FIVE: DISCUSSION

In this chapter, the findings are under seen considering the existing research objectives, research questions and related literatures. The findings are examined in comparison with the explanations given in literatures and this can indicate to what extent the findings in this study support the knowledge base in the area. Here, the discussion is arranged in accordance with the major thematic areas identified earlier.

5.1. The aetiology of khat use and its relationship with other substances

5.1.1 The aetiology of khat use

Based on the findings, the respondents have got their first contact with khat through friends and the least proportion through their families. It is for the sake of friendship and sociability that youths and students in their early age becoming involved in khat chewing. As indicated in the finding respondents also use khat for the sake of studying, recreation and pastime. These findings are consistent with other studies. Andaragachew (1988), for example, noted that the habit of khat chewing is nowadays becoming widespread among young generation in particular among young students in secondary and tertiary levels. They use khat for exam to stay long in the night as well as for socialization, recreational and pastime purposes. According to the United Nation Office on Drugs and Crime (2008), drug pushers are forcing young people into taking substances (like khat) so that once they are hooked; they can manipulate their friends into taking substances. The report also depicted that as young people reach adolescence, drug consumption (like khat) increases due to cultural /familial influence and peer pressure. As it was indicated by Amare (1973), among the youth and students khat is used as pastime and for recreational purpose. Rampone (1963) also contributed idea which supports the above finding. In that work it was stated that khat is used in a society for social recreation and social gathering regardless of age, sex and religion.

Another result of this research revealed that situation where the family and society chew khat clearly influence students (youths) to adopt the habit of khat-chewing since social environment plays influential role for youths to learn and opt some practice and habit of their society (family in particular). Similarly, Ezekiel (2011) unveiled that the use of psychoactive substances in religious and healing rituals, in semi-ritual practices which reinforce social and political bonds

and simply as recreational activity is a universal practice. Supporting this finding, Ali (2010), contended that, khat use is widely found to be socially accepted habit in most of the countries geographically situated where the herbal drug is cultivated and chewed as recreational and socializing drug. Strengthening the above ideas, Hill (1963) cited that sociologically, khat chewing is related to the socio-cultural and religious life of society.

5.1.2 The relationship between khat use and other legal and illegal substances

With regard to the relationship between khat use and other substances, khat users usually claim that smoking cigarette, drinking alcohol and using other drugs increase the effect of khat chewing. So, the responses of participants of this study can be used to verify the proposal by khat users. Respondents said that they use cigarette, alcohol and other drugs (such as, Marijuana, ‘Shisha’, Cannabis, Ganja and so on). This indicates that there is an association between khat use and other legal or illegal substances. Persistent to this finding, Andargachew (1988) stated that, briefly the drug problem, with particular reference to khat use, is closely associated with smoking, alcoholism and usage of other drugs. Thus, as indicated by him, it is a multi-faceted social problem which adversely affects the youth. As indicated by Stellah (2011), young people prefer to use khat in association with other drugs such as cannabis, tobacco, heroin, cigarette and other medically prescribed drugs. Moreover, chronic khat use, especially in high doses, or when combined with other substances like alcohol, tobacco and other drugs, continues to claim the lives of many people (Siziya S. et.al, 2011).

The finding of the study also revealed that participants use alcohol and other drugs in order to reverse what they call it the ‘*mirqanna*’ state (which is an intensive feeling /feeling of high). Both the results of the in-depth interview and FGD indicated that respondents face different signs and symptoms during the ‘*mirqanna*’ state and therefore, they try to avoid these unnecessary signs and symptoms through what they call it ‘*chebsi*’ (using alcohol and other drugs). In similar manner, Awoke, Solomon and Abebaw (2017) stated that khat users are likely to use ‘*chebsi*’ in order to reverse the after effects of ‘*mirqanna*’. As to them, they use alcohol, cigarette and other drugs. In supporting this finding, Yusuf (2015) contended that, khat users tend to use other substances with or after khat sessions in order to increase its effect. He identified this habit, however, as being problematic. As indicated by Rampone (1963) khat

chewing is usually accompanied by smoking and drinking. Consistent with this idea, some of the key informants in this study also identified speculative associations of khat use with cigarette, alcohol and other drugs (like Marijuana, Cannabis, Ganja, 'Shisha' and so on), while some others rejected this idea.

From the above discussion, the researcher understood that the association of khat with other substances as a serious health risk because it can affect the bio psychosocial well-being of the users.

5.2. Khat use and its biological effects

Based on the findings of the study, the respondents face different gastrointestinal problems or diseases due to khat use. According to them, they face gastritis, constipation, loss of appetite, urine retention and intestinal problems. The responses of the key informants also verified the above finding. Consistent with this idea, Halbach (1972) described that gastrointestinal tract disturbances are most of complaints of chronic khat chewers. He adds that the astringent characteristics of the tannins appear to account for reports of periodontal diseases, stomatitis, esophagitis and gastritis. Tannins are also believed to delay intestinal absorption and there by contribute to some degree of malnutrition. Chronic malnutrition and loss of appetite are most frequently observed on habitual khat chewers. Similarly, one of the key informants in this study said that though gastritis and constipation are some of the main complaints of khat users, loss of appetite is also one of the characteristics of its use. He said that if malnutrition is present, the localized inflammations mentioned earlier can be aggravated.

According to Halabach (1972), reports of cirrhosis of the liver may be due to the tonic effect of tonic acid. Constipation, the most common medical complaints of khat users, may be attributed to both tannins and norpseudophedrine. The anorexia associated with khat chewing is attributed to norpseudoephedrine, as a common side-effect of amphetamine types of drugs (Halbach, 1972). This finding is also consistent with Halbach's study. As indicated in this study, cirrhosis of the liver, constipation, anorexia and insomnia were the most common medical complaints of the FGD discussants.

With regard to the effect of khat on the reproductive system of the users, this study revealed that khat chewing may reduce sexual interest and bring sexual impotency in men. During the in-depth interview, the respondents were said to complain of their irritability (chewers) and lack of interest in sexual relation following a party (khat). This finding is consistent with many studies. For example, Distefano (1983) argued that there is a belief that khat chewing reduces sexual interest and it impels sexual potency in men. In relation to this, Distefano (1983), considering the complaints of chewer's wife, puts it as 'the chewers are said to complain of their irritability (chewers) and lack of interest in sexual relation following a party. As indicated by Hughes (1973), it is constantly reported by both users and their wives that users' evidence decreased sexual activity. Supporting these ideas, Kervingant (1959) adds that from the genetic point of view, deficiencies caused by khat cause a degeneration of race. In a similar manner, the finding obtained from some of the key informants confirmed that chronic khat use could make the users infertile or sterile in the long run. Moreover, Halbach (1972) verified the above ideas by stating that:

Impairments of male reproductive system are referred to as a common occurrence among chronic khat chewers. They are believed to have high frequency of spermatorrhea and in later stage, impotence. The pharmacological basis for this effect is not understood.

Besides, this study coincides with the work of Awoke, Solomon and Abebaw (2017) in that both studies revealed that khat use could have an impact on the newly born child. According to these findings, khat could reduce milk production with the loss of appetite of mothers due to khat use. It can also bring different behavioral changes in the baby. For example, the baby sleeps poorly, screams and cries and appears to have abdominal pain and undernourishment when the mothers breastfeed their child after chewing khat. As indicated in these studies, some of the female users use *aweza* tea (hot beverage made from boiling dry or fresh khat leaves in water) for the purpose of abortion, which in turn affects their reproductive systems seriously. Moreover, these studies unveiled that there is increased incidence of infants with low birth weight born to women who chewed khat during pregnancy in comparison to those who did not.

The finding of the study also showed that the respondents associated khat use with cardiovascular effects. As indicated in the study, increased incidence of coronary vasospasm,

myocardial infarction, high pulse rate, elevated blood pressure, heart attack and increased heart rate are some of the symptoms mentioned by participants of the study. Strengthening this idea, Halbach (1979) indicated the fact that the habitual chewers suffer from cardiac disorders as consequence of khat is reported invariably by experts on drugs. Few reports of disturbance of circulatory system, says Halbach, are available even though norpseudoephedrine is thought to have a greater stimulant effect on this system than that of ephedrine. The results obtained from the FGD are also persistent with Halbach's (1979) study. In both cases it was depicted that khat might conceivably contribute to the hypertension, migraine, cerebral hemorrhage, myocardial infarction and pulmonary edema. More specifically, as it was indicated in the literature, khat use is emerging as a threat to cardiovascular system among the growing members of khat chewers (Apps et.al, 2011). In light to this for example, the WHO (2011) thought that there is a link between the burdens of CVDS with the ill-health consequences inherited from chewing of the khat plant and treats as part of the problem which aggravated the situation.

Based on the findings of the study, khat users usually face different physiological problems due to '*mirqanna*' state. In addition, they also face withdrawal symptoms. As indicated in this study, '*mirqanna*' was attributed to problems such as sleeping difficulties, loss of appetite, loss of weight, blench, feeling the urge to chew more, oral infection, lack of physical activity, nervous tension, less hygienic situation, oral cancers, dilated pupil and other physiological symptoms and changes. This research finding seems to be similar with the study done by Awoke, Solomon and Abebaw (2017). According to them, khat users are likely to face a number of physiological changes and symptoms during the '*mirqanna*' state such as loss of weight, dilated pupil, feeling restless, feeling uneasy, taking long walk for nothing, urgency for sex, movements of lips, hands, tongue or mouth, which they can't control, talkativeness or mute, sleeping problems and increased body temperature and pulse rate. The other result obtained from the study in relation to withdrawal symptoms of khat use is also concomitant with the study of the above authors. In both cases it was reported that khat users could have different physiological problems due to their withdrawal experiences such as yawning, craving, increased appetite, decreased energy and increased sleep, restlessness, moving here and there, scratching the body and itching.

From the above discussion, the researcher understood that norpseudoephodrine and the tannin in khat account for most of health disturbances that users encounter which include gastrointestinal effects, cardiovascular effects, effects on reproductive systems, and physiological problems associated with '*mirqanna*' and withdrawal symptoms.

5.3. Khat use and its psychological effects

As per the finding of this study, the respondents have accepted the fact that khat could bring psychological dependence which could be explained in terms of the feeling of depression, uneasiness, unhappiness and frustration. Moreover, in the absence of khat, there would be lack of interest to study, work hard, share ideas, stay longer as well as unable to understand their subject matter very well. Strengthening this idea Mahari (1973) stated that when a habitual khat chewer (taking a case of student) chews, he/she feels activated and mental alertness reign, he/she understands his/her subject matter well and stays for long time being concentrated without any fatigue. But, as he puts, all these wouldn't happen in the absence of khat, which means that person has already developed psychological dependence of khat. As indicated by Guedel (1975), the psychological dependence of khat begins the time one starts chewing it. According to this author, khat chewers may develop different feelings when they chew and don't chew. For example, as the author says "when khat is chewed, ideas become clear and brain works fast; the chewer feels fresh, willing and hard-working since khat quickens the reaction. However, the chewer may develop the feeling of depression, unhappiness and frustration in the absence of khat.

As it was demonstrated in the finding (the study), respondents blamed khat for the different psychiatric disorders they have. The most commonly reported psychiatric disorders in the in-depth interview and during the FGD include anxiety, insomnia, nightmares, depression, excitement, loss of appetite, euphoria, increased alertness, dependence, suicidal ideation, tolerance, feeling of anxiousness and irritability. Persistent to this finding, WHO (2006) and Kalix (1988) stated that cathinone, an alkaloid in khat, is considered responsible for psychiatric adverse effects which are mentioned in the above. Similarly, Amare (1973) indicated that the effects of consumer's desire in khat are psychic in nature and are generated by central nervous stimulation. As to him, euphoria, increased alertness and general excitement and hyperactivity

are commonly experienced. In addition, “insomnia almost always occur,” said Amare. Moreover, Trullu (1959) explained the psychological effect on three stages; in the first stage there is intellectual excitation with euphoria, in the second stage the numbing of intellectual faculties prevails and the eclipse of those faculties occur; and in the third stage lack of attention and memory accompanied by the liberation of violent instincts occur.

Based on the finding of the study, the respondents blamed ‘*mirqanna*’ for its adverse psychological effects including planning or doing unachievable tasks, extravagancy, urgency for sex and drinking alcohol, becoming talkative with flight of ideas and misinterpretation of external stimulus. This research finding is persistent with the study done by Awoke, Solomon & Abebaw (2017). In their work, they depicted that khat (and its ‘*mirqanna*’ state) is responsible for the different psychological problems that the users face, for example, confusion, poor recognition of familiar environment, misinterpretation of external stimulus, planning or doing unachievable tasks and flight of ideas.

The researcher also found out that withdrawal experiences of khat use could bring psychological problems on the users. As indicated in the finding, respondents confirmed that craving, restlessness, depressed mood, unpleasant dreams, loss of motivation, irritability and loss of concentration as the major psychological problems and /or withdrawal symptoms of khat use. Similarly, all the above withdrawal symptoms were also indicated in the work of Awoke, Solomon and Abebaw (2017).

Besides, this research finding contradicts with Amare’s (1973) idea because Amare has a tendency of emphasizing khat as the best stimulant when we compete with coffee. But, the writer of this paper has found out khat as having a great psychological dependence, depression and the resultant diminishing intellectual faculties of the chewer. In addition, the writer also contradicts somehow with the work of Ermias (1984). In his work, Ermias merely emphasizes on the medical, pharmacological or chemical formula of khat. But this study has indicated the seriousness of psychological problems of khat abuse instead of its chemical aspect. Plus, it also showed the biological and social problems of khat use.

From the above discussion, the researcher inferred the fact that khat has adverse psychological effects on the users.

5.4. Khat use and its social effects

This study found out that khat has an association with criminal and anti-social activities. According to the respondents, khat could lead the user to be involved in criminal and anti-social activities in order to satisfy his/her addictive demand /need. As indicated in the study, if they don't have money to procure khat, they would turn to begging from anybody whom they know or to some kind of anti-social activities like theft (in terms of kind or money). Thus, they may be involved in a crime against property and the person to some extent. Similarly, some scholars associate the use of drug (like khat) with criminal and anti –social activities thus they object the use of drugs like khat (Andargachew, 1988). In addition, the use of khat as an inducing factor to criminal act has been suggested in literatures. For instance, Chopra (1965) stated that a chewer would no longer care both about himself and his family or the society. According to this author, that person (the chewer) becomes a more human wreck if he has the means to procure khat, but he would turn to begging or some kind of anti-social and criminal activities if he does not have enough money. Supporting this finding, Elmi (1987), contended that, most of committed anti-social criminal activities by chronic khat chewers are crime against property and crime against the person to some extent.

Based on the finding of this study, khat affects the users' social interaction and relationship. This idea was verified by Awoke, Solomon and Abebaw (2017). In their work, they stated that khat chewers have limited time to their families or others whom they know and as a result, they can't attend different social gatherings. Because of this, as noted by them, they have poor social relationship or interaction.

As indicated in the finding, khat use and the time spend on the behavior is attributed to low academic performance, low productivity and underdevelopment of the users and the society at large. The participants of this study considered khat use as a bad habit which causes personal underdevelopment since khat chewers spend their time mostly on it. According to them, those who chew the whole day or night are killing themselves and also their time plus they are ignoring other important duties of life. Thus, they become careless and less productive in

different activities like education or work. This research finding is consistent with most literatures. For instance, Halbach (1979) stated that khat chewing has an adverse effect on the socio- economic life and productivity of the user and the community. According to him, there is a strong inducement of khat users to procure by any means, the necessary supplies once a day or more frequently to prolong the period of chewing. In a similar manner, Eddy (1965), argued that such a behavior (prolonged chewing) strongly suggests the development of psychic dependence and is reflected in excessive consumption of khat, with an associated decrease in productivity through reduction of school and working hours because of time spent on chewing khat. As it was indicated by Distefano (1983), work productivity is said to be reduced as a result of absenteeism, tardiness and depressed mood of khat chewers (caused by insomnia and depressive reaction). Persistent to the above findings, Pela (1986) stated in his work that khat abuse affects the productivity of individuals and countries involved. Moreover, Studies conducted on the effects of khat use among students in Yemen, Saudi Arabia, Kenya, Somalia and other countries revealed the fact that khat is associated with low academic performance and productivity of the users (Hughes, 1973 & Pela, 1986).

As per the finding of this study, the participants associated khat use with disagreements or breakdown within familial unites. They (khat-chewer students) may be absent from the family for some days because of khat use and its after effects. Therefore, they may have poor interaction with family members. According to them, khat could be a drain on financial resource of the family and individual users and as a result there might be malnutrition in the family. Consequently, as reported by them, there might be family discord, disagreement or breakdown. Similarly, Distefano (1983) stated that khat use contributes to family instability because of economic drain on the family resources and the absence of the users from participation in family life. He also depicted in his work that, since the family is basic social unit its dissolution does affect the whole society. Supporting this idea, Hassan (1984) mentioned about the deteriorating effect of khat habituation on family. According to him, family disruption is a prominent problem which includes frequent quarrels, break of family tie, neglect of education and care of children, waste of family resource, encouragement of prostitution as well as encouragement of family members to become involved in khat chewing. As it was indicated by Halbach (1972), a poorly psycho dependence or khat addiction is said to cause 'khat addicts' to spend a large portion of

their income on the habit even if it causes a considerable hardship to their families. Eddy (1965) also contributed idea which supports the above finding. In that work it was stated that spending on a non- essential commodity (like khat) at the expense of food has resulted in malnutrition and proneness to disease. Accordingly, khat chewer thinks about only his procuring money for his khat and he does not feel responsible for the care and education of himself or his children. Malnutrition, as indicated by Eddy, is a recurrent problem observed in a family whose income is disproportionately used for khat. Moreover, the few studies done in Ethiopia regarding the use of khat and other drugs indicated that the use of these “drugs” is high and is most commonly found among youngsters, especially high school students. The adverse effect is, therefore, diversion of income for the purchase of drugs (like khat) at the expense of the needs of the user and the needs of family, leading to family discord, conflict and divorce, absenteeism from school or work, laziness and criminal acts (Deressa & Azazh, 2011; Kassaye, Sherief, Fissehaye & Teklu, 2011).

This study also revealed that khat users are facing stigma and discrimination within their community of origin and outside of it. According to the participants of this study, the society excludes khat users from different social responsibilities and activities because of lack of respect or trust and of the negative meaning the society upholds toward khat users, particularly the youth and /or students. This research finding is consistent with Yusuf’s (2015) work. In his work, Yusuf stated that khat use is a barrier to social interaction and khat users are marginalized, stigmatized or discriminated. As a result, as he puts, they develop their own sub-culture and do not engage actively with non-khat users and the wider community. As it was reported by the FGD discussants, khat users create their own sub-culture in order to combat those problems of social stigma and discrimination.

According to Elmi (1987), khat impairs the intellectual capacity of chewers and undermines moral restraints. The chewer doesn’t care for society’s norm/expectation and that is why he becomes a moral human wreck and involves in anti-social activities. Consistent with this idea, the present research finding also indicated that khat has an impact on the general well-being of the individual users and the society at large. According to the respondents, khat chewing threatens the normative expectation and normal social stability. Hence, the eventual consequence

of chronic khat habituation is known to impair the general well-being and intellectual faculties of the users and the society at large.

Based on the above discussion, the writer of this paper has understood that no matter how khat chewing is deep-rooted in social and religious life of Ethiopian society as a drug, it has some detrimental effect to the well-being of the individual users and the society at large. Moreover, the researcher also inferred the fact that the use of khat seriously affects the youths, particularly high school students, who are the future of the youth and are supposed to enter labor force and their involvement in khat use may exhaust the man power resource capable of bringing socio-economic progress in the very near future. Thus, khat use among high school students is becoming one of social problems, which is spreading widely as an epidemic.

CHAPTER SIX: CONCLUSIONS, RECOMMENDATIONS AND SOCIAL WORK IMPLICATIONS

6.1 Conclusions

The use of khat in our society is becoming wide spread regardless of sex, age, faith and occupational category. These days everybody predominantly youths/high school students use khat without any restriction to get the desired effects of khat. Youths and high school students use khat for variety of reasons. It is said that khat is used for enjoyment (recreation) or pastime, for sociability or belongingness and for exchange of ideas and views. Similar to other drugs youths, especially students chew khat for escapism (to forget their problem and to be free from tension).

In relation to the aetiology of khat use, most of khat chewer students have got their first contact with khat through friends. On the other hand, when we see their source of getting (means of procuring) khat from the sample, most of the students answered they got money for procuring khat from their families, relatives, friends as well as from 'others'. Some of them are also involved in different jobs to get money. From the study most of khat users are initiated to take alcohol and other substances such as cigarette, marijuana, cannabis, 'shisha', and ganja and so on.

More importantly, the study assessed the bio psychosocial effects of khat use on high school students. Accordingly, the biological effects of khat use on high school students include gastrointestinal effects, cardiovascular effects, and effects on reproductive systems. As indicated by the research participants, khat use and its '*mirqanna*' state is associated with some physiological problems encountered by them. They also encounter other physiological problems due to their withdrawal experiences.

The current study indicated that psychological dependence and psychiatric disorders are some of the psychological effects of khat use reported by the study participants. From the study the psychological dependence could be explained in terms of the feeling of depression, uneasiness, unhappiness and frustration. Some of the psychiatric disorders reported by respondents include anxiety, insomnia, nightmares, depression, excitement, euphoria and so on. In addition, they also

blame '*mirqanna*' and their withdrawal experiences for the different psychological problems they encounter.

Moreover, this study also revealed the social effects of khat use on high school students. As indicated in the finding, some of the social effects of khat use include criminal and anti-social activities, problems of social relationship and interactions, wastage of time, low academic performance, low productivity and underdevelopment, family discord and breakdown, social stigma and discrimination, and effect on the general well-being of the individual users and the society.

In a nut-shell, khat use and its correlate smoking and other drugs would increase in trends. This situation may bring adverse effect on the individual users and the society. Students facing with academic burden and social pressure as well as personal tension would resort to the drug use of variety kinds such as khat, smoking (cigarette, shisha, cannabis and marijuana) and some un revealed drug type in this research undertaking. Students in high school or in other schools are expected to be healthy and productive citizens. So, the use of khat and other drugs by youth students would mean loose of energetic and intellectual citizens or it threatens the society of tomorrow who would be the father of tomorrow's children and take over the responsibility of the society at large.

As indicated in this study, the problem of khat chewing is a serious problem that predisposes the users to other drugs like cigarette, alcohol, cannabis, marijuana, shisha, and so on. Hence, the problem of drug addiction, especially khat habituation in our case, is not a light problem faced by students. The problem of khat chewing and its bio psychosocial effects reveal the fact that the problem is very serious in the society itself, but under-estimated. However, khat use is woven into the fabric of the stable society and whole risks seem to run less problematic for the society. Since its use is socially accepted, its problem is not as such recognizable or overt to the public. Based on the findings of the study, khat use is a multi-faceted problem which adversely affects the youths and/or high school students biologically, psychologically and socially. Therefore, some repressive measures should be taken because of its implication on the future of youth (high school students in our case). On the basis of the findings of the study, the writer wants to

recommend so that remedy would possibly be realized as well as the use of khat and its adverse bio psychosocial effects would be controlled and /or averted.

6.2 Recommendations

It is observed that despite the imposition of rules and regulations, students of different institutions continue to chew khat. Hence, imposing prohibition of khat use by students is not effective and enough by itself because, as it was indicated in the study, the problem of khat use by students is not isolated from the society (environmental acceptance of the use of psycho-active substance) they come from. Therefore, measures taken shouldn't focus only on the students but also it should include the society as a whole. In doing so the writer suggests the following points.

Khat use and its adverse effects on students seem to be underestimated in Ethiopia though it has its own implication on the future of the youth. This research revealed that khat has adverse effects on the general well-being of students including biological, psychological and social. In response to this, there should be a responsible organization which works closely with the issue under discussion (for example, creating community awareness and minimizing the adverse effects of khat use). Thus, coordinating with international organizations like World Health Organization, United Nations Commission on Narcotic Drugs and United Nations Fund for Drug Abuse Control, a department or commission of drug abuse prevention should be established at the national level under the supervision of Ministry of Health, Ministry of Education or Ministry of Women, Children and Youth Affairs. The commission should be assigned with responsibilities in controlling the use and abuse of drugs like khat (among the youth, especially high school students) and its adverse bio psychosocial effects.

Generally, in relation to the findings which state about the aetiology of khat use and its relationship with other substances as well as its bio-psychosocial effects, the researcher wants to recommend that the commission should be assigned with different responsibilities including:

1. The commission should ensure the state explicitly and implicitly define legal prohibition of the use of Narcotic Drugs and to which drugs the law refers.

2. So far, the problem of khat chewing is considered as a light problem, but a detail and systematic study of khat habituation and its bio psychosocial effects should be carried out. And the result should be revealed to the public. Thus, the state should impose regulation on the use of khat, for example, putting age limit on the use of khat and establishing controlling mechanism to ensure its application.
3. Youths, especially high school students, are victims of the use of khat and other drugs. Hence, the commission needs to work out educational and information programs collaborating with higher institutions like High schools, Colleges, Universities or Ministry of Education or other Ministerial Offices. In doing so: -
 - 3.1. In collaborating with the commission, schools should not simply say the use of khat is prohibited rather they should give educational program on the adverse effects of khat chewing and other drugs. They have to work on character development programs by teaching students about the importance of developing different character count traits such as responsibility, citizenship, respect, care, trustworthiness and fairness. This character development education or moral education should also be included in the curriculum. Moreover, schools should create conducive learning environment and recreational opportunities to students.
 - 3.2. Ministry of women, Children and Youth Affairs should give emphasis to the problem of khat chewing by youths and students and also it should carry out study on the needs and solutions of youths and/or students affected by khat use.
4. The commission is expected to encourage international organizations like WHO and UNFDAC for the systematic study on pharmacological, medical and various aspects of khat habituation in order to assess the bio psychosocial effects of khat use.
5. The commission should carry out or promote nationwide study on the production of khat and biopsychosocial effects of khat use on the youth and students so as to get long term control on the production of khat as well as the use effects of khat and other drugs. In this regard, the commission is expected to work to its utmost possible capacity though this responsibility seems unfordable as the use of khat is deeply imbedded to the socio-cultural life of the society.

6. The commission also emphasizes the need for comprehensive educational and training programs of abolition of drug abuse such as khat use. Hence, educational and training programs should be given to medical doctors, nurses, physicians and social workers. Thus, they will reveal the biological and psychosocial effects of khat use to the community. They will show the aetiology of khat use and its relationship with legal and illegal substances and how this multiply or aggravate its adverse health effects to the users and community. Moreover, they will also indicate solutions, methods or measures to mitigate the problems and effects of khat use on high school students and/or youths.

Besides, the researcher wants to recommend about the importance of the establishment and expansion of rehabilitation centers for the youth and students affected by khat use and other drugs. In addition, there should be school social workers who can give guidance and counseling services to the students. Moreover, governmental and non-governmental organizations are expected to work collaboratively to help high school students affected by khat use or in other words to minimize the adverse effects of khat use on high school students and on top of that the active participation of all stakeholders is also imperative.

6.3 Social work Implications

There are only few studies which have been made so far to investigate the situation of high school students who use khat. And these few studies have shown the prevalence of khat use and factors associated with it. However, the bio psychosocial effects of khat use were hardly examined so far. Therefore, the presence of such gaps in the service provision need to be seen from various viewpoints since they declare different implications for various concerned bodies.

6.3.1 Implication to social work practice

Schools are places where we create the future generations who can enter the labor force in the very near future. However, as an emerging problem, they are surrounded by different problems like the use of khat and other drugs. Such problems can adversely affect high school students (and at the same time they are also youths) biologically, psychologically and socially. Therefore, the concerning bodies should work hard to change the existing situation of high school students (who are vulnerable to different addiction problems). It is known that social workers are always standing at the side of vulnerable groups or at the victims' side. Therefore, in order to alleviate

or at least minimize the bio psychosocial effects of khat use on high school students as well as to improve their health conditions and make them productive citizens, they have to design a mechanism that contribute for the expansion and success of schools and rehabilitation centers that work toward the youth. Care is at the center of social work and social workers are care practitioners. Thus, they have to be employed in the sectors (such as schools, rehabilitation centers and health care centers) and work for the best interest of the youth and students.

We can also help students affected by khat use through community-based rehabilitation services, creating awareness for the youth, students and health care services, and creating awareness for the community members and human service giving organization to avoid stigma and discrimination toward the youth and students who use khat. All this can help them to become productive citizens of their country. Moreover, social workers can create linkage between students affected with khat use and other drugs with that of service delivery organizations in order to enhance their health conditions and minimize the bio psychosocial effects of khat use. In this regard, khat chewer students and their families, the community members, youth-based organizations or associations, governmental and non-governmental organizations are also expected to play their role to help the needy students.

Furthermore, advocacy works (in relation to policy issues) must focus on creating a supportive and empowering environment that promotes legislative and policy change with regard to the use of khat and other substances. For example, social workers can advocate for the rights of khat chewer students who face social stigma and discrimination. They can also play the role of advocacy to ensure the rights of children to learn in a safe place that is free from any destruction. Social workers should also play the role of advocacy through favoring felicitous policy alternatives and intervention programs so as to help students affected by khat use.

6.3.2 Implication for social work education

Public awareness about the adverse effects of khat use could be displayed on the public awareness education programs for substance abuse such as cigarette, shisha and other drugs. In this regard, social workers can play an important role in providing education about the adverse effects of khat use to the people orally, verbally and visually through community radio and television and other social Medias. They should also engage in rehabilitating youths and students

affected by khat use by removing or reducing their peer pressure as well as socio-cultural and psychological influences to help those people becoming productive citizens of their country. Moreover, social workers need to teach, encourage and support students affected by khat use to actively participate in sports, music, talent shows and other recreational activities to help them develop positive self. For that reason, there is a need to yield enough, well-educated and competent social workers. Thus, higher institutions, such as Addis Ababa University School of Social Work, are in charge of producing such qualified professionals.

There should be participatory social work interventions starting from micro to macro levels including the individual, community, institutional and policy levels. There should be also all-encompassing needs assessment prior to any program planning. Here, a suitable planning model should be employed. The interest or concern of the community also needs to be put into consideration during planning.

At individual level, educational programs, awareness creation activities, guidance and counseling services, character development programs, life skill educations, psychiatrist support and trainings (for different professionals) have to be set to help high school students affected by khat use. At community level, advocacy works, religious counseling services, rehabilitation works, public awareness education, arbitration services, health education campaigns, creating linkages, harm minimization and resolving the legal status of khat are also some of the roles that competent and qualified social workers should play to illuminate or clear up the effects of khat use.

In general, social work is the discipline that works to produce further professionals equipped with the necessary knowledge and skill who can alleviate or at least minimize the bio psychosocial effects of khat use on high school students. However, without having awareness about the existing situation on the ground and the practice challenges compromising the best interest of students and/or youths, it is difficult to teach informed lesson to students. In response to this, social work study in different areas is really helpful which may include child development, Erikson's psychosocial development, ecological systems theory, social constructionism, the bio psychosocial approach and also covers different areas which are directly related to students/youths as well as the issue under discussion. Therefore, the study can give an

input for social work school by showing the bio psychosocial effects of khat use on high school students as well as the ways on how to minimize its adverse effects and improve the health conditions of the users.

6.3.3 Implication for future research

This study mainly explored the bio psychosocial effects of khat use on high school students in the case of Lidta Sub-city, Woreda 01 (Addis Ababa). Out of 117 Woredas in Addis Ababa, only ten samples from one Woreda were studied by this research. Therefore, the study will give an insight about the issue under discussion and can be a stepping stone for future researchers who are interested to further examine the issue by focusing at the existing realities of khat chewer high school students and youths throughout Addis Ababa. On the basis of the findings identified in this study, future researchers can also widely investigate the adverse effects of khat use on the well-being of the students and youths. They can also examine the perceptions or attitudes of non-khat users, family members, community members and social service providers towards khat use. Intercultural studies could also be conducted with the assumption of comparing factors that have contributed to the different attitudes towards khat use. Besides, the sample size of the study was small and the site was only a single Woreda. Therefore, a macro level study that includes large samples can be helpful to reach at different results, which might help to introduce a better intervention plan. In general, the gaps identified in this study and the recommendation forwarded might help to introduce a better intervention plan. It can also contribute for the betterment of khat chewer students as well as human service giving organizations which are working closely with students and/or which are youth-based.

6.3.4 Implication for policy markers

Working on social problems and social welfare organizations is considered as one part of the field of real social work. The subjects of the topic mentioned in this research are high school students (and they are youths at the same time) who are vulnerable segments of the society because they are exposed to different addiction problems like khat use and other drugs. Indicating gaps in practice and policies are among the roles of the social workers. Thus, the findings in this study will have invaluable benefits for future policy decisions by indicating areas

that shall be considered to protect the best interest of high school students and/or youths. Therefore, efforts at policy level should include the following points, elements or priority areas:

- Enough and appropriate research methods and resources for researches regarding khat use and its adverse effects (for example, developing quick laboratory tests) need to be developed and examined/evaluated.
- Ascertaining the effects of khat use on the bio psychosocial well-being of the users.
- Serviceable or operative interventions and methods of care for students and/or youths who are affected by khat use should be created and evaluated/examined.
- Effective and efficient preventive measures need be initiated, implemented and evaluated.
- Revising the educational policy and /or curriculum so as to include character count traits education or moral education and life skill education is important, and that would in a way help students to act responsibly and avoid addiction problems.
- The policy makers should also think of the legal gap, which is, enacting a law that prohibits students from khat use (for example, putting age limit).
- Scientific (empirical) facts or evidences need to be put into consideration when designing future policy changes and measures regarding khat use in Ethiopia. The measures should be planned to be carried out in a sustained manner involving all stakeholders.
- Preventive measures need to be seen or understood as impartial and health-related by the target groups (for example, minimizing or avoiding the excessive use of khat, decreasing agrochemical and toxin contamination on khat and maintaining cultural and temperate use of khat).
- The two farthest positions of the then predominant bipartite approaches are supposed to be considered when designing future khat-related policies and measures, that is, laissez-faire approach in one hand and legal prohibition approach on the other hand- typifying the two farthest positions of the introduction of plausible actions on khat. It should also incorporate harm minimization and public health interventions. Measures should be nuanced or diverse, suited, non-uniform, considerate and respectful.

- Synchronizing compatible khat-related policies and measures on a national, regional, city administration and even international levels is also imperative.
- Finally, policy makers need to work on empowering rehabilitation centers and schools (for example, hiring social workers, providing training on different issues and so on). Besides, giving community health education; furnishing training for social service providers; and fostering khat controlling programs are also measures expected from policy makers.

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APPENDIX A
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATES
DEPARTMENT OF SOCIAL WORK

Date _____ Place _____

Time _____

Consent statements

Introduction

You are being requested to participate voluntarily in the study entitled "Exploring the bio psychosocial effects of khat use on high school students: A study in Lideta Sub-city, Woreda 01 (Addis Ababa)." My name is Gizachew Berhanu. I am a Master's student at AAU, School of Social Work.

Collecting information regarding your perceptions and experiences towards the effects of khat use is the major purpose of this study. The researcher will ask you to bespeak your thoughts, experiences, perceptions and feelings regarding the adverse effects of khat use (which include biological, psychological and social effects) on high school students. Keep noted that your interview will be recorded and nearly 50 minutes to 1 hour of your time will also be taken by the interview. In order to gather personal information, you will be asked some questions a head of the interview like your age, religion, and birth place, level of education and length of time in khat chewing. The interview will be conducted in a suitable or an appropriate place. If you have a desire to cease the interview and end up your participation in this study, you can do it any time. You may also reject questions if you wish. In this study, you are unconstrained to ask questions and take answers at any time.

Risks involved with the interview

Emotional upset while sharing your experiences will be the most expected and possible risk in this study. Thus, you can cease the interview totally or continue the interview at a later time if you encounter emotional upset during the interview.

Benefits of participation and compensation of time

Information or results from this study may help social service providers and other health professionals to better understand the biological and psychosocial effects of khat use on high school students. This may have an impact on how high school students (who use khat and other drugs) will be seen and be handled in the future. There is no consequence to your participation in this study. In addition, you may not get direct advantage from the study as a volunteer participant. You will be appeased for lunch and water (100 birr) so long as you are voluntary to participate in this study.

Confidentiality

Here, what I want to reassure you throughout our conversation is that the information you will provide will be retained confidential and will be employed only for educational purpose. The researcher will present and report the findings of this study only to AAU, School of Social Work. Moreover, you will not be mentioned or identified when the findings are being presented or reported. You will be designated with a number/code to defend your confidentiality. During the study, demographic data will be preserved in a fastened cupboard, but will be removed once the study is accomplished.

So, are you volunteer to participate in this study? If yes, please your signature.

Participant's signature_____ Date_____

Thank you very much for your participation!

APPENDIX B
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATES
DEPARTMENT OF SOCIAL WORK

In-Depth Interview Guide for High School Students who use khat

Part I: Personal information

- a. Age_____
- b. Sex_____
- c. Educational Status_____
- d. Religion_____
- e. Length of time or years in chewing khat_____

Part II: Aetiology of khat use and its association with other legal and illegal substances

1. In relation to aetiology of khat use, who was your source of first contact and source of getting or means of procuring khat/money? And how do you get it now?
2. What does your family experience look like in relation to khat chewing?
3. In relation to khat use, what do we mean by *mirqanna and chebsi*?
4. Does khat insist a person to use other drugs or alcohol? What kinds of drugs or alcohol do you use additionally? Why? Probe, what is your experience or story in this regard, if there is any?
5. What amount of time and money do you spend in using khat? Plus, what amount of khat do you consume in a day, week or month? Probe, do you chew it alone or in a group setting?
6. Can you tell me about your experience in khat use and how does the habit is linked in your daily life?
7. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

Part III: Khat use and its biological effects

1. In your khat chewing practice or life, do you really experience any one among the following problems such as effects on reproductive system, gastrointestinal effects, nervous system effects, respiratory system effects, constipation, urine retention, and cardiovascular effects? Probe; please tell me your experience, if there is any.
2. Do you think that khat use can expose the user(s) to risky sexual behaviors? If yes, how?
3. Have you started dating and/or sexual activity? If yes, does khat have an impact on your sexual activity? Probe, what experiences do you have in this regard, if any?
4. What coping mechanisms do you use when you face the above mentioned problems?
5. In relation to khat chewing, what are the physiological effects of *mirqanna* on the individual users? What experiences do you have in this regard, if any?
6. What are the physiological effects of withdrawals or cessation of using khat? Probe, can you tell me about your withdrawal experiences of khat use?
7. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

Part IV: Khat use and its psychological effects

1. What do you think about the anticipated psychological effects of lack of khat or lack of money to buy with? Probe, can you tell me your experience in this regard, if there is any?
2. During or immediately after you chew khat, do you really experience any one among the following problems such as anxiety, insomnia, nightmares, depression, excitement; loss of appetite, euphoria, increased alertness, dependence, suicidal ideation, feeling of anxiousness and irritability, and so on? Please tell me any experience or story that you have in relation to those problems.
3. What did you actually do when you felt the above-mentioned problems? How did your body react?
4. How does your condition affect your personal relation with people and environment? Probe, does it have similar impact on the family members? Does it bring behavioral change on you? If there is any, can you tell me?

5. What are the psychological effects of *mirqanna*? Probe, do you have any experience in this regard?
6. What are the major withdrawal symptoms of khat use? Please tell me any experience or story that you have in this regard.
7. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

Part V: Khat use and its social effects

1. What kind of relationship do you have with your family, friends, classmates and community members? Probe, do you think the use of khat has an impact on your interaction with others?
2. In what ways do you find that khat use could be regarded as disturbing life style behavior on interaction issues? Probe, because of your chewing practice, do you enter into disagreements with your parents or others? If yes, how?
3. Do you think that khat use can lead a person to criminal and anti-social activities? Please tell me if you have any experience in this regard?
4. What is the impact of khat on the individual users' usage of time and productivity (for example, academic performance)? Probe, do you have any experience in this regard?
5. What is your understanding of the impact of khat use on the socio-economic life and productivity of family members and the community at large?
6. Do you experience stigma and discrimination because you are a person who uses khat (khat-chewer)? Probe, how do you perceive the reaction of khat users (students) towards the social stigma and discrimination? How do you cope up with it? If there is any?
7. What do you think about the impact of khat chewing on the general well-being of the individual users and the society at large?
8. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

Part VI: Social work intervention areas

1. What advice would you like to give khat consumers who are keen to encourage its use in your community?
2. What do you suggest for improving the biological, psychological and social challenges of students who are khat users? Probe, what coping mechanisms did you utilize to overcome these problems?
3. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

Thank you for your cooperation!

APPENDIX C
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DEPARTMENT OF SOCIAL WORK

Interview Guide for Key Informants (social service providers /human service giving organizations)

Part I: Personal information

- a. Sex _____
- b. Age_____
- c. Educational Status_____
- d. Occupation_____
- e. Years of work experience_____

Part II: Aetiology of khat use, its relationship with other substances, and its adverse effects

- 1. For how long you have been working here?
- 2. What do you think about the aetiology of khat use?
- 3. What is your understanding about the relationship between khat use and other legal and illegal substances?
- 4. What are the major biological effects of khat use on the individual users?
- 5. What is your perception towards the psychosocial effects of khat use on the users?
- 6. What are the roles of social service providers in improving the biological and psychosocial situations or challenges of khat users (high school students in this study)?
- 7. What are the major problems faced by social service providers/ human service giving organizations in helping and/or improving the situation of those students affected by khat use?
- 8. What is your experience on khat related social stigma and discrimination or obstacles faced by students (who use khat)?
- 9. What social work interventions could be put in place to help and/or improve the conditions of students who use khat and other substances?
- 10. Do you have any additional comments, including your experience of this interview that you would like to add at this time?

APPENDIX D
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Focus Group Guide for Students who use khat

1. Introduction- introduces self and explains how long the session expected to run.
2. Focus group discussion objectives - introduce the aim of the study.
3. Warm up discussion will be held like how is learning or school, work, family and other things to establish a good rapport.

Discussion Themes

1. What khat is to mean for you?
2. For what purposes do you chew khat?
3. Aetiology of khat use and its association with other legal and illegal substances.
4. Biological effects of khat use.
5. Psychological effects of khat use.
6. Social effects of khat use.
7. Coping strategies to overcome challenges related to the biological, psychological and social impacts of khat use to students.
8. Do you have any additional comments, including your experience of this discussion that you would like to add at this time?

APPENDIX E
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Observation check list

1. What kind of physical conditions do they have?
2. How often do they use khat? How much money do they spend to buy with? Where do they buy and chew khat? What amount of khat do they use in a day, week or month?
3. What kinds of drugs or alcohol do they use additionally?
4. How they interact with each other?
5. How they interact to non-chewers such as friends, families or other community members?
6. Do they get psychosocial support from human service giving organizations or social service providers? How they interact with human service giving organizations/social service providers?
7. How they behave to someone who is outsider?
8. What kinds of issues are raised by students?
9. What are the main challenges of khat chewer students?
10. What does their overall situation look like before, during and after they use khat?