Prevalence of Cannabis Use and its adverse Impacts among students of Science Faculty, Addis Abeba University, Ethiopia

A Research proposal for Partial fulfilment for Specialty Certificate in Psychiatry, Department of Psychiatry, School of Medicine, College of Health Sciences, Addis Ababa

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Abbreviations

CAST----------Cannabis Abuse Screening Test

CUD----------Cannabis use disorder

AAU---------- Addis Ababa University

NCAA----------Natural and Computational Sciences, Addis Ababa University

GPA----------Grade Point Average

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Abstract

Background: Substance misuse is common among students of higher learning. Cannibis is one of the substances commonly misused by this population. In Ethiopia, the issue has not been investigated. The study was conduct to evaluate the prevalence of cannabis use among students in Addis Ababa University, College of Natural Sciences.

Method: An institution based survey was conducted on a sample of 208 students. Data was collected using a self-administered questionnaire: Cannabis Abuse Screening Test, CAST and adapted to the circumstance. It was analyzed using SPSS version 16.

Results: The one year prevalence of cannabis use was found to be 5.8%. Most common reasons for use were reported to be due to peer pressure (41.7%), and for enjoyment (25%). Experience of memory problems were reported as sometimes by 41.7% and average by 50% of cannabis users. , whereas, a decline in grade point average (GPA) was reported by 16.7% of the cannabis users. `

Conclusion: Cannabis use was found to be relatively common among students of College of Natural Sciences at Addis Ababa University. It was reported to be associated with memory problems and a decline in academic performance among users.

The university has to take measures to address the problem including raising awareness on harms of cannabis use, and instituting policy on prevention and control of substance use in campus.

Chapter One

1.1. Introduction

The youth is the force of change that determines the future of a nation and society. Anything that hampers this force from growing and revealing its potential effectively plays tragically to the down growth of the nation. Education is the process that brings this potential into its exposition. Institutions are the incubation machine that gives a product of well-equipped potentially exposed and ready for action youth for the change that is needed. The pinnacles of this system are colleges and universities that train lots of youth. These institutions should be safe, equipped with right materials, the atmosphere in the compound should be nurturing and protective so that the seed may grow into full blown tree without any hampering. It has to assure of having the conducive environment for the growth of this force. One of the problems that are seen in the colleges is the growth of consumption of Cannabis.

Marijuana is a greenish-gray mixture of the dried, shredded leaves and flowers of Cannabis sativa — the hemp plant. Some users smoke marijuana in hand-rolled cigarettes called joints; many use pipes, water pipes (sometimes called bongs), or marijuana cigars called blunts (often made by slicing open cigars and replacing some or all of the tobacco with marijuana (1). The plant contains the mind-altering chemical delta-9-tetrahydrocannabinol (THC) and other related compounds. Marijuana — also called weed, herb, pot, grass, bud, ganja, Mary Jane, and a vast number of other slang term (2). Cannabis preparations are largely derived from the female plant of *Cannabis sativa*. The primary psychoactive constituent is d-9-tetrahydrocannabinol (3). Cannabis

may be smoked in a “joint”, which is the size of a cigarette, or in a water pipe. Tobacco may be added to assist burning. Marijuana and hashish may also be eaten, but cannabis is mostly smoked because this is the easiest way to achieve the desired psychoactive effects (4). Cannabinoids act on a specific receptor that is widely distributed in the brain regions involved in cognition, memory reward, pain perception, and motor coordination (5).

There is strong scientific support for concluding that cannabis has high potential for abuse, is actually abused and is addictive. Diagnostic guidelines by both The International Classification of Diseases (ICD-10) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) have designated that cannabis is addictive, and currently recognize cannabis related dependence disorders (6).

Adolescence is marked by significant social, psychological and physiological changes. It is a time when young people begin to develop increasingly close bonds with their peers and explore their own distinct social identities. It is also when mental health problems can start to emerge and substance use begins. (7) There are factors that motivate the youth to take Cannabis. Research done in Canada shows that youth report feelings of increased sociability and euphoria when using cannabis (8). Yet youth also describe a number of other factors that motivate their cannabis use, which can be divided into five distinct categories: enhancement (“it’s exciting”); social (“it helps me enjoy a party”); coping (“it helps me forget about my problems”); expansion (“it helps me understand things differently”); and conformity (“so I won’t feel left out”) (9,10). Recently, this list has been extended to include an additional category: routine (“I use it out of boredom”) (11).

Since marijuana use impairs critical cognitive functions, both during acute intoxication and for days after use, many students could be functioning at a cognitive level that is below their natural capability for considerable periods of time. Evidence also suggest that such use results in measurable and long lasting cognitive impairments, particularly among those who started to use marijuana in early adolescence (12).

Naturally, Cannabis user student spends his time on procuring and using the cannabis and wastes precious times that should have been spent on attending lectures and studying. He also focuses more on the habit thus he becomes less interactive with his peers and his family and fails to participate in the day-to-day demands of social life. On top of this, the adverse effects on the brain start to show. He loses his attention and memory, and his academic performance declines. The more he consumes the more his mental capacity declines and at last he become unable to continue his studies. He becomes also apathetic, loses interest, and becomes careless even to wash his body.

Cannabis use is also a gateway for stronger and more addictive drugs. Currently these stronger drugs are not frequented in our country, but they are appearing on the horizon.

1.2 Statement of the problem

Cannabis is the most widely used illegal drug in the world, with an estimated 160 million users worldwide in 2006. Approximately 13.1 million people are cannabis dependent globally. Over the past 30 years cannabis use has become a common part of youth culture in most developed societies, with first use now occurring in the mid to late

teenage years.First use of cannabis typically begins in the mid- to late teenage years, and the heaviest use typically occurs in the early 20s(13).

Research has found that cannabis negatively affects attention, memory, and learning, even after the short-term consequences of the drug recede. According to the U.S. National Survey on Drug Use and Health, youth with poor academic youth with an average of higher grades (22, 23, 24, 39).

In Ethiopia, this use of cannabis drug has started to escalate, mostly used by youths. Considering the impact the drug may bring to the education system of the youth, it has been deemed beneficial to study the prevalence of its use in University compounds and analyze what impact it brings on education

1.3. Objectives of the Study

1.3.1. General objective

The general objective of the study is to assess the prevalence of cannabis use among Science Faculty Students of AAU.

1.3.2 - Specific Objective

1. To examine the prevalence rate of cannabis use among Science Faculty Students of AAU..

2. To explore the association between cannabis use behavior and examine some variables of the study population such as family condition, peer influence, and level of academic performance.

3. to explore the adverse consequences of cannabis use among Science Faculty Students of AAU.

1.4 Operational definition

Cannabis Use -cannabis use as the use of the same item during one’s life time.

Chapter Two

Literature Review

Cannabis is the most widely used illegal drug in the world, with an estimated 160 million users worldwide in 2006. Approximately 13.1 million people are cannabis dependent globally. Over the past 30 years cannabis use has become a common part of youth culture in most developed societies, with first use now occurring in the mid to late teenage years. First use of cannabis typically begins in the mid- to late teenage years, and the heaviest use typically occurs in the early 20s (13).

According to the U.S. National Household Survey on Drug Use and Health (2006), In 2006, 40 percent of a U.S. national sample of persons 12 years and older reported that they had used cannabis at some time in their lives, 10 percent had used in the past year, and 8 percent in the past month. Life time use increased from 17 percent among those aged 12 to 17 years to 41 percent among those aged 26 and over. Past-month cannabis use was more common among men (8 percent) than women (4 percent) and most common among those aged 18 to 25 years (16 percent) (14). In another study the Past year marijuana use was reported by 4.1% in 2001- 2002 and 9.5% in 2012-2013 (50)

In Ethiopia, a report on rapid assessment on the situations of drug and substance abuse conducted in some selected towns of Ethiopia showed the alarming trends of the problem (15). It is explained that the amount of cannabis increased from approximately 316kgs in 1990 to 8132kgs in 1991, an increase of more than 2400% (16). this shows a significant increase in cannabis use. The groups involved with cannabis use were reported to be the unemployed, street children, commercial sex workers, and the young population of both sexes (16).

The Monitoring the Future project has estimated the prevalence of cannabis use among secondary school students, college students, and young adults since 1975. These surveys have revealed cannabis use among U.S. adolescents since 1975. Among 18-year olds, lifetime prevalence peaked at 65 percent in 1980, before falling to nearly half by the early 1990s, but increasing again after that time to 42 percent in 2006. Use in the past year peaked at 51 percent in 1979 and fell to 22 percent by 1992 before increasing to 32 percent in 2006. Cannabis has been tried by many young adults in the United States and Australia, about 10 percent of those who ever use cannabis become daily users, and another 20 to 30 percent use weekly. Daily cannabis users are more likely to be male and less well educated; they are also more likely to regularly use alcohol and to have experimented with a variety of other illicit drugs. (17)

In one study done in Kenya, Eldoret College, west Kenya, 2% of respondents admitted to using cannabis(52). A study done in Sudan , University students in Sudan, showed that the life time use of cannabis use was 9.3% and pas year cannabis use was 7.1%(51).

In Ethiopia, the overall prevalence of other substances is 3.9% in which cannabis was the major part. (48) and The prevalence of cannabis was found to be 31.1% in the private high school students, 1% in government high school students in the urban population and 2.7 in rural government highs school students (49). And another research showed in the Urban population in the Adult age group there was 1.7 life time prevalent of cannabis use (50).

Cannabis has a proven detrimental effect to the human body. In the youth the effect of cannabis comes into focus when it interferers in the growth and development

of the mind which is the organ much needed for the activation of the potential in the youth. Emerging evidence suggests that adolescents may be particularly vulnerable to the adverse effects of cannabis use. Adolescence represents a critical neurodevelopmental period characterized by marked synaptic pruning and increased myelination. Moreover, the endocannabinoid system appears to be involved in the regulation of key neurodevelopmental processes (18), suggesting that the introduction of exogenous cannabinoids during adolescence could disrupt normal brain development. The evidence for both immediate impairment and the possibility of longer -term impairment support the notion that marijuana use may have negative consequences on the development of young users, which in turn could reduce their likelihood of having successful, productive, and happy lives. There are many factors that contribute to academic achievement, such as general intelligence, interest/curiosity, motivation, lifestyle, and social relationships/networks. Since in adolescence the human brain is still in a developmental stage, it is possible that recreational marijuana use may disrupt ‘normal’ development (19, 20, 21), which may result in, among other things, poorer school performance.

THC and cannabis decrease working memory, apparently by actions in the hippocampus, a brain region critical for learning and memory. The memory decrements induced by THC or cannabis resemble hippocampal lesions. These impairments may result from suppression of glutamate release in the hippocampus, which is responsible for the establishment of synaptic plasticity (22,23,24)

The interaction between cannabis use and education is complex. Because it impairs learning and memory during, and for days after use, with cumulative effects,

learning in a school environment may be compromised for a considerable period during the school year (25). Cannabis use is associated with poor grades and with high drop-out rates (26), with those dropping out of school engaging in high rates of frequent cannabis use (27). A study showed that people who started smoking marijuana heavily in their teens and had an ongoing cannabis use disorder lost an average of eight IQ points between ages 13 and 38. The lost mental abilities did not fully return in those who quit marijuana as adults. Those who started smoking marijuana as adults did not show notable IQ declines (28). Cannabis users exhibit deficits in prospective memory and executive functions, which persist beyond acute intoxication. Impaired short-term memory and attention, performance of complex mental processes, judgment, motor skills, and reaction time have been reported (29,30,31,32) still another research done recently supports claims that marijuana impairs concentration, attention, planning, decision-making, and working memory (33). Ilan, Smith, and Gevins (2004) determined that focusing attention and response accuracy were impaired immediately after smoking marijuana, even marijuana with less than 4% THC. Marijuana use resulted in difficulty maintaining a coherent train of thought and disruptions to selective filtering processes, both of which impaired memory (34).

In addition to the above problems Cannabis use would cause Researches done showed a clear relationship between cannabis use and psychosis (50,51,52), and that there are common neurobiological and neuroanatomical changes, as well as common cognitive dysfunction, between cannabis users and patients with schizophrenia (53). Continued cannabis use may increase the risk of developing a psychotic disorder by affecting the persistence of symptoms (54,55). In one meta-analysis, one in four

schizophrenic patients had a diagnosis of CUD (56).There is limited evidence of psychosis occurring exclusively with cannabis use, but there is strong evidence that cannabis use may precipitate schizophrenia or exacerbate its symptoms (57) (58). Cannabis use also exacerbates the symptoms of psychosis (59).

The prevalence of CUD among a sample of college students at one university was relatively high (9.4%), and was 24.6% among past-year cannabis users. Among the most prevalent cannabis-related problems, cannabis users reported concentration problems (40.1%), driving while high (18.6%), missing class (13.9%), and placing oneself at risk for physical injury (24.3%) (35), and another researcher, Lynskey and Hall's (2000) review of cross-sectional studies on marijuana and school-related issues concluded that marijuana appeared to have a strong relationship with absenteeism, lack of retention, and not graduating. Another research report has concluded that cannabis use during college could be a barrier to academic achievement. A large longitudinal cohort study of college students showed that frequency of cannabis use was a significant factor in poor class attendance, lower grades, and longer time to graduate from college (36,37). A significant proportion of cannabis-using college students meet diagnostic criteria for cannabis use disorder (CUD)and even in the absence of CUD disorder, users appear to be at risk for potentially serious cannabis-related problems. (38)

Another researchers, Diego, Field, and Sanders (2003) found that grade point averages decreased as the reported frequency of marijuana use increased. Marijuana use had a larger negative correlation with grade point average as frequency of use increased (r =-.400) than alcohol (r = -.355) or cigarettes (r = -.221) (39).

Cannabis has also a social impact in the youth: Gren and Ensminger (2006) found

that frequent adolescent marijuana use was associated with poorer academic achievement, a lack of stable employment, and family dysfunction. These results suggested that using marijuana 20 or more times during adolescence was associated with being unemployed, unmarried, and becoming a parent while unmarried (40).

Yet another longitudinal study showed that early initiation of heavy cannabis use is associated with lower income, lower college degree completion, greater need for economic assistance, unemployment, and use of other drugs (41,42,43). There is also suggestive evidence that heavy cannabis use has adverse effects on family formation and leads to involvement in drug related (but not other types of) crime (44). A study by Stuart and Green (2008), which used full matching to explore the effects of adolescent marijuana use on adult outcomes, also found that early marijuana use was associated with an increased risk of poverty, lower household income, and having had a period of unemployment (45). Fergusson and Boden (2008) concluded that early marijuana use was associated to poorer educational outcomes, unemployment, increased likelihood of dependency on welfare, lower satisfaction with one's life and relationships, and lower income (46).

In The long-term heavy use of cannabis, Electrophysiological and neuropsychological studies show that it may produce subtler impairment of memory, attention, and the organization and integration of complex information. The longer cannabis has been used, the more pronounced the cognitive impairment (47).

In summary, considering the above problems that result from using cannabis, studying the prevalence of use of cannabis helps to know the extent of the problem and plan interventions and also wills serve as a baseline for future research.

Chapter Three

3.1. Methods

3.1.1 Study design

Quantitative analysis: descriptive, large scale, cross sectional surveys was conducted.

3.1.2 Study Period

Data were collected from November 4, 2017 – November 18, 2017

3.1.3 Study setting

Addis Ababa University was founded as college in1950. Currently it has 13 campuses. Twelve of these are situated in Addis Ababa. One of these is the college of Natural and computational sciences in which our survey is based on. Currently Natural and computational sciences have 9 faculties under its wing.

3.2 Study population

All students in the Natural and computational sciences who has attending class in the campus.

3.2.1- Inclusion criteria

All students in the Natural and computational sciences who has attending class in the campus.

3.2.2- Exclusion criteria

Sport department and Information faculties are one of the faculties but they are neither attending class nor have dormitory in NCAA compound. All the students of these departments were excluded, i.e., 429 students out of 1820

3.3- Sample size determinations

Sample size (n) is determined using single population formula with the following assumption:

- 95% CI Z-value = 1.96

-Margin of error (E) = 5%

-Prevalence (p) = 16. 9 calculated by taking the average of 31 and 1 which the P found in the high school of private and governmental done by Kahsssay et al, 1999 (45)

- Where n = required sample size

- n = [Z2 x P x (1-P)]/E2, n = 207

Total n=207

3.4 –Variables

3.4.1. Independent variables

Socio demographic characteristics

Age	Sex
Marital status	Religion
Region	Income

3.4.2. Dependent Variable

Cannabis Usage

3.5 Data collection and procedure

A quota sampling technique proportional to faculty size and class size distribution was used to collect the sample. First the names of the students in the campus were

procured from the registrar office. The sample was chosen randomly. First the proportion of the number of students from specific faculty was calculated. And it was distributed proportionally to each year. Then to get the sample size from the specific faculty in a certain year a Radom choice of number was taken and from that by equal distance we had gone till we get the right number of people in that specific year. The questionnaire was self-administered.

Permission was obtained from the Dean of the university: a paper was circulated to each faculty and to the registrar to cooperate in the survey. The names of each student was procured from the registrar. Two collectors, senior students in the campus was found. The reason for selecting the collectors from the campus was that as the cannabis issue is legal in our country it was considered better for the students to have somebody whom they know rather than a stranger. The collectors were chosen and were oriented to the questionnaire. The collectors went to each individual student randomly selected, explained the purpose and the anonymousness of the questionnaire. Considering refusal or incompleteness of some, the collectors had prepared three alternative candidates randomly selected.

We defined cannabis use as the use of the same item with one's life time.

Cannabis Abuse screening test, CAST (legleye et al. 2012) was used as a major questionnaire with some adaptation to fit the circumstances and to include demography and some associative factors.

The questionnaire was an anonymous self-administered coded questionnaire. The questionnaire was used to collect the student's demographic data, Cannabis usage and behavior in using Cannabis: its impact in the student's result.

Then questionnaire was pretested in ADDIS ABEBA university of Technology , Amst kilo on ten students which helped to see that the questionnaire was simple to understand and easy to fill.

3.6. Ethical consideration

The study protocol was approved by the ethical review Committee of the Department of Psychiatry and NCAA dean office. A written informed consent paper was read to all participants.

3.7- Data processing and analysis

Results of the pretest sample were not included in the final analysis. After the collected data were checked for completeness, Data was analyzed using IBM SPSS version 16. Descriptive frequency analysis and Chi-square was used. Bivariate analysis was employed to identify factors associated with the Cannabis.

Chapter 4

RESULTS

4.1.1 Socio-demographic characteristics:

A total of 208 participants were filled the self rated questionnair. Students who learn at NCAA were included. Of these, 139 (66.8%) were males and 69 (33.2%) were females. The mean age for cannabis users was 20.9 with SD (±1.99) years. The distribution of the sample by age ranged from age 17 up to of age 28, the least age was 17 (2%) and the oldest age was28 year (1%) of the participants. The majority of the students came from outside Addis Ababa, 61(29%) from southern state of nationalities Region, 57(27 %) from Oromia Region and only 21(10.1%) were from Addis Ababa. When we look at the income background of the participants, most of them came from families that earned more than 4000 birr, i.e., 53(25%), followed by those who came from family below 500-birr income, 51(24.5%.) (Table 1)

Out of those involved in this study, 68.3% has knowledge of Cannabis; of these31.7% claimed not to know what cannabis was at all.

Table 1: Socio-demographic of students of Science Faculty, Addis Ababa University, Ethiopia

Socio Demographic Characteristics			
Variables	**Characteristics**	**Frequency**	**Percent**
Sex	male	139	66.8
	female	69	33.2

	Total	**208**	**100**
Marital status	single	189	90.9
	married	12	5.8
	Divorced	7	3.4
	Total	**208**	**100**
Region	Affar	5	2.4
	AddisAbeba	21	10.1
	Diredewa	1	0.5
	Somalie	6	2.9
	Amara	43	20.7
	Gambela	2	1.0
	Bienshangul-Gumuz	2	1.0
	Oromia	57	27.0
	Harar	3	1.4
	Tigray	7	3.4
	South Nations and Nationalities	61	29.0
	Total	**208**	**100**
Religion	Christian (Orthodox)	104	50.0

	Islam Muslim	27	13.0
	Christian (Protestant)	68	32.7
	others	9	4.3
	Total	**208**	**100**
Income of participant family	<500	51	24.5
	500 - 1000	37	17.8
	1000-1500	16	7.7
	1500-2000	15	7.2
	2000-3000	14	6.7
	3000 - 4000	22	10.6
	>4000	53	25.5
	Total	**208**	**100**

4.1.2. Prevalence of cannabis use

The prevalence of cannabis use from the total of 208 students in the NACC was found to be 12(5.8%) (Figure 1). Among cannabis user students, 10 (83.3%) males and 2(16.7) were females.

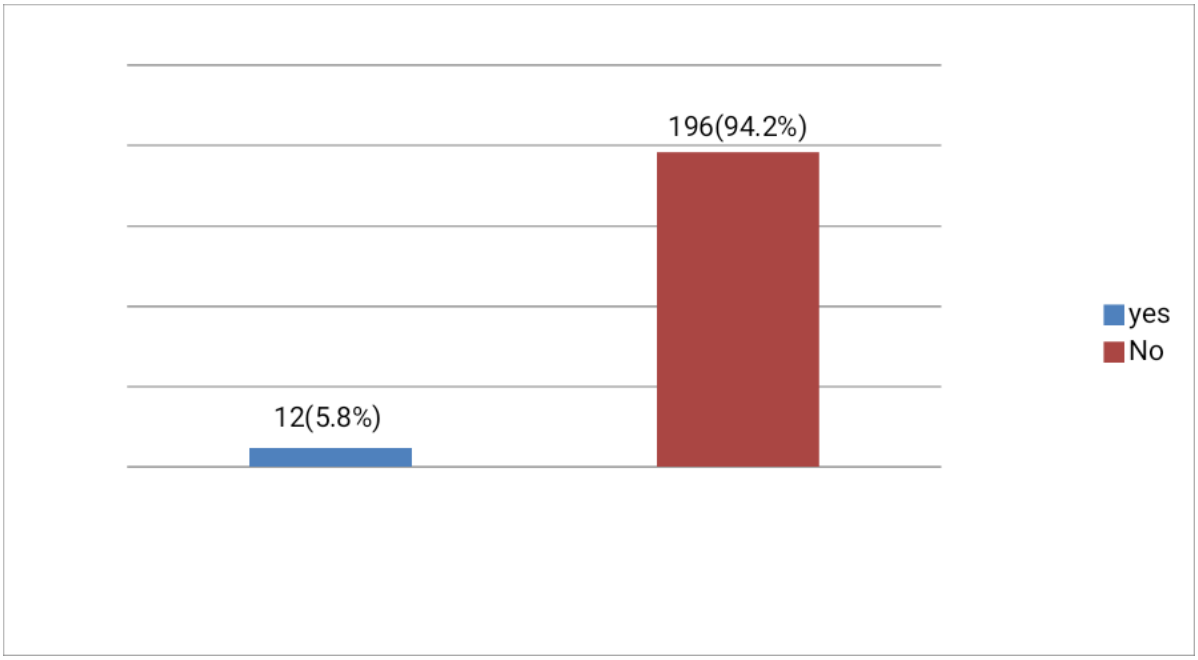

Figure 1: The prevalence of cannabis use at Science Facility of Addis Ababa University

4.1.3. Student cannabis usage behavior

Out of the total cannabis users, 41.7 % started to use cannabis because of peer influence 25% were for joy, 8.3% of students were to free themselves from anger or anxiety, 16.6% said to hide themselves from the past life they had experienced and 8.3% had other reasons that they didn't specify. The majority, 83.3 %, of the users had started using cannabis before they ever joined campus; 16.7% claimed to start in the campus; 16.7% of them used it more than 12months while 33.3% them used it for less than one month, 8.3% of them used it between 7 months to 12 months. (See Table 2)

Table2.Cannabis usage behavior of students of NCAA

Variable	Characteristics	Frequency	Percentage
How did you Start Using?	To conform with my peers	5	41.7
	To get joy	3	25
	To free oneself from anger, anxiety or fear	1	8.3
	To hide from self or from the past	2	16.6
	other reason	1	8.3
	Total	**12**	**99.9**
Have you ever used before joining campus?	Yes	10	83.3
	No	2	16.7
	Total	**12**	**100**
How long have you used cannabis?	Less than one month	4	33.3
	Two to three month	2	16.7
	Four to six months	3	25.0
	Seven to twelvemonths	1	8.3
	Above twelve months	2	16.7
	Total	12	100.0

4.1.4. Cannabis abuse screening

Out of the total cannabis users, 58.3% never used cannabis before lunch, 16.7% sometimes used before lunch time, 8.3 used it on average before lunch time, and 16.7% many times before lunch time; 16.7% respondents never used when alone, 33.3% of them sometimes used alone, while 33.3% used it when alone in average, and 16.7 % used it alone many times. Among cannabis users, 25% experienced memory difficulties reported as average, 41.7% reported sometimes, and 33.3% of them denied any memory difficulties; 41.7% of the users had been told to quit by someone and 58.3% had never been told. By self-initiative, 33.3% had tried to quit and the rest 66.7 % never tried to quit. 8.3% of the users said they had faced trouble because of cannabis many times 16.7% experienced trouble described as average, 16.7% sometimes experienced trouble, and 50% never faced as such trouble; 33.3% of respondents said decline their grade point average due to cannabis use, and the rest 66.7% said it didn't affect their grade due to cannabis use. 25% had reported decline in their grade by greater than 2.00 points, 25% of them by1-1.5point, and 50% reported decline by 0.5-1 point.

4.1.5 Factors Associated to Cannabis Usage

Table 3 gives details on factors association with cannabis usage. In the chi square test analysis region and religion were found to be associated with cannabis usage

Table 3 Factor associated with Cannabis usage of students of NCAA

	Variables	Chi-square	Degree of freedom	P value
1	**Sex** Male Female	1.57	1	0.21
2	**Region** ;Afar , Somali , Amhara , Gambela, Benshangule guMUZ , Oromia, Harari, Tigray , Addis Ababa, Dire Dewa	23.584	12	0.023
3	**Marital Status** Single , Married , Divorced Separate, Widowed	1.159	2	0.56
4	**Religion** Orthodox,Muslim, Protestant, Others	15.148	4	0.004

5	**Participant family income** <500.00 Birr, 500-1000Birr >1000-1500Birr, 1500-2000Birr, 2000-3000Birr >3000-4000Birr, >4000Birr	3.567	6	0.735

4.1.6 Impact of cannabis usage on education

Table 4 gives details on Impact of cannabis usage on education. In the chi square test analysis memory loss and problems because of Cannabis usage were found to be associated with cannabis usage, but not significant on GP.

Table 4 Impact of cannabis usage on education of NCAA

	Variables	Chi-Square	Degree Of freedom	P- Value
1	Have you experienced loss of memory	189.7	3	0
2	Have you noticed decline your grade	189.7	2	0.23
3	Have you Ever had problems because of use	189.7	4	0

Chapter 5

5.1 Discussion

To highlight important results of this study: From the total of students who study in NCAA in 2017 GC students The prevalence of Cannabis use is showed to be 5.8%. Region and religion are the factors found to be associated with cannabis usage and Cannabis usage has found to have Impact on Memory loss and Problems.

The results of our study showed that the prevalence of Cannabis use was 5.8%. This was higher than the prevalence of cannabis 2% in Kenya (49) and lower than cannabis prevalence 7.1% (48) in Sudan. Considering our result not deviating significantly from the two studies and it is significant.

Our study showed that the prevalence of cannabis usage was higher in male (66.8%). than female (33.2 %).The result was consistent with the study done in the Sudan (male 46.7%, female 13.5%) (48). In our study, the Students' mentioned reason for starting Cannabis usage were reported to be: to conform to peers (41.7%), to get joy (25%), to free oneself from anger, anxiety, and fear (8.3), to hide from self or from the past(16.6 %) and other reasons (8.3%) was similar to the survey done in the Sudan , i.e., Pleasure (29.9%), Relief of psychological stress (15.7%), Relief of fatigue (11%), To treat a health disorder (6.3%), To be sociable (6.3%), To improve academic performance (6.3%), To be accepted by others (5.5%), To remain awake at night (5%)(48). Still one study done in US stated similar reason saying: youth also describe a number of other factors that motivate their cannabis use,which can be divided into five distinct

categories: enhancement (“it’s exciting”); social (“it helps me enjoy a party”); coping (“it helps me forget about my problems”); expansion (“it helps me understand things differently”); and conformity (“so I won’t feel left out”) (9,10). Recently, this list has been extended to include an additional category: routine (“I use it out of boredom”) (11).

In our study 83% of students started it before they came to the NCAA compound. This is an indicator that the point of initiation into the world of cannabis were before they join higher education. The students who came from Addis Ababa has found to have the highest rate of prevalence, i.e., 16.7%. This might be due to accessibility of substance and knowledge in the urban setting. Our result showed 41.7% of users experienced loss of memory sometimes and 25% experienced it in the average. This goes parallel to the literatures that says that Cannabis brought some effect to the capacity of the mind in its function (22,23,24,29,30,32,32).

The study also showed that 33.3% students were found to decline in their performance and 16.7% of them had declined significantly more than 2.00. This was consistent with the studies done in US which stated that Cannabis use is associated with poor grades and with high drop out rates (26). Cannabis use has an impact on education that caused memory lose (X = 189.7, p=000) and problems because of cannabis (X^2 =189.7, p=000).

5.2 Conclusion

As the study clearly shows usage of Cannabis was significant. The major influence that drives the students to practice usage of Cannabis was found to bepeer pressure, to get joy, to free oneself from anger, anxiety or fear, and to hide from self or from the past. Our study also showed that Cannabis had impact on the memory of the students, causing loss of memory, and declining of GPA. Most of the stents expressed that they had started using Cannabis before their coming to the NCAA.

The study also reflected that Cannabis usage caused a problem to the cannabis users. It a red light to the danger the youth in higher education is in.

5.3 Recommendation

Based on the result we recommend the following

1-The ministry of health in cooperation with ministry of education should start a campaign to give awareness about the consequence of Cannabis

2-The parents and teachers should be made to be aware of the presence of Cannabis around the schools and higher education institutions and they should start teaching and guiding and supervising the children before they reach higher education.

3-Anti-Drug clubs should be started in the campus and high schools.

4- Media should give coverage on awareness and adverse effect of cannabis

5.4. Strength

Random selection was done

Study tools were easily understandable and clear

High response rate

5.5. Some of the limitation found includes:

- Lower sample size was problematic to generalize the association of Cannabis with the variables.

-The problem of social desirability, i.e., the students might have minimized reporting of a behavior that is socially undesirable, like usage of Cannabis and having decline in grades.

- Self reporting of declining grades is highly subjective and may be biased.

References

1. Timberlake DS. A comparison of drug use and dependence between blunt smokers and other cannabis users. Substance Use Misuse. 2009;44(3):401-415.Mehmedic Z, Chandra S, Slade D, et al. Potency trends of Δ9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008. J Forensic Sci. 2010;55(5):1209-1217.

2. Hall W, Solowij N, Lemon J.The health and psychologicalconsequences of cannabis use.National Drug Strategy MonographSeries no 25. Canberra: Australian Government Publishing Service,1994.

3. Hall W, Solowij N, Lemon J.The health and psychologicalconsequences of cannabis use.National Drug Strategy MonographSeries no 25. Canberra: Australian Government Publishing Service,1994.

4. Hall W, Solowij N, Lemon J. The health and psychologicalconsequences of cannabis use.National Drug Strategy MonographSeries no 25. Canberra: Australian Government Publishing Service,1994.

5. Hasin DS, O'Brien CP, Auriacombe M, Borges G, Bucholz K, Budney A, Compton WM, Crowley T, Ling W, Petry NM, Schuckit M, Grant BF. DSM-5 criteria for substance use disorders: recommendations and rationale. Am J Psychiatry. 2013Aug; 170(8): 834-51

6. Canadian Center On Substance Abuse,2015, Substance abuse in Canada; the effects of Cannabis Use during adlolescence, page 7

7. Menghrajani, P., Klaue, K., Dubois-Arber, F., & Michaud, P.A. (2005). Swiss adolescents' and adults' perceptions of cannabis use: A qualitative study. Health Education Research, 20, 476–484.

8. Green, B., Kavanagh, D., & Young, R. (2003).Being stoned: A review of self-

reported cannabis effects. Drug and Alcohol Review, 22, 453–460.

9. Simons, J.S., Correia, C.J., Carey, K.B., &Borsari, B.E. (1998). Validating a five-factor marijuana motives measure: Relations with use, problems, and alcohol motives. Journal of Counseling Psychology, 45(3), 265–273.

10. Benschop, A., Liebregts, N., van der Pol, P., Schaapa, R., Buisman, R., van Laar, M., … Korf,

D. (2015). Reliability and validity of the Marijuana Motives Measure among young adult

frequent cannabis users and associations with cannabis dependence. Addictive Behaviors, 40,

91–95.

11. Volkow.N: Adverse health effects of Marijuana use; NEngl J Med 2014;3700;2219-27

13. Benjamin J. Sadock, Virginia A. Sadock, Pedro Ruiz. Kaplan &Sadock's Comprehensive Textbook of Psychiatry, 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.

14. Benjamin J. Sadock, Virginia A. Sadock, Pedro Ruiz. Kaplan &Sadock's Comprehensive Textbook of Psychiatry, 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.

15. Gebresellasie S & Gebre A. (1995). Rapid Assesment of the situation of Drug and substance abuse in selected urban areas in Ethiopia. Addis Ababa: Unpublished Survey report.

16. Lubman DI, Cheetham A, Yucel M. Cannabis and adolescent brain

development.PharmacolTher.2015; 148:1-16.

17. Gruber, S.A., Sagar, K.A., Dahlgren, M.K., Racine, M., & Lukas, S.E. (2011).Age of onset ofmarijuana use and executive function. Psychology of Addictive Behaviors, doi:10.1037/a0026269.;

18. Jacobus, J., Bava, S., Cohen-Zion, M., Mahmood, O., &Tapert, S.F. (2009). Functional

consequences of marijuana use in adolescent. Pharmacology, Biochemistry and Behavior, 92, 559-565.;

19. Pattij, T., Wiskerke, J., &Schoffelmeer, A.N.M. (2008). Cannabinoid modulation of executive functions. European Journal of Pharmacology, 585, 458-463.

20. Mechoulam R, Parker LA.The endocannabinoid system and the brain.Annu Rev Psychol. 2013; 64: 21-47.

21. Zanettini C, Panlilio LV, Alicki M, Goldberg SR, Haller J, Yasar S. Effects of endocannabinoid system modulation on cognitive and emotional behavior. Front BehavNeurosci. 2011 Sep 13; 5: 57.

22. Morena M, Campolongo P. The endocannabinoid system: an emotional buffer in the modulation of memory function. Neurobiol Learn Mem. 2014 Jul; 112: 30-43.

23. Schweinsburg AD, Brown SA, Tapert SF. The influence of marijuana use on neurocognitive functioning in adolescents.Curr Drug Abuse Rev 2008; 1: 99-111.

24. Bray JW, Zarkin GA, Ringwalt C, Qi J. The relationship between marijuana initiation and dropping out of high school.Health Econ.2000; 9: 9-18.

25. Lynskey M, Hall W. The effects of adolescent cannabis use on educational attainment: a review. Addiction 2000; 95: 1621-30.

26. Meier MH, Caspi A, Ambler A, et al. Persistent cannabis users show neuropsychological decline from childhood to midlife. Proc Natl AcadSci U S A. 2012;109(40):E2657-E2664. doi:10.1073/pnas.1206820109.

27. Fisk JE, Montgomery C. Real-world memory and executive processes in cannabis users and non-users. J Psychopharmacol 2008; 22(7): 727-36.

28. Yucel M, Lubman DI, Solowij N, Brewer WJ. Understanding drug addiction: a neuropsychological perspective. Aust N Z J Psychiatry 2007; 41(12): 957-68.

29. Karila L, Vignau J, Alter C, Reynaud M. [Acute and chronic cognitive disorders caused by cannabis use]. Rev Prat 2005; 55(1):23-6; discussion 7-9.

30. Karila L, Reynaud M. [Cognitive disorders and chronic use of cannabis].Ann Med Interne (Paris) 2003; 154 Spec No 1: S58-64.

31. Crean, R.D., Crane, N,A., & Mason, B.J. (2011). An evidence-based review of acute and long term effects of cannabis use on executive cognitive functions. Journal of Addictions Medicine, 5(1), 1-8.

32. Ilan, A. B., Smith, M. E., & Gevins. (2004). Effects of marijuana on neurophysiological

signals of working and episodic memory. Psychopharmacology, 176, 214 – 222. from 37th

ECDD (2015) Agenda item 6.2: Bertha

33. Arria AM, Caldeira KM, Bugbee BA, Vincent KB, O'Grady KE. The academic consequences of marijuana use during college.Psychol Addict Behav. 2015 Sep; 29(3):

564-75.

34. Martinez JA, Roth MG, Johnson DN, Jones JA. How Robustly Does Cannabis Use Associate to College Grades? Findings From Two Cohorts. J Drug Educ. 2015; 45(1): 56-67. cud (from 37th ECDD (2015) Agenda item 6.2: Bertha

35. Diego, M. A., Field, T. M., & Sanders, C. E. (2003). Academic performance, popularity, and depression predict adolescent substance use. Adolescence, 38, 37 – 42.

36. Green, K. M., &Ensminger, M. E. (2006). Adult social behavioral effects of heavy adolescent marijuana use among African Americans. Developmental Psychology, 42, 1168 – 1178.

37. Fergusson DM, Boden JM, Horwood LJ. Psychosocial sequelae of cannabis use and implications for policy: findings from the Christchurch Health and Development Study. Soc Psychiatry PsychiatrEpidemiol. 2015 Sep; 50(9): 1317-26.

38. Fergusson DM, Boden JM. Cannabis use and later life outcomes.Addiction. 2008 Jun; 103(6): 969-76.

39. Brook JS, Lee JY, Finch SJ, Seltzer N, Brook DW. Adult work commitment, financial stability, and social environment as related to trajectories of marijuana use beginning in adolescence. SubstAbus 2013; 34: 298-305.

40. Newcombe T, Bentler P. Consequences of adolescent drug use: impacton the lives of young adults. Newbury Park, California: SagePublications, 1988.

41. Stuart, E.A., & Green, K.M. (2008). Using full matching to estimate causal effects in noexperimental studies: examining the relationship between adolescent marijuana use and adult outcomes. Developmental Psychology, 44(2), 395-406.

42. Fergusson, D. M., &Horwood, L. J. (2000). Does cannabis use encourage other forms of illicit drug use? Addiction, 95, 505 – 520.

43. Solowij N. Cannabis and cognitive functioning. Cambridge: Cambridge University Press, 1998.

44. Kebede,D& Mitike,G.,Enqueslassie, S.Berhane, F.,Abebe, Y., et al. (2005). Khat and alcohol use and risky sex behavior among in school and out of school youths in Ethiopia.BMC public Health, 5.

45. Kassaye, M,.Sherif, H., Fissehaye, G.,&Teklu, T.,(1999a). “drug” use among high school students In Addis Abeba. Ethiopian Journal of Health Development, 13, 101-106

46. Rashid, E., Kebede, D., &Alem, A., (1996). Evaluation of an Amharic version of the composite International Diagnostic Interview (CIDI) in Ethiopia.EthiopanJourn of Health Development, 19, 182-187

47. Deborah S. Haisin, TulshiSaha, Bradley t.Ketrridge, et al.(2015) Prevalence of Marijuana use disorders in the United states between 2001-2002 an d2012-2013. JAMA Psychitry, 2015 December; 72(12)1235-1242

48. Tarig Osman, (2016).Epidemiology of Substance Use among University students in Sudan. Journal of Addiction, Hindawi Publishing Corporation ,2016

49. LukoyeAtwoli, Prisca A Mungla , Moses N Ndungu , and et al. Prevalence of substance use among college students in Eldoret, western Kenya.BMCPsychitry 2011 11:34

50. (60Zullino DF, Rathelot T, Khazaal Y. Cannabis and psychosis. Lancet 2007; 370(9598): 1540.

51. Zammit S, Moore TH, Lingford-Hughes A, et al. Effects of cannabis use on outcomes of psychotic disorders: systematic review. Br J Psychiatry 2008; 193(5): 357-63.

52. Casadio P, Fernandes C, Murray RM, Di Forti M. Cannabis use in young people: the risk for schizophrenia. Neurosci Biobehav Rev 2011; 35(8): 1779-87.

53. Shrivastava A, Johnston M, Terpstra K, Bureau Y. Pathways to Psychosis in Cannabis Abuse. Clin Schizophr Relat Psychoses2013; 14: 1-18.

54. Kuepper R, van Os J, Lieb R, Wittchen HU, Henquet C. Do cannabis and urbanicity co -participate in causing psychosis? Evidence from a 10-year follow-up cohort study. Psychol Med 2011; 41(10): 2121-9.

55. Kuepper R, van Os J, Lieb R, Wittchen HU, Hofler M, Henquet C. Continued cannabis use and risk of incidence and persistence of psychotic symptoms: 10 year follow-up cohort study. BMJ 2011;342: d738.

56. Koskinen J, Lohonen J, Koponen H, Isohanni M, Miettunen J. Rate of cannabis use disorders in clinical samples of patients with schizophrenia: a meta-analysis. Schizophr Bull 2010; 36(6): 1115-30.

57. Myles N, Newall H, Nielssen O, Large M. The association between cannabis use and earlier

age at onset of schizophrenia and other psychoses: meta-analysis of possible confounding factors. Curr Pharm Des 2012; 18(32): 5055-69.

58. Evins AE, Green AI, Kane JM, Murray RM. The effect of marijuana use on the risk for schizophrenia. J Clin Psychiatry 2012;73(11): 1463-8.

60. Shrubb R. The effects of cannabis on mental health. Ment Health Today 2012 Nov-

Dec: 23

Annex-1

Study questionnaire

English Version

Part I demographic information

1--what is your age?

a-17-20 b-21-23 c- 24-26 d- 27 and above

2-from where region are you ?

a) Affarb)somali c)amhara d)gambella e)benshangul-gumuz f)oromia g)Southern nationalities and people h)hararii) tigray

3- what is Your sex?

a-Male b- female

4- are You married?

a-yes b-no

5- what is your religion?

a-orthodox Christian b- catholic Christian c-protestant d-Muslim e-others f-none

6-do you know what Cannabis, Marijuana or Weeds is:

a- yes b-no

7 have you ever smoked cannabis in your life

a-yes b-no

8 if your answer is yes to the above question

8- 1 have you used it before you came to the campas?

a)yes b) no

8-2 how long have you used Cannabis?

a)less than one month b)2-3months c)4-6months d)7-12months e)more than 12 months

Part II Cannabis Abuse Screening Test (CAST)

9 in the last 12 months

9.1 have you smoked cannabis before midday

a-never b- rarely c- fairly often d- very often

9.2have you smoked cannabis when you were alone?

a-never b- rarely c- fairly often d- very often

9.3 have you had memory problems when you smoked cannabis?

a-never b- rarely c- fairly often d- very often

9.4 have friends or members of your family told you that you ought to reduce your

cannabis use?

a-never b- rarely c- fairly often d- very often

9.5 have you tried to reduce or stop your cannabis use without succeeding?

a-never b- rarely c- fairly often d- very often

9.6 have you had problems because of your use of cannabis (argument, fight, accident, bad result at school, etc.)?

a-never b- rarely c- fairly often d- very often

10 have you noticed a decline in your grade after you start cannabis?

a-yes b- no

11 how much grade have you decreased?

a-below 0.5 b- by1 c- by 1.5 d-above

Amharic Version

የካናቢስ መጠቀም ሁኔታንና በትምህርት ላይ ያለውን ተጽእኖ ለማጥናት የተዘጋጀ መጠይቅ

ክፍልአንድ፡- አጠቃላይ መረጃ

1. እድሜህ/ሽ ስንት ነው?.....ዓመት
2. ከየት ክልልነው የመጣኸው/የመጣሽው?

   ሀ) አፋር ለ) ሶማሌ ሐ) አማራ መ) ጋምቤላ ሠ) ቤንሻንጉልጉሙዝ ረ) ኦሮሚያ ሰ) ሃረሪ ሸ) ትግራይ ቀ) የደቡብህዝቦች በ) አዲስአበባ ተ) ድሬዳዋ

3. ጾታ፤ ሀ) ወንድ ለ) ሴት
4. የትዳርሁኔታ፤

ሀ) ያላገባ/ች ለ) ያገባ/ች ሐ/ የፈታ/ች መ) ከባል/ሚስት የተለየች ሠ) ባል/ሚስት የሞተባት

5. ሃይማኖት ሀ) ኦርቶዶክስ ለ) ሙስሊም ሐ) ፕሮቴስታንት መ) ሌላ፤ ይገለጽ

6. ወርሃዊ የቤተሰብ ገቢ (በኢትዮጵያ ብር)

ሀ) ከ500 በታች ለ) ከ500-1000 ሐ) ከ1000-1500 መ) ከ1500-2000

ሰ) ከ2000-3000 ረ) 3000-4000 ሸ) ከ4000 በላይ (ጥቀስ/ጥቀሺ)…….

7. ካናቢስ ፣ዊድ ፣ጋንጃ ወይንም ሃሺሽ የሚባል ነገር መኖሩን ታውቃለህ/ታውቂያለሽ ወይ ?

ሀ) አዎን አውቃለሁኝ ለ) አላውቅም

8. በሂወትህ/ሽ ካናቢስ ወይም ዊድ ተጠቅመህ/ሽ ታውቃለህ/ታውቂያለሽ ወይ?

ሀ) አዎንአውቃለሁኝ ለ) አላውቅም

<u>ክፍል 2፡- ለስምንት ቁጥር የሰጠከው/ የሰጠሽው መልስ አዎን ከሆነ የሚቀጥሉትን ጥያቄዎች መልሳ/ሻቸው፤</u>

9. እንዴት ነው መጠቀም የጀመርከው/የጀመርሽው?

ሀ) ከጉዋደኞቼ ጋር ለመመሳሰል ለ) ለመደሰት ሐ) ተቀባይነትን ለማግኘት

መ) ነገሮችን የማድረግ ብቃት እንዲጨምርልኝ ሰ) ከጭንቀት ፣ ከድብርትወይከመናደድስሜትለመገላገል
ረ) ከራስ ወይ ካለፈ ሂወት ለመደበቅ ሸ) ሌላ ምክንያት (ካለይገለጽ)…….

10. ግቢ ወይንም ካምፓስ ከመግባትህ/ሽ በፊት ትጠቀም/ሚ ነበር ወይ?

ሀ) አዎን እጠቀም ነበር ለ) ተጠቅሜ አላውቅም

11. ለምን ያህል ጊዜ ተጠቀምክ/ሽ?

ሀ) ከአንድ ወር በታች ለ) ከ2-3ወር ሐ) ከ4-6ወር መ) ከ7-12 ወር ሠ) ከ12 ወር በላይ

<u>ከፍል 3፡- Cannabis Abuse Screening Test (CAST)</u>

12. ባለፉት 12 ወሮች ውስጥ

12-1. ከምሳ ሰዓት በፊት አጭሰህ/ሽ ወይ ወስደህ/ሽ ታውቃለህ/ታውቂያለሽ?

ሀ) አላውቅም ለ) አልፎ አልፎ ሐ) በመካከለኛ ሁኔታ እወስድ ነበር መ) በጣም እወስድ ነበር

12-2. ብቻህን ሆነህ አጭሰህ/ሽ ወይ ወስደህ/ሽ ታውቃለህን/ታውቂያለሽን?

ሀ) አላውቅም ለ) አልፎአልፎ ሐ) በመጠኑ መ) ብዙጊዜ

12-3. ባጨስክ ወይ በወሰድክ ጊዜ የማስታወስ ችሎታ ችግር አጋጥሞህ/ሽ ያውቃል ወይ?

ሀ) አያውቅም ለ) አልፎ አልፎ ሐ) በመጠኑ መ) ብዙ ጊዜ

12-4. ካናቢስ መጠቀምህን መቀነስ እንዳለብህ/ሽ ጉዋደኞችህ/ሽ ወይንም ቤተሰቦችህ/ሽ ተናግረውህ/ሽ ያውቃሉ?

ሀ) አዎን ለ) አያውቅም

12-5 ካናቢስ መጠቀምህን/ሽን ለመቀነስ ሆነ ለማቆም ወስነህ/ሽ ያልተሳካልህ/ሽ ጊዜ አለ?

ሀ)አዎን ለ) አላውቅም

12.6 በካናቢስ ምክንያት ችግር ውስጥ ገብተህ/ሽ ታውቃለህ/ቂያለሽ (ክርክር፣ ጥል፣ ግጭት፣አደጋ (የመኪና ሆነ ሌላ) ፣ የውጤት ማሽቆልቆል)?

ሀ) አያውቅም ለ) አልፎ አልፎ ሐ) በመጠኑ መ) ብዙ ጊዜ

13 ካናቢስ መጠቀም ከጀመርክውጤትህ/ሽ ወይንም በትምህርት ያለህ/ሽ ብቃት እያሽቆልቆለ መጥቷል ወይ? (አንደኛ አመቶችን አይመለከትም።)

ሀ) አዎን ለ) አያውቅም

14 ምን ያህል ውጤትህ/ሽ ቀነሰ (በጥቅል ጂፒኤ)? (አንደኛ አመቶችን አይመለከትም።)

ሀ) ከ 0.5 በታች ለ) ከ 0.50 – 1.00 ሐ) ከ1.00- 1.50 መ) ከ1.50 -2.00 ሰ) ከ2.00 በላይ