JIMMA UNIVERSITTY

COLLEGE OF BUSENESS AND ECONOMICS

DEPARTMENT OF DEVELOPMENTAL ECONOMICS

SOCIO- ECONOMIC IMPACTS ASSOCIATED WITH CHEWING CHAT PRACTISE:

A CASE OF JIMMA TWON

BY: REDWAN SHAMSA

ADVISER: AMSALU DACHETO

CO-ADISER: MUHAMMADSANII ALI

THESIS SUNMMETED TO THE COLLEGE OF BUSENESS AND ECONOMICS DEPARTMENT OF ECONOMICS IN PARTIAL FULFILMENT OF THE REQUEREMENT DEGRE OF MSc IN DEVELOPMENTAL ECONOMICS

Jun2021

JIMMA, ETHIOPIA

DECLARATION

I declare that this Research thesis work entitled "socio-economic impacts associated with chewing chat practice: incase study of jimma town." is my own original work.

I have carried out it independently with the guidance and suggestions of the research Proposal advisor. And it has not been presented in Jimma University or any other University and that all sources of materials used for the study have been duly acknowledged.

Declared by:

Student name……………………………………Signature……..…Date…………………

Name of Adviser ……………………………………signature……………date…………...

Name of co-advise …………………………………….signature…………….date…………..

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF DEVELOPMENTAL ECONOMICS

FINAL THESIS APPROVAL

As members of the Board of Examining of the Final MSc thesis open defense, we certify that we have read and evaluated the thesis prepared by **Redwan Shamsa** under the title *"socio-economic impacts associated with chewing chat practice: incase study of jimma town."* and recommend that the thesis be accepted as fulfilling the thesis requirement for the Degree of Master of science in Development Economics.

Final Approval by board of examiner

_____ _____ _____

Chair Person   **Signature**   **Date**

_____ _____ _____

Internal Examiner   **Signature**   **Date**

_____ _____ _____

External Examiner   **Signature**   **Date**

<u>**Advisor**</u>

_____._____ _____

 Name   **Signature**   **Date**

CERTIFICATION OF THE FINAL PAPER

I hereby certify that all the correction and recommendation suggested by the board of examiners are incorporated into the final thesis entitled *"socio-economic impacts associated with chewing chat practice: incase study of jimma town,* Oromia region by **Redwan Shamsa** under guidance of **Amsalu Dacheto** (Assistant professor).

Advisor

_____. _____ _____

  Name   **Signature**   **Date**

Name of the student _____

Signature: ----------------------------- **Date:** ------------------------------------

Contents

ACKNOWLEDGEMENT

ABSTRACT

This research was aimed to assess the socio economic impact associated with chat chewing practice in Jimma Zone in cases of Jimma town. The general objective of this study is investigating the major impact o f chewing chat practice on house hold economy in Jimma town. The main source of data for this study is primary data, which was directly collected from respondent through questionnaires. That was selected as a sample by using stratified sampling techniques. 96respondents are considered as a sample by using stratified sampling. From the total samples of respondents, 69% of respondents are chat chewer, while 31% are non-use chat and Out of 96respondent67% and 33% were male and female, respectively. The findings revealed that chat chewing practices are facilitated by peer pressure, bad working environment and joblessness. Marital status (being unmarried) as well as being gender (being male) have contributed a positive impact on chewing practices. In addition, family history (being from a family who chew chat) increases the likelihood of chewing.

Key Words: Chat Chewing, Jimma zone, Logistic regression,

CHAPTER ONE
BACK GROUND OF STUDY

1.1 Introduction of the study

Chat (khat) is an herbal product consisting of the leaves and shoots of the chat edulis fork shrub, a member (genera) of the evergreen celastraceous family that is cultivated most part of the world, particularly in the eastern Africa and Arabian. It is also widely cultivated in Ethiopia. Chat is chewed for its stimulatory effect due to the presence of more than 40 psychoactive substance contained in fresh leaves of the herbal. (1)(2019)

Chat resident in Ethiopia and the southern Arabian Peninsula is an evergreen shrub cultivated as a bush or small tree. Its young shoot and caring leaves (the main utilized part) contain amphetamine-like psychoactive substance, which produce euphoria and stimulation (2)(2020). Chat is a green shrub that cultivated in the highlands of the horn of Africa, southern Arabia and along the east African cost. This plant is known by several names,

There are: chat (in Amharic), Jaat, Qaad, Qaat (in Somalia), Gat, Chat, Qat (in Arabic), Mira, Monge (in Swahili), Bushman's tea (South Africa). Chat can grow in different countries, the optimal altitude for growing chat range from 1500 to 2500m and the growing up 7 to 25m, but usually it grows 7m. For growing the water supply is more important than soil type, but the field should be kept manure. (3)(2018)

Even though chat crop growth in most part of Ethiopia , Oromia region, southern nation nationalities and people region (SNNP) and Amahara region are the extensive producer of chat crop. According to the report from central statistics Agency (CSA), in 2015 in oromia region chat covered 1525.2km^2 and on this specific year the amount of cultivated chat was about 216,713 tones.

Additionally, this region produces 66% of chat crop from Ethiopia's total production. On the other hand in SNNP region chat crop was covered 595.1km^2. And the amount of production was about 759.3 tones. The SNNP region is the second chat producer region with contribution of 28.6% of Ethiopia's total production. (3)(2018)

In most highlands of Ethiopia, including Amahra region the production of chat expands due to increased market opportunities, its drought resistance nature, and low labor requirements, favorable price and the income earned from chat is much greater than other crops. These pushing

factor have contribute to the expansion of chat production and raped raise of cultivation .from the year 2003 to 2015 Amahara region chat production increased from 2718 to 9563hak by 25.2%. However, in the past ten years chat production is mainly expended at the cost of annual crop land. This expansion brought a variety of consequences on farming system, on the economy and on the livelihood of farmers (3)(2018).

In Ethiopia, Kenya, Somaliland and yeoman chat leaves have been consumed for centuries for its mild stimulating properties and for regular part of social life. Chat considered as mild when it's compared with other psychoactive substance. But it can lead some adverse effects like mucosal problem, Hypertension, cardiovascular, complication and sexual dysfunctions. (3)(2018)

Chat chewing had an impact of physical health (loss of teeth, gum disease and mouth problems), constipation, stomach problems, weight loss, sleeplessness, cardiovascular problems such as heart attack, high blood pressure and stroke, diabetes, respiratory problems, male impotence and bowel cancer from the chemical sprayed on chat. Reasons for chat use were peer pressure, academic performance, alertness, feeling excitement and well being. (4)(2020)

Regular chat chewing cause: cardiac complications, male impotence and several mental health problems. Chat chewing resulted in poor lung function and oxygen saturation, risky sexual behavior, and psychosis. In addition concurrent use of chat with alcohol and cigarette smoking was highly associated with sleep disturbance. Chat is considerable as social value and means of collectivity, it is starting point for all program. In Ethiopia chat is commonly used for social recreation. Occupational groups such as motor vehicle drivers, truck driver, who chewing chat during long distance driving, to keep a wake, also use it under the variety of other condition. There is also specific usage of chat by special section of the community: craftsman and farmers use chat to reduce physical fatigue and traditional healers to heal ailments. Although chat has an extreme social nature (individual feeling of sociability in social gathering), it influences socio-economic consequences for individual and the community. (5)(2013)

In similar ways in jimma the chat is widely spread and at least the 50% or more of the jimma two population chewing chat on the deferent program in different place and time like when the messenger go to the daughter family house for marriage, when some people will go to house the death occurs to strapping and to enjoy satisfaction from chewing chat by group and individually in cafe or somewhere in green area of his house, especially in the rest days (weekend) and in the holy days.

1.2 Statement of the problem

According the evidence show the negative impact of chat is the beginning of all the addictive substance abuse and the source of economical, physical and mental problems. When you start chewing chat you need some drink if it is possible. But some individual are must drinking the alcoholic drink after chewing chat this process called "cabsii" and start use of the all substance by the sense of drink, they may use substance like as hashish, Marijuana and cannabis. The behaviors of this substance after use of only one day the addiction of them are difficult. For this problem the peer pressure is have the lion role that mean for the first day you can't start alone.

But all addiction of all substance is attractive, so after starting that substance you can't stop easily. Regarding this fact the number of society chewing chat increase from day to without considering the negative impact and suffer by different economic crisis or health problem, specially around the age of 18 to 35 the new comer to chewing chat ratio are very large. As the research studied by Yihuni Lakew and Demewoze haile (7)done on the title of chat chewing practice and associated factor among adults in Ethiopia state, the exact number of people chewing chat is unknown, but the estimated range is 5 to 10 million people in the world, this number the use chat daily.

Also as the other research paper show chat chewing commonly practiced among male and female are male 87%, depending on age productive age group 94%, according to the religion the orthodox Christians 68%, as marital status unmarred 60%, respecting to the classification of job the employment 75%, and educated 53% and high-earned 59% people. Majority of them initiated by peer pressure 34% for academic good performance 24%, just more than half of the respondents 51% chewing chat daily. About 30% chat chewer spent at last 500ETB on Chat per week even though more than half of the respondents 55% were unwilling to disclose chat expenditure. Additionally the most chat chewer are drink alcohols after chewing chat and smoking the cigarette, the result of the study show 64% and 50% respectively. And consume substances such as peanut, coffee, 60% and 75% respectively and soft drinks 59% while practicing chat chewing. The majority of respondents report perceived health effects such as sleeping disorder 77% reduce appetite 39% depression 32% and gastrointestinal adverse effect 24%.(5)(2016)

In case of health, as mansion in the paper written by awal yahya (8), the chat use is associated with adverse health effects such as hypertension, heart rhythm disorder, insomnia, liver toxicity, oral cancer, hypertension and hemorrhoids, loss of appetite and gastrointestinal effects.

Medical problem associated with chat intoxication include psychiatric manifestations such as deterioration of psychophysical function and schizophrenia from psychoses. Some other chat chewers also experience anxiety, tension, restlessness, hypnologic hallucinations, hypomania and aggressive behavior or psychosis, also sleeping disorder, hallucination, tooth staining, anxiety, and loss of appetite, depression, constipation, gastritis, hypertension and psychosis. (5)(2016)

In case of economy as stated in the perceived psychological, economic and social impact of chat chewing in Nekemte town prepared by Amsalu taye (9), the daily cost of chat may affect the hose hold income to fulfill nutritious food, home improvement, education or other family needs and family leads to financial problem and family breakdown. Also money expensed to buy chat which is no nutritious. More importantly, spending much money for buying chat might compromise distribution of resource for fulfillment of family members specially children's basic needs like food, clothes, shelters, home, education and other in long might leads the family with excessive hunger, live in street (homeless), illiteracy and divorce.(6)(2017)

In case of time of the chat chewer much time is spent during buying chat and after buying collecting the material use to chewing in the last long time take chewing chat by sitting one place, which affects working time. This cause the absenteeism from work, planed place, and precede unemployment. The study revealed chat chewing practices are leading to different social-economic and health effects of chat chewing family disruption, lack of adequate relationship with the family members, lack of participation in vital life events. (8)(2016)

In the direction of psychology of chat chewer is until they get chat the sleepiness behavior, the tiredness, un functionality of body, un prepared mental for working and cannot communicate with the co-worker or some else that talk with it, maybe it will conflict with his partner. Chewing chat in our country Ethiopia and other poor country the most problems. Other chat chewer also experience anxiety, tension, restlessness, hypnologic hallucinations, hypomania and aggressiveness behavior or psychosis. (9)(217)

This research paper is interest to investigate the current situation of chat chewing in jimma town society and the effect of chat.

There is different factor (challenge) that affects one person to chewing chat from the parent, peer pressure, work place, co-worker and the behavior of work. But this study aim to identify socio-economic factor associated with chat chewing practice

> ➤ What is the socio-economic effect of chat chewin practice in society of jimma town?
> ➤ Which factors are associated with chat chewing practice?
> ➤ Is there any association between chat chewing practice and income level?
> ➤ Is the conflict in the family, because of the income spent on chat and reducing the hose hold expenditure on the basic need?
> ➤ What is the case of starting chewing chat?

A lot of the paper is concentrated on the economic problem, health problem, and time spent on chewing chat. But I also want to study additional variable these variable is conflicts of the family because of the resource spent on chat chewing rather than spent on the basic need means this expenditure restrict the house hold basic need expenditure.

Therefore I take this added variable as gap of the study done before. this paper focus on the impact of the chat and carry out on jimma city population, and the case of I select jimma is the chat available in jimma more than other area next the hararge, un like the Makale, Buttajira, Nekemt, Gondar, Mattu, Walketette and others.

1.3 Research Questioner

1. What is the impact of chewing chat expenditure on the family peace?
2. What are the factors that association with chat chewing practices?
3. What is the impact of chewing chat practice on socio-economic?

1.4. Objective of the study

1.3.1 General Objective.

The general objective of this study is investigating the major impact of chewing chat practice on leading poverty in jimma town.

1.4.2 Specific Objectives

- To examine the chewing chat practices prevalence in jimma town.
- To identify factor that associate with chat chewing practice.
- To examine impact of chewing chat practice socio-economic wellbeing.

1.4.3. Significance of the study.

This study will help to identify the basically or crucial problem that lead to chewing chat and provide good knowledge awareness the chat and impact of chat chewing practice affects the economical, social and political life of the people countries. It also will to search and prepare the relevant solution and make relevant recommendations for concerned bodies. The study could be used as a stepping stone for further studies.

1.4.4   *Scope of the study*.

This study will be delimited (restricted) by problems of impact of chewing chat evidence from jimma city. I will be select the representative enough sample from the total population, to infer about the impact of chewing chat on the total population in the city ,this proposal focus only on jimma town, oromia region, Ethiopia country.

1.5. Limitation of the study.

During this research is done we expected some problem such as:

Some respondent are not voluntary to fill the truth answer to the questioner. There is problem of financial support, means the finance we will use not available from somewhere known sources like government organization, or nongovernmental organization. There is other problem; problem of network to access to refer more paper written on similar title and related title paper. Also shortage of time this; this mean I work on the government office and learn weekend by self sponsoring. So the shortage of time and shortage of finance is the crucial problem.

1.6 Operational Definitions.

Chat: is the white flowered evergreen shrubs, chatha edulis of African and Arabian, whose leaves have narcotic prosperities.

 Socio-economic impact: is the effect on activity and wellbeing of the individuals and families.

Substance: is the form of mater that has chemical composition resource and characteristics property.

Substance abuse: an over use and dependence on a drug or other chemical.

Health: are state of complete physical, mental, and social well-being and not merely the absence of disease or in finite.

Psychological impact: influence or intended to influence the mind or emotion.

1.7 organization of the study

This proposal thesis will have contains three chapters. The first chapter is an introduction which consists of background of the study, statement of the problem and objectives of the study, significance of the study and scope/delimitation, limitation of the study and operational definition. The second chapter presents a review of related literature and the third chapter is researching methodology, schedule and budget plan.

Chapter – two

2. Literature review

2.1 Theoretical literature.

The plant chat is the green plant growth on the latitude of 1500-2000m and it expended it from east to South Africa, as well as Arabian peninsulas. It originated from Ethiopia chat now also grow in Somalia, Kenya, Malawi, Uganda, Tanzanian, Congo, Zambia, Zimbabwe, Afghanistan, Yemen, and Madagascar.(10)(2014)

Ethiopia is the world's largest producer of chat which has recently become the fastest growing export commodity. The history of domestication and introduction of this crop in Ethiopia is not known. According to the legends, it was first introduced in harar from where spread to rest of the country. About a third of the production is exported to neighboring countries like Djibouti and Somalia. However, it is largely producer, marketed and consumed within the country (11)(2019). In fact some area building and home are architecturally design to include rooms that comfortably accommodate that ceremony. Chat ceremonies are described as follows: that chat ceremonies conform to specific pattern. The chewer are collected in allocated room and the spread matters on the flour up on which they recline learning against the well with their some prefer to keep a blaze of charcoal in the center of the room to burn incense. Only tender chat leaves stems are chewed, and the juice is swallowed the residue accumulates in the mouth until the end of the session, fluids like tea and soft drinks are consumed, often music is played. When the chat chewer chews chat the following are considered as chat ceremonies smoke during chewing.

The chewing chat increases the use of other substance, these substances: alcohol, cigarette, hashish, coffee and other drug.

These multiple use of substance affects the health and life of the users and their families. When multiple substances are used the effect seems unnoticed and the impact manifests in next day, Chewing cha is pushes to use large doses of alcohols and substances. Moreover, the study found chat chewing practices were significantly associated with sex, religion, and marital status of the respondents. As the male respondents compared to female male are more chewer, also occurrence of chat chewing practice is very different among the religion follower. Factor training chewing chat practices. Varies factors that initiate chat chewing were reported by current chewers. According were chewing to conform to their friends/family member, to be relaxed, to

keep alter and communication on work, to spend extra time, for praying and the main cause for starting chewing was being workless. As the personal think this is also the case in most young generations. If you do not have work where shall you go? The most youth question the time you ask question why you chewing chat they says where we can go except chewing cha we not have any work that mean the most un employments are the practice.(9)(2017)

Chat chewer may induce a moderate but often persistent psychological dependence. Some of the psychological impacts include cited in literature are poor self-esteem, poor self-control, inadequate social coping skills, sensation seeking, depression, anxiety, being stressed, tension, restlessness, aggressive behavior or psychosis. In addition a group of experts in has concluded that chat consumption may include moderate but often present dependence the withdrawal symptoms after prolonged chat use seem to limited, however, to lethargy, mild depression, slight trembling and recurrent bad dreams.

Several study conducted at different time in Africa countries including Ethiopia, the middle-east, Europe and the USA have explode extensively the effect of chat on the different part of the body and the physical, social economical and psychological consequence of chat chewing. It is estimated that several million people are frequently users of chat in region where it is growth and this number is now increasing fast not only endemic areas, but it is globally.

Some of them are stated as following: study done by Amsalu tayye, yigizi yeshaw(2019) Tsagaye adane birhanu(2019), tamasgen yihunie Aklilu(2020), shambal worku(2018), Zemenu tadese Tesema(2020), Awell Yahya(2016), Amsalu Taye Wondemageng(2017),and Abdu Nuru Abamagal(2013).

  Consumption of chat seriously affects the social and economic condition of the user. The daily cost of chat May affects household income to fulfill nutritious food, home improvement, education or other family needs and finally leads to financial problem and family breakdown.

Much time is spent on buying and chewing chat leaves, which affects working hours and working time.

This causes absenteeism from work, and unemployment. Lastly death rate is significantly higher among chat chewers due to chronic illness such as heart disease and stroke as compared with non chat-chewers(2017) (9)

The habit of chat chewing lead to both acute and chronic effects like low birth weight, reduced sperm count and motility, social and economic problem. It is also associated with liver toxicity, cardiovascular disease.

And periodontal disease, sleeping disorder, reduce appetite, depression gastrointestinal adverse effect, psychosis memory impairment and poor academic performance. In spite of the above problem of chat chewing, a significant number of staff in higher education institutions chews chat to increase their concentration levels and attention span and spent long hours to chewing and then recovering from chewing, this cause absenteeism from work, poor academic performance and under employment (12)(2019).

There is the some paper from I mention above used cross-sectional sampling design sampling technique sample random sampling and stratification, statistical package and SPSS software version 20 for further analysis. Bi-variable logistic regression analysis was performed to find the association of each independent variable and dependent variable (chewing chat). Other one is use the proportion of chat chewing practice 50%. And use the sampling method simple random sampling. Also the study done in Gondar, Northwest Ethiopia use Binary and Multivariable logistic rogation to identify socio-demographic factors and other substance related factors that are associated to chat use. The variables were entered into model using the backward stepwise regression method (variable selection method). The Hosmer and lemshow goodness of fit test was checked. (13)(2019)

Generally the study done are most of them are discus on the chat problem and few of them are discus on the advantage of chat chewing in the direction of economic gaining and socially participation.

2.2 Empirical Literature

The chat chewing is started around 14th and 16th century in Ethiopia. According to the study done in Jimma University on 24, 2016 chat chewing, prevalence and correlates among university staff in Ethiopia. In this study from all participated respondent 98% is response the questioner. The more than 50% of the respondents are females, around the 43% of respondent are orthodox Christian, and 31% are Muslims. The above 54% respondents are Oromo. And as the marital status 46% are the marred respondent. From that study the 57% and 4.8% of the respondent use the additional substance respectively.

The prevalence of chat chewing is 41% among the respondent and among chat chewer 70% of the respondent are everyday chewing. And around 17% of respondent are chewing chat 2 to 3 days per week and 18% are chewing chat ones per week.

The variable on logistic regression: age, sex, marital status, education level, job satisfaction, alcohol use, having family history of chat chewing and peer pressure are the factor have there role to chewing chat. The most frequently perceived general negative effect of chat chewing among the Respondents was an economical crisis 79.2% followed by socio-cultural 39.4% and psychological 26.5% consequence. Sleeping disorder 77.8% was the most commonly

Perceived health effect followed by reduced appetite 39.1% depression 32.7% and gastrointestinal adverse effect 24% (2019)(12). According to the study in Gurage zone southern Ethiopia in 2019 on Association of Chronic chat chewing with Blood Pressure and Predictors of Hypertension showed that the prevalence of chat chewing among the total study participants 12.6% respondents had a history of cigarette smoking. In other study done in Tegria area the result shows ma5*jority of the respondents 63.5% were chewing chat because of addiction while about half 49.9% could not quit practicing chat chewing though they had tried. However, around half of chat chewers 50.4% believed they would plan to stop the practice in the future even if some 30.8% were in problem.(8)(2016)

According to a study in Addis Ababa and other towns across the country, there was a significant increase the number of Ethiopians chewing chat. Chat that was previously known to grow mainly in the eastern part of Ethiopia was cultivated in all parts of the country. A nationwide survey carried out among 2023 in school and out of school youth aged between 15 and 24 years the 23% of school youth used chat chewing every day and 7.5% of out of school youth did so (14)(2006).

The most frequently perceived general negative effect of chat chewing among the respondents was an economical crisis (79.2%) followed by socio-cultural (39.4%) and psychological (26.5) consequences. Sleeping disorder (77.8%) was the most commonly perceived health effect followed by reduced appetite (39.1%), depression (32.7%) and gastrointestinal adverse effect (24.8%)(2016)(8).

Several other studies conducted at different times in African countries including Ethiopia, the middle east, Europe and the USA have explored extensively the effect of chat on the different part of the body and physical, social, economical and psychological consequences of chat chewing. Physiologically effect of chat linked primarily to sweating decreased intraocular

pressure, increased respiratory and pulse rate. More server advice effect have been associated with chat use, particularly in elderly and predisposed individuals. These effects include migraine, cerebral; hemorrhage my cardinal interaction pulmonary edema disabling neurological illness and abnormalities in bone marrow.

2.3 Conceptual (attitude of persons toward chat)

Most of the Ethiopians have the attitude toward the chewing chat positively such that: the chat is stimulating the brain and prepares the body to the work, academically to read long time and save the material that read, and to live social live with society because of the social life is went to collective so the collection is not can stay long time without chewing chat or drinking alcoholic drink .There for the chat or alcoholic drink is called meeting means. As I asked some individual they say the chat is medical drug that use to prevent some disease such as blood pressure, chronic and so on but on this attitude no any evidence supported by some scientific study.

Disclosed(define) that, apart from the risk factor associated with addition to chat chewing, "chat" many cause hypertension through its active ingredient, called cationic. This is contrary (contradiction) to the widely held view by many Ethiopians who believe that chat chewing may have beneficial effect for persons suffering from hypertension or high blood pressure.

Personal views about the consequences of chat chewing differ among chat users. Some express their experiences as follows: "we cannot learn thing at school without chewing chat". Chat is our other teacher. Others condemn (oppositely criticized) it is uncertain terms while still under the sway (slow) of its addictive power.

2.4 Prevalence of chat chewers

Different literature showed that the prevalence of chat is different across gender, age, religious background, occupational status, and place of resident, globally the exact number of people who use chat is unknown, but it is estimated.

Although chat is controlled as substance in some countries like the UK and Scandinavian country, it is drug which circulates freely in the all of the east African region. In some countries chat chewing is allowed, in other it is officially banded but there is no low enforcement. Ethiopia is considered in countries who kept silent. About the issue; thus its legal status has been contributing for its further spread in the country. According to the evidence from different studies, the prevalence of chat chewing varies from country to country. Many studies were

identifying with different study sample like community and national samples, clinical sample and homogenous sample.

According the study conducted in Jimma University among the university staff 41%. This finding is in line with the finding conducted among student of Jimma city 37%, and Ambo University 40%. However some study is show the following the study conducted among the student of Addis Ababa University 7% Jimma University 16% and Gondar University 13%. (12)(2019)

The current prevalence of chat chewing Ethiopia University was 12%, the majority of instructor chewing chat 40% while they were senior high school or first year of college students.

And the prevalence of chat chewing among Ethiopian college student was 23%. In the past life time prevalence rate of chat chewing ranging from 9-55%were reported from different high school students.(1)(tsegaye adane)(12)(yigizie yeshaw)

Factors influencing substance abuse

Different studies reveled as stated above in theoretical part that there are factors influencing substances abuse. The factors of drug taking generally have been regarded as determined by combination of the personal characteristics of the user and the nature of the person's environment and other socio-economic factors. Among them are personal factors, family related factors peer influence, accessibility and affordability of substances.

Psychological Impact of chat chewing:- psychological factors refers to patterns of through, behavior, personality traits, self-esteem and coping skills among others in case of psychology of the chat chewer until they gate that chat; the sleepiness, un functionality of body un prepared mental for working and cannot communicate with the co-worker or some ales that talk with it, maybe it will conflict with his partner.

Other chat chewer also experience anxiety, tension, restlessness, hypnologic hallucinations, hypomania and aggressive behavior or psychosis (9)(2017).

When negative psychological characteristics, personality and personal experiences work together, young individual will inevitability have ability of resilience weaken. Such non pathological factors may cause a youth to develop chat and drug abuse problem. In other words, they will copy skills of chewing chat in case of environmental challenges, and learn to drugs either voluntarily or passively. The first experience in drug abuse produces a state of arousal such as happiness and pleasure which in turn motivate them to continue.

Family related factors: families affect children's substance use behavior in a number of ways. Different researchers have discussed some of the family related factors which more predictive of youth drug abuse such: for instance parental history of chewing behavior puts the children at risk for drug abuse.

Lack of parental supervision is also another family related factor. Many parents have not time and far away from their children to supervise their sons and daughters. Some parents have little or no interaction with family members, because their children are far away for education and for other reason. These phenomena initialize and increase drug abuse.

Impacts associated with chat chewing

The growing literature suggests that a variety of harmful physical health, psychological and socio-economic problems were associated with chat chewing. The health, psychological and oral aspects are given a greater attention in the existing literatures. Detailed account of the psychological, economic and academic aspects associated with chat chewing is unnoticed or low in the literature.

Socio-economic effect of chat chewing:- the evidence shows that the use of chat is associated with several socio economic effects both positive and negative. The impact of chewing chat has been shown to be damaging in term of being a factor in family conflict and breakdown, diverting house hold and individual income, resulting in delay and absenteeism from work and threatening food security. In case of economy as stated in the perceived psychological, economic and social impact of chat chewing in Nekemt town, prepared by Amsaluu Tayee group(9).

The daily cost of chat may affect house hold income to fulfill nutrition food, home improvement, Education or other family need and finally leads financial problem and family breakdown. Also many expend to buy chat which is no nutritious. More importantly, spending much money for buying chat might compromise distribution of resource for fulfillment of family members especially children's basic needs like food, clothes, shelters or home, education and others in long run the condition might leads the family excessive hunger, live in street(homeless), illiteracy, divorce etc. (6)(2017)

Health effect of chat abuse:-growing research evidence reveled that chat use poses a public health challenges to countries. In case of health, as mansion in the research paper on socio-economic and health effects of chewing chat. The chat use is associated with adverse health effect such as hypertension and hemorrhoids loss of appetite and gastrointestinal effects. Medical problems associated with chat intoxication include psychiatric manifestations such as deterioration of psychophysical function. Some chewers are experience anxiety, tension, restlessness, hypnologic hallucination, hypomania and aggressive behavior or psychosis, sleeping disorder, tooth staining, anxiety, and loss of appetite, depression, constipation, gastritis, hypertension and psychosis. (5)(2016)

CHAPTER THREE

METHODOLOGY OF THE STUDY

3.1 The study area

This study will conduct in jimma town; jimma town is the capital zone, located in southwest Ethiopia 350km away from the capital, Addis Ababa. The town is located at an average altitude of 1700m above sea level. Its astronomical location is 7° 4'North latitude and 36° 5' East Longitude. The town has atonal area of 46.23km2. it was founded in 1837 by Abba Jifar as the king town place of the market, the participant are come from long distance, and this town rearranged as a city administration, municipality and 17 kebale (kebale means the small administration unit in Ethiopia).

3.2 study population

Study population means the population where live in jimma town. The study will be carried out on the 17 kebale and total population in jimma town.

3.3 variable of the study

a) dependent variable

Chewing chat

b) Independent variable: this independent (explanatory) variable is try to mention above in the literature in the part of the empirical.

Table 3.1 variable definition and expected sign

Variable	Type	Expected sign
Age	Continuous	+/-
Sex	Dummy (1 male)	+/-
Religion	Dummy(1 orthodox)	+/-
Marital status	Dummy (1single)	+/-
Job categories and satisfactions	Dummy (1 satisfy)	+/-
Family history	Dummy (1 chewer)	+
Education level	Dummy(1 degree and above)	+/-
Income	Continuous	+/-
Birr spent on chat	Continuous	+/-
Respondent birth area is chat area	Dummy (1 yes)	+/-

3.4 data collection technique

This study was conducting by using primary data with well-designed questionnaire. First preparing well designed questionnaire was the first step that done. The questioner first prepared by English then translated to Ormic language in order to participates of all target population.

3.5 sapling design

Cross-sectional survey collects data to make inferences about a population of interest at one point in time. Cross sectional have been described as snapshots of the populations about which they gather data. Cross sectional surveys may be repeated periodically; however in repeated cross-sectional survey at one point in time are not intentionally sampled again, although a respondent to one administration of the survey could be randomly selected for a subsequent one. Cross sectional surveys can thus be contrasted with panel survey, for which the individual respondents are followed over time. Panel survey usually are conducted to using any mode of data collection, including telephone interview in which landline telephone are called, telephone interviews in which called face-to- face interviews, mailed questioners, other self administrated questionnaires, electronic mail, web data collection. Among this method we use self-administered questioners.

3.6 sampling techniques

Sampling technique is a system of taking small ratio of observation from large population with the aim of getting information of those large populations from the sampled observation by using some statistical techniques we use or apply the stratification method. It is perishing (divide) population in to none over lapping and relatively homogenous group called strata. So we apply stratification system to get the sample number from the population through all kebale because of all population under this study are homogenous, and the next we apply the simple random sampling system to get the individual of house hold in all kebale study, in order to get probability sampling techniques are stratified random sampling involves the stratification of population by perishing (divide) sampling into none over lapping and relatively homogenous group called strata

The main reason for we use stratified sampling to treat population in different groups or for separate estimate and almost they are relatively homogenous group. Since there are 17 kebale so we taken this kebale as different strata group and the name of the kebale is taken as strata.

3.7 sampling size determination

Determining sample size is very important issues because population is too large maybe waste time, resource and money, while sample to small may lead to accurate. This study determining the sample size by using *Jeff Watson* (14)(2003) formula and determining the size of each stratum by using proportion allocation for categorical data.

$n = \frac{no}{1+no/N}$, but if $\frac{no}{N} > 0.05$ we use it , **otherwise we use n= n$_o$** ,

Where,   P= sample proportion

      Z= the value of standard variance at given confidence interval.

      N= total population in the study area.

      n= sample size and   E=precision level desire.

Assumption of n

- ✓ the degree for confidence interval is 95%
- ✓ For degree of precision (E) is 0.1.
- ✓ the proportion (P) is 30%=0.3

For the previous research done in Haromaya, Jimma University as example

So $\frac{no}{N} = 80/249901 = 0.0003212677 < 0.05$ there for n$_o$ = $_n$

$$n_o = \frac{z^2{}_{\alpha/2}(pq)}{d^2} = \frac{1.96^2(0.3*0.7)}{0.1^2} = 96. \quad , n = \frac{96}{1+96/249901} \quad \text{Then n} = 96$$

After determining the sample size, next we can determine the size of each stratum by using proportional allocation.

$$n_h = (n*N_h)/N$$

$n_1 = 96*19896/249901 = 8$ $\qquad$ $n_2 = 96*21745/249901 = 8$

$n_3 = 96*9414/249901 = 4$ $\qquad$ $n_4 = 96*14130/249901 = 6$

$n_5 = 96*12767/249901 = 5$ $\qquad$ $n_6 = 96*11694/249901 = 5$

$n_7 = 96*43590/249901 = 17$ $\qquad$ $n_8 = 96*14292/249901 = 6$

$n_9 = 96*11758/249901 = 5$ $\qquad$ $n_{10} = 96*14814/249901 = 6$

$n_{11} = 96*10804/249901 = 4$ $\qquad$ $n_{12} = 96*13500/249901 = 5$

$n_{13} = 96*8691/249901 = 3$ $\qquad$ $n_{14} = 96*7573/249901 = 3$

$n_{15} = 96*10000/249901 = 4$ $\qquad$ $n_{16} = 96*10012/249901 = 4$

$n_{17} = 96*7647/249901 = 3$

There for the total population sample is 96 and the stratum sample is as listed above.

3.8   Methods of Data Analysis

3.8.1 Descriptive statistics

Descriptive Statistics Largely the study of distribution of one Variable: Its Analysis Reefers to be transformation of raw data in to form that will make them easy to understand and interpret the result. Descriptive statics is method in which is the data collected are organized and summarized in the form of table and chart.

3.8.2 Inferential Statistics

As its name indicate that the inferential statistics infer about the population depending on the Sample Data and Analysis and hypothesis.

3.8.3 Chi-square test of independency

Chi-square method of analysis for Data obtained from categorical Variables. The form of data was count. The main objective of chi-square is test of independency or test whether there is the relationship between two categorical variables.

Assumptions of Chi-square test of independence

✔ The individual observations must be independent of each other.

✔ The variable under study are each categorical

The sum of observed frequency must equal to the sum of expected frequency.

The chi-square test of independency approach consist four steps.

1. State the hypothesis

2. Formulate analysis

3. Analyze sample data

4. Interpret result.

Based on the study done before; that stated in the literature on above my research paper is use the Binary logistic rogation

3.8.4 Binary logistic regression models

The logistic regression model some time called the logistic model or loget model used to analyze the relation between independent variable and estimates the probability of an occurrence of an event by fitting the data to the logistic.

Binary logistic regression is used when the dependent variable is binary and independent variable is either continuous or categorical.

The logistic regression model is a generalize model with random component in which the mean of the response variable is related to explanatory variables through the regression question.

A binary logistic regression: is a binary response variable only has two possible value such as chewing chat and no chewing chat of the particular . Model with one or more predictor is fit using an iteration reweighted lest square algorithms to obtain maximum likely hood estimates of the parameter.

Binary logistic regression has been used to classify observation in to two categories and it may give fewer classification errors than discriminate analysis for some cases. The binary linear regression model is as following.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots + \beta_k X_k \quad \text{from (Gujarati, D. N. (2003).)(15)}.$$

$$Y = \beta_0 + \beta_1 sex + \beta_2 religion + \beta_3 marital\ status + \beta_4 reson\ of\ chewing\ chat + \beta_5 Birr\ spent\ on\ chat\ chewing$$

3.8.5 Odds Ratio(OR): is the measure of how much the grater or less than the odds are to subjects possessing the risk factors to experience particular out comes. Odds of success are use to describe the chance that a binary response variable response leads to success relative to failure. The dependent variables can take probability of success to probability of failure is P/1-P. the ratio of probability of failure is P/1-P is called odds ratio of success. Therefore the odds ratio of success model can be written as following

$$Odds\ ratio = \frac{p}{1-p} = e^{(\beta_0+\beta_1 x_1+\beta_1 x_1+...\beta_k x_k)} = e^{X_j{'}\beta_j}$$

j=1, 2- - - - -K

The natural logarithm of odds ratio is the following

ln (pi/1-pi) =βo+β₁x₁+β₂x₂+…………+βₖxₖ

Where **βo** is constant

β₁, β₂ …………βₖ, are the parameter estimator

p =Probability of respondents who practice on the chat chewing.

1-p = probability of respondents who not practice on the chat chewing

The Variance of the population a binary response variable with mean p (1-p), therefore the

 Mean and variance specification the logistic regression is

μ (y₁/x₁- - - -- xₚ₎ =p

Var (y₁/x₁- - - -- xₚ₎ =p (1-p)

Logit (p) =βo+β₁x₁+β₂x₂+ - - - -+βₚxₚ

3.8.6 Model adequacy checking Method

The two common approaches to test the hypothesis of the model fits the data are Pearson's χ^2 statistics and likely hood ratio statistic (G^2)

3.8.7 Model Adequacy checking Methods

The command approaches to test the hypothesis of the model fits the data are person's χ^2 Statistic and the likelihood ratio statistics (G^2) which is based on the compression of the fitted and the observed counts. The large value of χ^2 and (G^2) indicate lack of fit of the model. When the fit is poor, residual and other diagnostic measures describes the influence of individual observation on the model fit and highlight reason for the inadequacy.

The likelihood ratio statistics (G^2) is give by

$G^2 =2\ln[\text{likelihood }_R/\text{Likelihood }_F]=-2(L_0-L_1)$

The chi-square is used statistically test whether including a variable reduce goodness of fit measure

The person's χ^2 statistic is given by

$X^2 = \Sigma \left[\frac{(\text{observed}-\text{fitted})2}{\text{fitted}}\right]$

The hosmer-lemshow tests another alternative in checking model fitness. It is a statistical test for goodness of fit for logistic regression model.

If the hosmer-lemshow goodness of fit test statistic is greater than 0.05, I not reject the null hypothesis that there is no difference between observed and model predict value implying that the model estimates are educated to fit the data at an acceptable level. I conduct the model of assessment by giving diagnostic check for significance of individual model estimates are – the Wald test.

The Wald statistic is an alternative test which is commonly used to test the significance of individual logistic regression coefficient for each independent variable (that is to test the null hypothesis in logistic regression that a particular logit effect) (16)(2013).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Statistical descriptive Data Analysis

The analysis is carried out into two sections. In the first section results of descriptive statistics are presented; in the second section, we identified and examined the Impact factor associated wi th chat chewing practice using Binary logistic regression with the help of stata and IBM SPSS statistics 20.

4.2 Result of Descriptive statistics

The main aim of this study to analysis the major factors which associated with chat chewing habit in jimma town society. The sample size determined for this study was 96. Hence the analysis was based data collected from 96 respondents.

The major demographic and socio economic background characteristics of respondent are presented below.

Table 4.1 shows the percent of the sex of the respondent.

Chewing chat	Sex				Total
	Female		male		
	Frequency	Percent	frequency	percent	
Not chewing	13	13.5	16	16.67	29
Chewing chat	19	19.8	48	50	67
Total	32	33.33	64	66.67	96

The Table 4.1 shows the percent of the sex of the respondent and the 66.67 % of the respondent of this questioner are male and the 33.33% of the respondent are female, from this percent the 19.8% are chat chewer female and 50% of them are chat chewer male, this is show the male is more consume the chat than female it show the context of the tradition of the study area.

This result is similar or mach to the result of the previous research done by (Amsalu Taye Wondemageg) (9) and in Nekemt town.

Table 4.2 shows the percent of the religion of the respondent.

Chewing chat	Religion						Total
	Orthodox		Muslim		catholic		
	frequency	Percent	frequency	Percent	frequency	percent	
Not chewing	11	11.45	9	9.3	8	8.3	29
Chewing chat	33	34.4	31	32.3	3	3.1	67
Total	44	45.85	40	41.67	11	11.4	96

According this study the Table 4.2 shows the percent of the religion from the respondent 45.83%, and 41.46%, are orthodox and Muslim respectively and the 11.46% are catholic. The result show the orthodox and Muslim are relatively closer to each other, from the orthodox chat chewer and not chewer are 34.4% and 11.45% respectively and from Muslim the chat chewer and not chewer are 32.3% and 9.3% respectively. Also from the catholic 3.1% and 8.3 respectively are chewing chat and not chewing chat. This show the chat chewing is a common practice and traditionally accepted in the study area resident community. The research that done before by the Awwal yaya (8) and by the Amsalu stagaye(9) the first one shows the orthodox religion follower are more chat chewer the study done in Makale and the other study is show more chewing chat as the result done in the Nekemt is muslim. But our study show different from both; that is Muslim and orthodox chewer are no more variation almost of all they are similar percent.

According study done before in Jimma University the result of descriptive shows 98% of respondent the question and, 43% are orthodox and 31% are Muslim

Table 4.3 shows the percent of the respondent.

Chewing chat	Marital status						Total
	Single		Marred		Divorced		
	frequency	Percent	frequency	Percent	frequency	percent	
Not chewing	15	15.6	13	13.5	2	2	29
Chewing chat	31	32.3	32	33.33	3	3.12	67
Total	46	47.9	44	45.8	5	5.2	96

Also the respondent marital status 47.92% and 45.83% are single and marred respectively and 4.17% divorced and 1.04% is separated. The single one is no family responsibility therefore the percent of the single chat chewer are more than other status. The marred couple chewing chat is vulnerable to divorce due to reduced sexual activity, low erectile and ejaculatory responses between married couples which finally could lead to lack of strength in sexual intercourse and thereby terminating a marriage association through divorce. The qualitative information also indicted that khat chewing habit is one of the cause for risky behaviors that could be the means spread of HIV. This result is different from the study done before by Awwal Yahya (8) it shows the marital status single is 60%.

Table 4.4 shows the chewing chat of the respondent.

Chewing chat status	Frequency	Percents
Chewing chat	67	69.79
Not chewing chat	29	30.21

On the 4.4 above table is shows the chewing chat respondent out of total sample respondent is 69.79% chat chewer and 30.21% are non chat chewer. This is data collect from the sample that inferences on the population.

The prevalence of chewing chat is in the previous study in literature use different prevalence, as example from the Jimma University among the Jimma university staff 46%, in Adamaa university use 40%, in the Hawsa University 16% and according the Gondar University 13%, also as the Jimma city 37%. But our research gets 69.79% as we conduct or analysis the primary collected data.

Table 4.5 is the table that shows reason of starting chewing chat of respondent.

Chewing chat	Reason of starting chewing chat						Total
	Peer pressure		Enjoying satisfaction		Un employment		
	frequency	Percent	frequency	Percent	frequency	Percent	
Not chewing	7	9.2	7	9.2	24	25	38
Chewing chat	14	18.4	17	22.4	27	28.12	58
Total	21	27.6	24	31.6	51	53.12	96

As the table 4.5 shows the respondent 53.12% are unemployment, depending on the reason of chat chewer 28.12% of the chat chewer are chewing chat because of unemployment or job lessens and 22% are because of enjoyment or satisfaction and the other 18.4% are chewing chat by peer pressure. Most of respondent resin their idea that chewing chat is because of social life and it is value or means of come to gather, and also for reducing their appetite to reduce the food that used for eating. The other study done by (Amsalu Taye) (9) before shows the prevalence of depression is 34.7%

Table 4.6 show the birth place of respondent in chat chewing area.

The respondent birth area	Frequency	Percent
Chat chewing area	58	60.5
Not chewing chat area	38	39.5

The table 4.6 above is shows the other factor of the chewing chat is residence or environmental impact, out of the respondent 61.05% are chewing chat because of the impact of the environment, but 35.79% are resist this influence. The respondent that start chewing chat is influenced by many thing that is the social life is based on the chewing chat, and drinking the alcohol and jimma is the area that largely producer of chat from the eastern part of Ethiopia. This implies that the availability of chat contributes to consumption chat leaf practices in the country.

Table 4.7 show the impact of chat on socio economy of respondent.

The impact of chat on socio economic	Frequency	Percent
Impact of chat	49	51.
No impact of chat	47	49

The table 4.7 show the impact of chat on socio economy of respondent from the total sample 48.96% of respondent are understand properly the socio-economic impact of chewing chat on the respondent or Economical, social and health problem of chewing chat and try to solve this problem by stopping the chewing chat, but 51.04 % are not know the problem that chat leads to the respondent health, economy and psychology. This result almost stated in the previous study done by (Amsalu Taye) (9) but it state separately as relationship with family, participating in vital life.

All the chat chewer are spent more than 30%to 40% of their income and

From the total respondent 69.8% are says chewing chat is negative effect on socially, economically and healthy, the other remain respondent says the chewing chat is positive impact especially on social life, in our area all of the socially interaction is no without chat is the best and the dominant social value everywhere you go the first procedure is chat. As example the marred program from the binging until the final chat is the fundamental material. Also in the other program like gradation, death and berth also chat is necessary

Table 4.8 show the conflicts rise because of chewing chat.

Chewing chat	Conflict in family				Total
	Yes		No		
	Frequency	percent	frequency	percent	
Not chewing	15	15.6	14	14.58	29
Chewing chat	30	31.25	37	38.54	67
Total	45	46.88	51	53.125	96

The table 4.8 shows the conflicts rise because of chewing chat; this is the one negative impact of chewing chat expected. The family conflicts or crisis is happen when the chat chewer house hold leader is spent the birr he use to the house hold expenditure or when the chewer is loss many time on the chewing chat specially chewing in the night time out of the his house and came late after the family sleep.

in this research the result of analysis show from the all of respondent the 46.88% of respondent are have family conflict, from these conflict 31.25% is because of the problem that emanate from the chewing chat and the 15.6% is from other case, but the other remain 53.13% are make balance between their income and the family expenditure and control conflict may be raise in their family member, this mean there is no conflict in their family. On the other study done before similarly the economical crisis and conflict is 79% in study done by (Awwal Yahyaa) (8).

Table 4.9 show the work behavior and work place influence.

Work behavior and work place influence	Frequency	Percent
Yes	49	51
No	47	49

Table 4.9 show the work behavior and work place influence; the other factor that influence the respondent to chewing chat is work behavior and co-worker this mean one worker influenced by the behavior of that environment and by the co worker behavior because of well communication therefore the environment and co worker are great power full influence on the behavior of the respondent. This study result shows the 51% respondent sink by this behavior and starting chewing chat and 49 % respondent are not chewing cha by resist this challenge and control their feeling.

Table 4.10 shows the respondent try to stop chewing chat

Chewing chat	Respondent try to stop chewing chat				Total
	Yes		No		
	frequency	percent	frequency	percent	
Not chewing	22	22.9	7	7.3	29
Chewing chat	31	32.3	36	37.5	67
Total	53	55.2	43	44.8	96

The table 4.10 shows the respondent try to stop chewing chat; the chewing chat is leads number of the problem that problem is discussed in many place above and there is the respondent that understand this problem and decide to stop the chewing chat and some of the respondent are with understanding this problem and can't decide to stop the chewing chat. From the total respondent the 32.3% of respondent are try to stop, and 37.5% of the respondent are also cannot stop chewing chat.

Table 4.11 shows the respondent attitude toward the chewing chat impact

Attitude of respondent toward the chewing chat impact	Frequency	Percent
Chat is negative impact	70	72.9
Chat is positive impact	26	27.1

The table 4.11 shows the respondent attitude toward the chewing chat impact; this research is view toward of the chat chewer not toward the chat producer, and based on this evaluating the positive and negative impact of chat chewing I focus only on chewing not producing so most of the respondent from the total of respondent 72.9% are understand this impact is negative impact toward the health, economy and socially. And remain 27.1% are understand this impact is positive they see toward the motivator to work and use to meet together with their friend and parent.

Table 4.12 shows the respondent satisfaction level on their work

Chewing chat	Respondent satisfaction on their work				Total
	Satisfy		Not satisfy		
	frequency	percent	frequency	Percent	
Not chewing	15	15.6	14	14.6	29
Chewing chat	29	30.2	38	39.6	67
Total	44	45.8	52	54.2	96

The table 4.12 shows the respondent satisfaction level on their work; the respondent that not satisfy on their work or no have work are spent their time on chewing chat and burn their time, as the result of our research is shows 39.6% of the respondent are chewing chat because of they are went to burn their time because of they are no have work or they are no satisfaction on their work. Generally from the total respondent 54.2% are not satisfy on their work.

Table 4.13 is show the birr sent on chewing chat

Chewing	20	%	30	%	40	%	50	%	70	%	80	%	100	%	150	%	200	Tot
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
1	3	3.11	4	4.1	3	3.1	16	16.7	1	1	1	1	18	18.8	3	3.1	2	67

The table 4.13 is show the relatively respondent spent on the buying chat, there is the 4% of respondent are spent 20 to 40 birr, the 16% of respondent are spent 50 Birr and 18.8% of the respondent are 100 Birr spent, but on the 2% -3% respondent are spent 150 and 200 birr. From this result the minimum birr spent 30 and the maximum is 100, but if we take and calculate the annual expenditure for 30 years chat chewing.

Table 4.13 show the education level of chat chewer.

Chewing chat	Education level of respondent								Total
	Primary or below		Secondary		diploma		Degree and above		
	frequency	%	Frequency	%	Frequency	%	Frequency	%	
Not chewing	8	8.33	0	0	5	5.2	16	16.67	29
Chewing chat	19	19.8	14	14.6	14	14.6	21	21.9	67
Total	27	28.1	14	14.6	14	14.6	37	38.5	96

In the last the other factor is the respondent education level, in the case of respondent education level 38.54% are degree and above, the 28.13% are primary and illiterate, 17.71 and 14.58 are diploma and secondary respectively from the all respondent. And the result of the chat chewer with respect to the education level; 19.8% are primary or below the primary, 14.6% and are secondary and diploma and 21.9% are degree and above. And In the previous study is primary is 46 %.(Temesgen Yihunie)(6)

4.2 Inferential Statistical Data Analysis

4.2.1 Chi-square teas of independency

The table 4i show test of association between chewing chat and Birr spent on buying chat

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.793[a]	11	.000
Likelihood Ratio	41.189	11	.000
N of Valid Cases	90		

From the table 4i chi-square the p-value =.000 this is less than α= 0.05 level of significance then we have evidence to reject the null hypothesis, so we can conclude there is association between the chewing chat and the birr spent on the buying chat. This means chewing chat practice and the birr spent on the buying chat are dependent one each other.

Table 4ii shows test of association between chewing chat and religion of jimma town population

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.436[a]	3	.004
Likelihood Ratio	12.593	3	.006
N of Valid Cases	96		

From the table 4ii above chi-square the p-value=0.004 is less than α= 0.05 level of significance then, we have evidence to reject the null hypothesis, so we can conclude that there is association between respondent chewing chat and religion . This means chewing chat practice and the religion of the respondent are dependent each other.

Table 4iii shows the association of the chewing chat and stop chewing chat practice.

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.168[a]	1	.007
Likelihood Ratio	7.478	1	.006
N of Valid Cases	96		

From the above table 4iii chi-square table the p-value is .007 is less than α= 0.05 level of significance then we have evidence to reject null hypothesis, so we can conclude there is association between the trying to stop chewing chat and chewing chat practice are dependent.

Table 4iv shows the association between the chewing chat and the respondent education level.

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.484[a]	4	.050
Likelihood Ratio	13.595	4	.009
N of Valid Cases	96		

From the above table 4iv chi-square the p-value is 0.05 is equal to α= 0.05 level of significance then we have evidence to reject null hypothesis, so we can conclude there is association between the respondent education level and chewing chat practice.

The table 4iv chi-square below show the p-value .001 is less than α= 0.05 level of significant, so we have evidence to reject the null hypothesis, therefore we can conclude there is relation between the socio economic of respondent and chewing chat

Table 4v

<table>
<tr><th colspan="6">Chi-Square Tests</th></tr>
<tr><th></th><th>Value</th><th>Df</th><th>Asymp. Sig. (2-sided)</th><th>Exact Sig. (2-sided)</th><th>Exact Sig. (1-sided)</th></tr>
<tr><td>Pearson Chi-Square</td><td>11.146[a]</td><td>1</td><td>.001</td><td></td><td></td></tr>
<tr><td>Continuity Correction[b]</td><td>9.645</td><td>1</td><td>.002</td><td></td><td></td></tr>
<tr><td>Likelihood Ratio</td><td>11.160</td><td>1</td><td>.001</td><td></td><td></td></tr>
<tr><td>Fisher's Exact Test</td><td></td><td></td><td></td><td>.001</td><td>.001</td></tr>
<tr><td>N of Valid Cases</td><td>96</td><td></td><td></td><td></td><td></td></tr>
</table>

4.2.3 Binary Logistic Regression Result model

Logistic regression examine between one or more predictor variables and binary response outcome. Also the logistic question can be used to examine how the probability of an event changes as the predictor variable changes. But before starting the effect of each predictor on the outcome variable, the overall goodness of fit should be assessed. This can be ensured as following.

```
Marginal effects after logistic
     y  = Pr(chewing) (predict)
        =  .82118314
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]	X
sex*	.2570222	.13116	1.96	0.050	-.000039 .514083	.661972
age	.0079878	.00462	1.73	0.084	-.001068 .017043	30.662
religion	-.2875537	.09298	-3.09	0.002	-.46979 -.105318	1.6338
marita~l	.208928	.09816	2.13	0.033	.016532 .401324	1.50704
resion	-.1528434	.07234	-2.11	0.035	-.294619 -.011068	2.19718
chatarea*	-.1731886	.10001	-1.73	0.083	-.369209 .022832	.521127
income	.0000129	.00001	1.04	0.299	-.000011 .000037	4107.04
birspe	.0026013	.00093	2.79	0.005	.000777 .004426	57.1831
impac*	-.1158232	.09491	-1.22	0.222	-.30184 .070194	.619718

```
(*) dy/dx is for discrete change of dummy variable from 0 to 1
```

As the binary logistic regression outcome showed above the seven in dependent variable are have significant p-value and the other remain are not significant. Then we can building the correct model by using these significant variables.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots\ldots + \beta_8 X_8$$

Y= chewing chat

β_0 = constant

β_1 , β_2, β_3,.............β_7 = the parameter estimator

X_1= sex of respondent

X_3= religion of respondent

X_4=marital status of respondent

X_5=the case of starting chewing chat of respondent

X_6= the effect of respondent resident area

X_8= the amount of birr spent on buying chat by respondent

X_{14}= the practice of stopping chewing chat by respondent

X_{16}= the attitude of respondent to chewing chat

y =2.9+0.257x₁-0.288x₃+0.29x₄-0.153x₅+0.003x₈

This is the fitted model of marginal logistic regression model.

Y= 2.9+0.257(male)-0.288(orthodox) +0.29(single) +0.153(peer pressure) +0.003(birr spent)

There regression result shows the independent variable sex of the respondent is a significant at 5% of significant level that mean the male is 25.7% more chewing chat than female. As the marginal effect of other variable remain constant. This means the more risk full is the male than female because of the male is all of his time is out of the house and may not busy most of work not restrict the time of chat chewing, also most of the peer pressure is applied on the male than

female, and the culture also focus on the male every time and everywhere as example for meeting, grating his family or friends, and graduation, death, marriage and birth programs.

On other research confirmed with my study males had around six times more probability of chewing khat than females (17) (2018). This might be due to the fact that the number of substance users is high among males than females, and it is accepted to use substances among males in different parts of the world including Ethiopia. In other words, this could be due to the culture which discourages the habit of chewing chat among females.

The marginal effect of the religion shows the orthodox independent variable is significant at 5% level of significant that mean the orthodox religion is 28.8% more than the other religion as the other variable factor are constant, this result . This mean the dependent variable probability is increase as the dependent variable is varies from the other religion to the orthodox. This result is opposite to the study done before by(2016)(18) it shows The odds of chewing chat among Muslim religion followers were 15.06 times higher as compared to Orthodox religion followers. The marginal effect of marital status is significant and the independent variable marital status single is 15.3% more than the other remain variable as the other factor variable is constant. The marital status have the big role to chewing chat in the status the single one is not have any house burden like as the married and divorced person because of the burden of expenditure of the house hold family for all needed thing and also the most of the single is young in age so they are not more tension. The study did before show in similar way those who are single increased odds of chat chewing 2.48 times than married. This might be due to the reason that individuals who are single are high risk for substance use and unmarried individuals are positively associated with chat chewing (2016) (22)

The reason of starting chewing chat is the other significantly affects the dependent variable chewing chat, the marginal result shows the peer pressure is 15.3% less than the unemployment and satisfaction this show the ratio of the joblessness is higher than the peer pressure.

As the logistic regression analysis show the dependent variable chewing chat is increase by 0.003 as the birr spent on chat increases by one birr, this mean the decimal multiplying is decreasing that value so as the birr spent on buying chat increase the individual chewing chat is decreases therefore the number of individual chewing chat and the chat expenditure are oppositely relationship.

4.3 Model Adequacy checking method

Assessment of goodness of fit of the model

After the binary logistic regression model has fitted, global tests of goodness of fit of the resulting model should be performed. It is necessary to see the appropriateness, adequacy and usefulness of the feted model. The most commonly used techniques are likelihood-ratio test, hosmer-lemeshow test, omnibus test of model coefficients, R-square and Wald goodness of fit test.

Likelihood-ratio test

The most common assessment of overall model fit in logistic regression is the likelihood ratio test, which is simply the chi-square difference between the null model (i.e. with constant only) and a model containing set of predictors. Under model summary bellow the 2Loglikelihood statistics is 50.366. This statistics tell us how much improvement is needed before predicts provide the best possible prediction of the dependent variable (chat chewing practice or habit)the smallest statistics is the better model.

The statistics for the model that had only intercept is $-2L_0 = 50.366 + 39.067 = 89.433$. The inclusion of the parameters reduced the -2Loglikelihood statistics by 89.433-39.067=44576, which is reflected in the model chi-square for omnibus test. The results ($\chi2=50.366$, DF=7, p-value > 0.000), shows that that the fit is adequate meaning that at least one of the predictors is significantly related to the response variable. That is the null hypothesis that there is no difference between the model with only a constant and model with independent variables was rejected.

Table 4vi Hosmer –lemeshow goodness of fit

Hosmer and Lemeshow Test			
Step	Chi-square	Df	Sig.
1	7.271	8	.508

The table 4vi above shows hosmer-lemshow test is testing the model fit , that is the accepting g or un rejecting the null hypothesis mean the model have good fit. The result presented below that the Hosmer-lemeshow goodness of fit test statistic is not significant, that means we does not

have evidence to reject the null hypothesis, the model is good or well fit, that mean the model is well fitted with the our data.

Table 4vii Model Summary

	Model Summary		
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	37.163[a]	.521	.728

The table 4vii shows model summary provides some approximations of R^2 Statistic in regression in this study cox and snell R-Square indicate that 52.1% of variation in the dependent variable, (chewing chat habit) is explained by its determinant or independent variable, so nagelerke R^2 =0.728. This mean

The dependent variable is already 72.8% explained by the independent or explanatory variable. That is the chewing chat is explained by its explanatory variable 72.8%.

Table 4viii Classification table

	Classification Table			
Observed		Predicted		
		Chewing		Percentage Correct
		0	1	
Step 1	chewing 0	16	7	69.6
	1	4	44	91.7
	Overall Percentage			84.5

The table 4viii shows classification table that 91.6% of the respondents who have chewing chat habit were correctly classified. The overall correct prediction was 84.5% which is an improvement over the chance level

Omnibus test of model coefficient

From the result of table 5ix below the omnibus test of model coefficient have a chi-square value of 39.067 with 7 degree of freedom and P-value of 0.000, which is highly significant at level of significance $\alpha = 0.05$ indicating the phenomena on chewing chat habit, the conclusion of the

explanatory variables contribute to the improvement in fit of the full model as compared to the null model and the model is a good fit model.

Table 5ix

Omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	39.067	7	.000
	Block	39.067	7	.000
	Model	39.067	7	.000

4.4 Odds ratio (OR)

From the above estimated model we can interprets the odds ratio; that means

$$Ln(P/1\text{-}P) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots.. + \beta_7 X_7$$

$$Ln(p/1\text{-}p) = 2.9 + 4.55x_1 + 0.141x_3 + 4.149x_4 + 0.353x_5 + 1.02x_8$$

The odds ratio obtain from the logistic regression shows as the male is 4.55 times more likely practices chewing chat than female while all other variable remain constant, On other research confirmed with my study males had around six times more probability of chewing khat than females (21),(2018).

The orthodox religion is 0.141 times less than participating in chewing chat to other religion while the other variable are remain constant, this result is opposite to the study done before by(2016)(22) it shows The odds of chewing chat among Muslim religion followers were 15.06 times higher as compared to Orthodox religion followers.
Single marital status 4.149 time more likely participate on chewing chat than other as the other variable are constant. The resin of chewing chat peer pressure is 0.353times less than desperation and unemployment while the other variable are remain constant, The study did before show in similar way those who are single increased odds of chat chewing 2.48 times than married (2016)(22).

4.5 Discussion

As we see on the literature review the prevalence of chat chewing is varies from paper to paper according the evidence of their and their taking sample like national sample, clinical sample, and homogenous sample.

The prevalence of chewing chat is in this research 69.79% as we conduct or analysis the primary collected data.

This study has shown that the highest prevalence of chat chewing was found in this area than the other northern part of Ethiopia. Especially jimma is largest producer of chat from the eastern part of Ethiopia for export as well as for national consumption. This implies that the availability of chat contributes to consumption chat leaf practices in the country. This is affect the respondent because of all house hold have chat in their farm and starting chewing chat in the youngster age and not spent to chat.

This study participate 100% of respondent and all questioner is filled and the percent of the sex of the respondent and the 66.67 % of the respondent of this questioner are male and the 33.33% of the respondent are female, from this percent the 19.8% are chat chewer female and 50% of them are chat chewer male and the 13.5% are female also 16% are male that not chewing chat, this is show the male is more consume the chat than female this is the context of the tradition of the study area.

This is implies the male are more chat chewer than female this realized in the chat stationery all chat buyer is male never female seen in the stationery traditionally the male buys to the female chewer also female are busy to carry the house member,

The other factor influence to chewing chat is reason of chewing chat, there is the 22.4% of chat chewer is chewing because of un employment or job lessens,22.4% are because of satisfaction (un depreciation) and the other 184% are chewing chat because of peer pressure. All the chat chewer are spent more than 30%to 40% of their income and

From the total respondent 69.8% are says chewing chat is negative effect on socially, economically and healthy, the other remain respondent says the chewing chat is positive impact especially on social life, in our area all of the socially interaction is no without chat is the best and the dominant social value everywhere you go the first procedure is chat. As example the marred program from the binging until the final chat is the fundamental material. Also in the other program like gradation, death and berth also chat is necessary.

According the crisis and family confliction chat chewer respondent are says in my family the conflict because of the shortage of expenditure the chat expenditure is the base of the conflict, these respondent are by percent 31.2% and the 38.5% are says there is no conflict in my family raise because of chewing chat member because of tolerate the expenditure of cha and the family expenditure.

The other factor is the work behavior and work place area co worker, depending on this factor 59.4% says the co worker and the behavior of my work affect my attitude toward the chewing chat and they start the chewing because of the work place co-worker and because of my work.

The socio-economic of the respondent from the all total sample 48.96% of respondent are says we know the socio-economic impact of chewing chat on the respondent or Economical, social and health problem of chewing chat, but the 51.04 % are answer questioner as they are not know the problem of chewing chat practically. With of this problem the respondent is chewing chat.

Generally this study tries to answer the objective questions. The first one is investigating the impact of chat on the family economy and family peace this answered on the table 4.8 shows the conflicts rise because of chewing chat; this is the one negative impact of chewing chat expected. The family conflicts or crisis is happen when the chat chewer house hold lead is spent the birr he use to the house hold expenditure or specially chewing in the night time out of his house and came late after the family sleep.

in this research the result of analysis show from the all of respondent the 46.88% of respondent are have family conflict, from these conflict 31.25% is because of the problem that emanate from the chewing chat and the 15.6% is from other case, but the other remain 53.13% are make balance between their income and the family expenditure and control conflict may be raise in their family member, this mean there is no conflict in their family. The other objective of this paper examines the chewing chat practices prevalence in jimma town.

This study has shown the chewing chat respondent out of total sample respondent is 69.79% chat chewer and 30.21% are non chat chewer. This show the highest prevalence of chat chewing was found in this area than the other northern part of Ethiopia. Especially jimma is largest producer of chat from the eastern part of Ethiopia for export as well as for national consumption. This implies that the availability of chat contributes to consumption chat leaf practices in the

country. This is affect the respondent because of most house hold have chat in their farm and starting chewing chat in the youngster age and not spent to chat.

The analysis of the case of starting the chewing chat show depending on the reason of chat chewer the respondent 53.12% are unemployment, depending on the reason of chat chewer 28.12% of the chat chewer are chewing chat because of unemployment or job lessens and 22% are because of enjoyment or satisfaction and the other 18.4% are chewing chat by peer pressure. Most of respondent rise their idea that chewing chat is because of social life and it is value or means of come to gather, and also for reducing their appetite to reduce the food that used for eating

The identified factor that associated with chewing chat practice are sex of respondent, religion of respondent, marital status of respondent, the joblessness and un satisfaction of respondent on their work and the amount of birr spent to buying chat are the significant variable, this mean this variable are directly relationship with chewing chat.

The examined impact of chewing chat practice socio-economic of respondent from the total sample 48.96% of respondent are understand properly the socio-economic impact of chewing chat on the respondent or Economical, social and health problem of chewing chat and try to solve this problem by stopping the chewing chat, but 51.04 % are not know the problem that chat leads to the respondent health, economy and psychology.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The main objective of this paper was to evaluate the socio economic impact of chewing chat in Jimma town using jimma town sample respondent. It contributes to the evaluating impact chewing chat. Although from the town administration, it was found that there is no clear data to the specified and this paper rather tried to measure welfare impact of living standard family member rather than chewer, like as food expenditure, health status of the household members and education (and schooling of the households children) through close-ended questionnaires and focus group discussion based on a cross-sectional data. Primary data collected by using structured questioner for 96 selected samples were analyzed by using descriptive statistics, and logistic regression.

In this thesis, the real data collected from96 sample respondent. The dependent variable is a dummy variable, which is the chat chewer and 1 is the non chat chewer depending on whether the respondents were chat chewer or non chat chewer based on the answer they give. The nine explanatory variables were included in the model. The study conducted binary logistic regression in **STATA software version 14**, which calculated the predicted probability of the event. All four non-significant variables are excluded from the model. The result of the binary logit model attested that level of   sex, marital status, religion, the resin of chewing chat and birr spent to buying chat are significant determinants of chewing chat practice in Jimma zone.

The chat chewer is as the study shows economically decrease from time to time until he unable to fulfill basic need like food clothes shelters education and the other facility needed for the family and for itself most of the chewer are can't save any birr, and very difficult to change his standard life. Also in the case of the health first of all after some year they lose their tooth. They lose their time to buying and when they chewing at list the time burned by chewing chat at least two hour per day, 14 hour per week 56hour per month and 672hour per year if it chew for 30 years through all his life he is spent or burn 20160 hour, this mean in all of his life he is burn 840 days or 28 month or 2 year and 4 month he spent on chewing chat.

Economically the lowest birr spent on chat per day 30 birr as my respondent answer questioner and the highest one is 150 birr, let us see the what they spent minimally by using minimum spent birr 900 per month, 10800 per year and 324,000 per 30 years one chat chewer spent so this is the minimum, least as see roughly the highest one   1,620,000 birr spent on chat though his 30 years life chat chewing.

5.2 Recommendation

On the above conclusion it is clearly stated that chat chewers have losses and the risk of chewing chat has been immense in terms of health related complications, lost time and the money, in addition chewing chat, could intervene the normal performance of the chewer at work. Given the negative impact associated with chewing activity, continuous awareness creation should be made by the government, NGOs and other concerned stakeholders so as to minimize the number of chat chewers in the area.

For those who are already addicted, and would not be in a normal state of being without chewing, medical attention facilities should be arranged (such as consultation with psychiatrist) so that they can recover from the addiction.

Since joblessness and lack of alternative activities to engage is among the factors leading to chewing practices, alternative schemes (such as job opportunities, alternative recreational centers, and sport centers) should be made available to the communities so that people could find alternative places to enjoy.

4. References

1. Adane, T., Worku, W., Azanaw, J., & Yohannes, L. (2021). Khat Chewing Practice and Associated Factors among Medical Students in Gondar Town, Ethiopia, 2019. *Substance abuse: research and treatment*, *15*, 1178221821999079.

2. Akalu, T. Y., Baraki, A. G., Wolde, H. F., Lakew, A. M., & Gonete, K. A. (2020). Factors affecting current khat chewing among male adults 15–59 years in Ethiopia, 2016: a multi-level analysis from Ethiopian Demographic Health Survey. *BMC psychiatry*, *20*(1), 1-8.

3. Shambel, w. (2018).E*expansion of chat and its impact on farming system: the case of Bhir dar city and Bahir dar Zuria DISTRICT* (Doctoral dissertation).

4. Tessema, Z. T., & Zeleke, T. A. (2020). Spatial Distribution and Factors Associated with Khat Chewing among Adult Males 15-59 Years in Ethiopia Using a Secondary Analysis of Ethiopian Demographic and Health Survey 2016: Spatial and Multilevel Analysis. *Psychiatry journal*, *2020*.

5. *Berhanu Megerssa(2013) Socio-Economic Impact of Khat in Mana District, Jimma Zone, South Western Ethiopia*

6. Akalu, T. Y., Baraki, A. G., Wolde, H. F., Lakew, A. M., & Gonete, K. A. (2020). Factors affecting current khat chewing among male adults 15–59 years in Ethiopia, 2016: a multi-level analysis from Ethiopian Demographic Health Survey. *BMC psychiatry*, *20*(1), 1-8.

7. YihuniLakew and Demewoze Haile (201) factors among adult in Ethiopia

8. Awwaal Yahya, A., Rajeshwar, Y., Eticha, T., Kahsay, G., Ali, D., Gebretsadik, H., ... & Janapati, Y. K. (2016). Socio-Economic and Health Effects of Khat Chewing in Mekelle, Tigray Region, Ethiopia.

9. Wondemagegn, Amsaalu. T., Cheme, M. C., & Kibret, K. T. (2017). Perceived psychological, economic, and social impact of khat chewing among adolescents and adults in Nekemte Town, East Welega Zone, West Ethiopia. *BioMed research international*, *2017*.

10. Abduu Abamagal, Kandari, L. S., Yadav, H. R., Thakur, A. K., & Kandari, T. (2014). Chat (Catha edulis): a socio economic crop in Harar Region, Eastern Ethiopia. *SpringerPlus*, *3*(1), 1-9.

11. Yeshaw, Y., & Zerihun, M. F. (2019). Khat chewing prevalence and correlates among university staff in Ethiopia: a cross-sectional study. *BMC research notes*, *12*(1), 1-6.

12. Dachew, B. A., Bifftu, B. B., & Tiruneh, B. T. (2015). Khat use and its determinants among university students in northwest Ethiopia: a multivariable analysis. *Int J Med Sci Public Health*, *4*(3), 319-23.

13. Geta, T. G., Woldeamanuel, G. G., Hailemariam, B. Z., & Bedada, D. T. (2019). Association of chronic khat chewing with blood pressure and predictors of hypertension among adults in Gurage Zone, Southern Ethiopia: a comparative study. *Integrated blood pressure control*, *12*, 33.

14. Beirlant, J., Goegebeur, Y., Segers, J., & Teugels, J. L. (2006). *Statistics of extremes: theory and applications*. John Wiley & Sons.

15. Gujarati, D. N. (2003). Basic Econometrics" fourth edition McGraw-Hill. *New York..*

16. Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression* (Vol. 398). John Wiley & Sons.

17. Abate, A., Tareke, M., Tirfie, M., Semachew, A., Amare, D., & Ayalew, E. (2018). Chewing khat and risky sexual behavior among residents of Bahir Dar City administration, Northwest Ethiopia. *Annals of general psychiatry*, *17*(1), 1-9.

18. Zemenu Tadesse Tessema 1 and Tadele Amare Zeleke2(2016)

This is the questioner that I use for collecting the respondent answer to the research paper. It is prepared by English and translated to oromic language to simplify the questioner to the respondent.

This questionnaire is prepared to gather data on socio-economic impacts associated with chewing chat practice: incase study of jimma town

Instruction: please give your response kindly because of your response is very important for successful completion of this study.

Dear respondent: try to be honest respond the following question by making the(√) in the box provide

1. your sex: male ☐   female ☐

2. What is your age: _____

3. What is your Religion: 1= orthodox ☐   2= Muslim ☐3= catholic ☐4= other ☐

4. What is your marital status? a) Single   b) marred c) divorced   d) separated.

5. Have you ever chew chat?   Yes ☐   No   ☐

6. Why or how did you start chewing chat: peer pressure ☐   for depression ☐ unemployment ☐

7. Based on question number 5 what is the level of satisfaction (level of addiction) after chewing chat?

    High ☐ medium ☐ low ☐

8.   Is chewing chat in common in your birth place?? yes ☐   No ☐

9. How mmuch money do you earn per month (monthly income)? _____

10. How much money do you spent for chat per week? _____

11. Do you know the problem of chewing chat on economic, socially and health?

    Yes ☐   No ☐

12. Is there any disagreement (conflict) in your family member resulting from chewing chat and money spent on chat? yes ☐ No   ☐

13. Did your work behavior and work palace force you to chewing chat? Yes ☐ No   ☐

14. How you chewing chat per week? 1-2 days ☐   3-4 days ☐ 5-6days ☐

    7days ☐

15. Have you ever tried to stop chewing chat?   Yes ⬚   No ⬚

16. Ife you chewing chat; are you addicted?   Yes ⬚   No ⬚

Part II: back ground of the respondent and its family (to determining factors).

17. Have you satisfy on your work?   Yes ⬚   No ⬚

18. What is your family history; have your family use one of the following? a) Chewing chat?

    b) Smoke?   c) Drink?   d) Use other substance. E) no any thing

19. What is your education level? Your _____

Part III: The attitude of respondent toward the chewing chat.

20. What is your attitude toward the chewing chat, as your thinking the more impact is

    advantage ⬚   disadvantage ⬚

Gaafannoon kun kan qophaahe odeffanno dhiibbaa walitti dhufeenya hawaasa fi qabeenya jiraattota magaala jimmaa fi caatii qamuun waliin walqabu sassabuuf kan qophaahedha.

Hubachiisa: kabajamoo namotiii gaafannoo kana guuttan hundaaf wanti nuticimsine isin gaafannu odeffannoo dhugaata'ee guutuu akka nudeggartanuudha, Sababni isaas dhugoominni odeffannon isin nuuf kennitanii dhugumma bu'aa qorannoo kanaaf bakka guddaa qaba.

1. Saala nama odeffanno guutuu   dh ⬚   du ⬚

2. Umrii nama odeffanno guutuu _____

3. Amantaa nama odeffanno guutuu   a) ortodoksi ⬚ Muslima ⬚

     c. Katolikii ⬚   d. kanbiraa ⬚

4. Haala gaa'ilaa a.kan hinfuune ⬚   B. kan fuudhe ⬚   c. kan jala ⬚

    duute/du'e   . kan adda ba'an

5.   Catii qaamtee beektaa? Eyyee ⬚   lakki ⬚

6.   yoo qamtee beekta ta'e maliif ykn akkamitti eegalte? Dhibba hiriyaa ⬚

     hojii dhabuun ⬚ Mukaahuu dhiisuf ⬚

7.   Ni qaamta yoo ta'e yeroo sadarkaan gammachuu qamii booda argattu hagami?

    Bayye ⬚   giddugalessa ⬚   gadi'anaa ⬚

8.   nanno dhalootaketti caatiin bay'inaan ni qaamamaa? Eyyee ⬚   lakki ⬚

9.   Galiinke ji'aa kee meeqa? _____

10. Basin catii ati guyyaatti bastu hammam ta'a? _____

11. Rakko catiin dinagdeen,hawaasummaa fi fayyummarran gahu ni beektaa? Eyyee ☐
    lakki ☐

12. wal dhabdeen sababa caatiin mati kessatti uumame beekaa? ? Eyyee ☐ lakki ☐

13. halli bakka hojii fi halla hojii ke kessa akkati qaamtu wanti sidirqisiisu jiraa? Eyyee ☐
    lakki ☐

14. torbanitti guyyaa meeqa qaamta? Guyya 1-2 ☐ guyya 3-4 ☐ guyyaa 5-6 ☐
    guyya 7 ☐

15. caatii qaamuu dhaabuuf yaalteettaa? Eyyyee ☐ lakki ☐

16. ni qamaata yoo ta'e sadarkaan araada caatidha qabduu hagami?

 Eyyyee ☐ lakki ☐

Kutaa II seenaa nama gafannokaana guutuu fi seena maatiin isaa aradaa fayyadamuun walqabatee jiru.

17. hojii kee idileetti hingammaddaa? Eyyee ☐ lakki ☐

18. Maatin kee kanneen armaangadikessa kamiin fayyadamu? a) catii qaamu ☐
    b) tambo aarsuu ☐ c) dhugaatii dhuguud) ☐ kanbiroo ☐
    e) homaa hin fayyadaman. ☐

19. Sadarkaan barumsa kee maali _____
    kutaa III hubannaa ykn ilaalcha gama caatii namoota qaaman irraa.

20. Ilaalcha ati caati irrti qabdun fayidaa caatimoo dhibbaa isaatu caala jettee yaadda?

        Midhaa ☐ fayidaa ☐

. logistic chewing sex age religion maritaial resion chatarea income birspe impac

Logistic regression

Log likelihood = -30.514958

		Number of obs	=	71
		LR chi2(9)	=	28.40
		Prob > chi2	=	0.0008
		Pseudo R2	=	0.3176

chewing	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf. Interval]	
sex	4.54807	3.308223	2.08	0.037	1.093129	18.9227
age	1.055904	.0329373	1.74	0.081	.9932823	1.122475
religion	.1411037	.0910897	-3.03	0.002	.0398147	.5000726
maritaial	4.148778	2.81218	2.10	0.036	1.098873	15.66365
resion	.3531459	.1656178	-2.22	0.026	.1408506	.8854201
chatarea	.3041021	.2230495	-1.62	0.105	.0722253	1.280411
income	1.000088	.0000872	1.00	0.315	.9999168	1.000258
birspe	1.017873	.0078471	2.30	0.022	1.002609	1.03337
impac	.4324038	.3125467	-1.16	0.246	.104865	1.782988
_cons	7.121539	13.76294	1.02	0.310	.1612723	314.4763

Note: 0 failures and 1 success completely determined.