ADDIS ABABA UNIVERITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT OF PREVALENCE, DETERMINANTS AND EFFECTS OF MENTAL DISTRESS AMONG ALEMAYA UNIVERSITY STUDENTS

BY

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Assessment of prevalence, determinants and effects of mental distress among Alemaya university students

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DECLARATION

I, the under signed, declare that this thesis is my original work, and has not been presented for a degree in any other University and that all sources of material used for this thesis and all people and institutions that gave support for this thesis have been duly acknowledged:

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DEDICATION

I dedicate this thesis to all my family members for all their patience during my absence from home for the whole study period; and all their necessary support for the success of my study.

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LIST OF ABBREVIATIONS.

AOR= Adjusted Odds Ratio

COR = Crude Odds Ratio

CGPA= Cumulative Grade Point Average

COA = Collage of Agriculture

EPI info Epidemiological information

FOHS= Faculty of Health Sciences

FOE = Faculty of Education

FOL = Faculty of Law

FPC= freshman completed program

FBE= Faculty of Business and Economics

PPC= Preparatory Program completed program

SGS = School of Graduate studies

SPSS= Statistical Package for Social science Studies (applied for any research)

SRQ= Self Reporting Questionnaire

UNICEF = United Nations International for Children's Fund

WHO = World Health Organization

LIST OF ANNEXES

Title: Assessment of Prevalence, Determinants and Effects of Mental Distress among Alemaya University Students.

Background: According to WHO estimation a third to half of all people affected by natural and man made affections suffer from mental distress. College students have more severe mental-health problems than ever before.

Aim: Assessment of the prevalence, determinants and effects of mental distress among Alemaya University Students.

Methods: A cross-sectional study was conducted in Alemaya University from December 2004 to January 2005, by using self reporting questionnaire (SRQ_{20}). Simple Random sampling was used to select a total of 861 students among a total student population of the university. Data was analyzed by using EPI info version 6.04d and SPSS 11.0 for windows.

Results: The prevalence of mental distress was found 19.3%. Students from minor ethnic group were less at risk of mental distress compared to other ethnic groups [Adjusted -OR= 0.43; 95 % CI, (0.22, 0.85)]. Sedative users were more at risk of having mental distress compared to non users [Adjusted OR=3.01, 95% CI (1.41, 6.44)]. But there was no statistically significant association between mental distress and age, sex, and marital status in this study.

Conclusions: The prevalence rate of mental distress among the study population was found to be 19.3 %. The likelihood of having mental distress among students from minor ethnic group was

lower compared to other ethnic groups. Mental distress was three times higher among sedative users compared to non users.

INTRODUCTION

Mental illness was not recognized as public health problem both in developed and developing countries until the recent period of time (1). But there is evidence that mental illness can lead to increased mortality; in particular, the risk of death by suicide in persons with depression or substance abuse is well described(2). Various studies elsewhere revealed that students of higher institutions pass through a number of difficulties; consequently it was shown that many develop emotional problems (12). Study conducted in Jimma University showed the prevalence of anxiety and depression which accounts 41.0 % and 23.0 % respectively (3). The prevalence of emotional distress among Malaysian medical students in Malaysian universities was 41.9 %(28). Another community base study conducted in Jimma town revealed a prevalence of mental distress to be 22 % (4). A study conducted in Addis Ababa and Butajira rural community revealed the prevalence of mental distress 17.4 % and 11.7 % respectively (6, 24).

Although not stated as priority, mental health problem was mentioned in national health policy of Ethiopia; one of the important reasons is lack of data on the extent of mental disorders especially in higher learning institutions (7).Therefore to institute policies and strategies for intervention and control of mental illnesses, their magnitude in specific communities should be generally determined.

Alemaya University is located to the East of Addis Ababa about 510 km in Easter Hararghe zone in between Harar and Dire Dawa towns. Currently the University has a student population of about 5245 and about 200, academic and 600 supportive staff.

The university is located in an isolated area from different social and medical service. Despite stressful living situations in staff and student population, there is no dependable health service, except the student clinic for general medical care in the campus.

Tertiary education has always been regarded as highly stressful. Even though only the academically minded of the population in society is eligible for tertiary education this stressful environment can exert a negative effect on the psychological and physical well being of the students mainly the undergraduate students. Eventually this results in poor academic performance and possibly a large number of psychological causalities.

There are very few studies on mental distress among University students in Ethiopia. The objective of present study was to determine the prevalence, determinants and effects of mental distress among Alemaya University students and its associated factors, and hence to generate and recommend valid information for mental health planners, managers and implementers for possible interventions.

2. Literature reviews

2.1. Prevalence of mental illness

A range of evidence is presented to demonstrate that mental disorders, in particular Common Mental Disorders (depression and anxiety) and substance (alcohol) Abuse are common, profoundly disabling, run chronic courses when untreated and can contribute to increased mortality(1,8).

In developing countries mental disorders are not regarded as life threatening problems, seems too insignificant, unworthy and lacking public health attention; because in these countries, morbidity and mortality due to malnutrition and infectious diseases are very common(1,10).

Mental health has always been the Cinderella of health concerns in developing countries, even though health policy and international consensus defined health in its broadest context of physical, mental and social components for about last 30 years. A popular belief is that mental illnesses are of lower priority because they are not associated with disability or mortality. However, the evidence suggests quite the opposite. The recent Global Burden of Disease (10) report listed the most important causes of disability (as measured by Disability Adjusted Life Years, depression was the single most disabling disorder, accounting for more than one in ten years of life lived with disability). Where as research reveals that, five of the top 10 causes of disability were mental disorders of which depression and alcohol abuse were the most important. There is evidence that mental illness can also lead to increased mortality. In particular, the risk of death by suicide in persons with depression or substance abuse is well described (2).

Studies conducted in rural Lesotho and Uganda and primary health clinics in Chile & India (16,17,18,22), revealed prevalence figures approaching 30 % in women in the community and up to 40 % of adult primary care populations.

A study conducted in Borena semi-nomadic community in Southern Ethiopia (5), revealed the life time prevalence of all psychiatric disorders including substance abuse was 21.6 % the mental disorders excluding substance abuse was 14.6 %, among which neurotic and somatoform disorders were the most frequent disorders with a life time prevalence of 14 %. Similarly different studies which were conducted In Addis Ababa revealed the life time prevalence of mental disorders excluding substance abuse 13.1 % and 14.3 % (6) were substantiated by this study.

To institute policies and strategies for control of mental illnesses, their prevalence in specific communities should be determined.

2.2. Determinants of mental distress in higher institutions

In Ethiopia the priority status of mental health in the national health policy has not been yet formed in to either strategies or actions to control mental illness. One of the important reasons could be lack of valid information from different segment of communities and institutions and general population on the extent of mental disorders. (7.)

There fore, the intention of this study is to generate valid information which contributes for action regarding the mental health service in the country.

There are several strategies which may be employed to deal with the public health implications of mental disorders and their association with impoverishment; arguably, there is considerable epidemiological and real-life evidence which supports a substantive and

consistent linkage between impoverishment and mental illness**.** The single most important strategy will be convincing public health experts and policy makers of giving priority status to mental health problems with these tangible evidences, particularly Common Mental Disorders in the public health agenda of their countries.

Alemaya University is located about 510 km away from Addis Ababa in Oromya National Regional state, Easter Hararghe zone in between Harar and Dire Dawa towns at the distance of 20 km and 40 km respectively; and 5 km off the main high way at Alemaya town connecting Harar and Diredawa towns.

The university campus is located near the beautiful Haramaya Lake from which its name was derived. It is one of the former Universities second to Addis Ababa University in the country. It was established in 1950, as an agricultural college by a joint agreement of Ethiopian government and United States of America. After 30 years of establishment it was upgraded to a full-fledged University.

To start with it was purely agricultural University. Since 1996 the University opened five additional faculties with its regular under graduate program, some faculties are stationing in Harer and Dire Dawa, Faculty of Health is one among them, with four different departments under it. Currently the student population is about 5245 with the staff population of about 200, academic and 600 administrative staff. Since the university is located in an isolated area and far from different social and medical services it was repeatedly observed some stressful living situations in staff and student population.

College students have more severe mental-health problems than ever before (12). Psychologists identified some common reasons why college students experience academic problems; which includes,

Motivation factors, inadequate time management, study skills social interactions learning disabilities, substance abuse and psychological Issues. A large number of students are struggling with the many demands of college life while also dealing unassisted with major emotional issues such as loss, depression, and anxiety. Undiagnosed and untreated, many of these kinds of problems lead to academic difficulties or failure (13).

2.3. Research Questions

1. What is the magnitude of mental distress among Alemaya University students?
2. Does mental distress affect the academic performance of students or does poor academic performance leads to mental distress (temporal relationship)
3. Is there difference in mental distress among different socio-demographic characteristics of the students?

3. Objectives

3.1. General objective

To determine the prevalence, determinants of mental distress and to assess effects of students performance on common mental distresses among Alemaya University students

3.2. Specific objectives

- To determine the prevalence of mental distress among the Alemaya University students.
- To assess the socio-demographic and substance abuse determinants of mental distress among the students.
- To assess the effect of student performance on common mental distress among the university students

4. Materials and methods

4.1. Study area:

The study was conducted in Alemaya University; which is located 510 km away from Addis Ababa in Easter Hararghe zone in between Harar and Dire Dawa towns. It is one of the former Universities second to Addis Ababa University in the country. Currently there are a total of six faculties and 27 departments for regular undergraduate studies and 2 post graduate programs with 14 MSc departments, and 4 PhD departments. The total student population during the study calendar time was about 5245 students and 200 academic staff population. There is no independent health service, except the student clinic for general medical curative care in the campus.

4.2. Study design:

This is a cross-sectional study to determine prevalence, determinants and effects of student performance on mental distress among Alemaya University students that was conducted between December 2004 and February 2005.

4.3. Source population/ study subjects

All students who were registered in Alemaya University during the 2004/5 fiscal year were the source population for the study. Students that fulfill the inclusion criteria including that

students who were registered as a regular second year and above for both undergraduate and post graduate classes, students who were not blind (not able to see) and who were not critically sick (to the extent of unable to read and write) during the data collection were the study subjects. First year, extension, summer, distance education students and students who were absentee during date of data collection were excluded from the study. Time of survey and examination (effect of distress)

4.4. Sample size determination

In this study, sample size was determined using single population proportion formula. Taking prevalence of mental distress of ranging from 17.4 % conducted in Butajira (6) to 22.7 % in Jimma (4), this study assumed 22.7 % prevalence to obtain the maximum sample size at 95 % certainty and a maximum discrepancy of $\pm$ 3 % between the sample and the underlying population; an additional 15 % was added to the sample size as a contingency to increase power. Thus a minimum number of 861 students were required number in the study. Formula used to determine the sample size is below.

$$n = \frac{Z\alpha/2^2 \cdot P(1-p)}{d^2} = 861$$

For possible none response during the survey the final sample size was increased by 15% to n = 749 +15% which is 112 = 861

4.5. Sampling procedure

Multistage sampling technique was used to get the required study subjects. Class rooms were selected using simple random sampling, and students within selected class rooms were further selected by simple random sampling of students using list of names of selected class rooms. Number of study subjects in each cluster was determined by proportion to population size from each department and programs of all faculties of the University.

4.6. Method of data collection

Data was collected using structured self administered questionnaire having three parts, the first containing socio-demographic information including academic performance of the students(as reported from the students). Primarily the data collection instrument used was (SRQ_{30}), which is indicated in annex IV. This instrument was validated and used in Israel but there was no published article and other literature to determine and support the cut- off point during data analysis, so that (SRQ_{20}) was taken from the 30 questionnaires for analysis and that is why it is indicated in all body of the document as necessary. So that the second part of the questionnaire was a Self Reporting Questionnaire (SRQ_{20}), to measure mental distress. Self Reporting Questionnaire 20 is a standardized questionnaire having 20 questions that is adopted from World Health Organization (WHO), and translated in to the local language (Amharic) and used in previous studies (4, 6, 24) Third and the final part of the questionnaire was asking about history of substance use in their life time and last 12 months. Two supervisors were employed and trained for one day

about the time of data collection, timely collection and reorganization of the collected data from respective departments and submission on due time. The questionnaire was pre-tested prior to the actual data collection on 50 students of the respondents that were not included in the main survey.

4.7. Data quality Assurance

To assure the data quality high emphasis was given in designing data collection instrument. For its simplicity the questionnaire was pre-tested, followed by modification. As a self administered questionnaire, it was designed to be answered easily. Proper instruction was given before the survey as to the importance of the study for the whole student community as well as the supervisors. To create awareness and to involve in the study, the sensitization remark (Annex III) was posted on the bulletin board with the permission of the office of the academic vice president.

The collected data was reviewed and checked for completeness before data entry; the incomplete data was discarded (12 questionnaires were incomplete). Data entry format template was produced and programmed.

4.8. Operational Definition

Mental distress: In this study, students who were found to have 11 or more symptoms of the 20 SRQ_{20} questions in the last 4 weeks are considered as having mental distress

Student's performance: It was measured using final Cumulative GPA of students at the end of their previous academic years (as it was reported by the students). It was to get clue whether students with out mental distress were achieved more compared to students with mental distress.

Substance Use: **Current users**: when students use specified substance (for non-medical purposes) in the last year.

Ever users: when students use specified substance (for non-medical purposes) even once in their life time.

4.9. Study variables

Independent variables (Explanatory variables: Socio-economic characteristics including Age, sex, educational status (year of enrollment), faculty, religion, residence of the parents of the study subjects, religion, ethnicity, marital status and monthly income which are categorical variables. Substance use including use of Khat, Alcohol, cigarette smocking use of substances like 'Hashish'/ 'Shisha' and students who use sedatives as non-medical purposes were used as a dichotomized variables. Student performance using CGPA was used as a continuous variable.

The dependent variables (Outcome variables): Mental distress from the $SRQ_{20,}$ dichotomized using cutoff point of 11.

4.10. Methods of Data analysis

Data was entered on double entries using EPI Info version 6.04d software, and was cleaned by validating the entries. Data was again further cleaned and analyzed by using Statistical Package for the Social Sciences (SPSS) Version 11.01 for windows. Presence of association between socio-demographic, other socio- cultural factors and mental distress was examined by using Odds ratio with 95 % Confidence interval. To find out individual effect of explanatory variables and to suppress confounding effect of variables, binary logistic regression was used. Mean cumulative GPA score of last school performance between students having and not having mental distress was calculated using independent student's t- test. Primarily the data collection instrument used was (SRQ_{30}), which is indicated in annex IV. This instrument was validated and used in Israel but there was no published article and other literature to determine and support the cut- off point during data analysis, so that (SRQ_{20}) was taken from the 30 questionnaires for analysis and that is why it is indicated in all body of the document as necessary.

4.11. Ethical considerations:

Ethical clearance was obtained from Addis Ababa University Medical Faculty Department of Community Health and Ethical and publication Committee. Informed consent was obtained from students (respondents) who were participated in the study. Confidentiality was maintained by omitting their name and personal identification**.** Three students (2 male and one female) were found with mental distress during the study period

appropriate treatment and counseling was given for the cases in collaboration with Alemaya University student clinic.

4.12. Dissemination and utilization of results

The results of this study will be disseminated or communicated to Addis Ababa University Department of Community Health, Department of Psychiatry, Department of Psychology, Amanuel Hospital, Alemaya University, Federal Ministry of Education as well as Ministry of Health, Regional health bureau, local institutions and other concerned bodies through reports and publication on an appropriate journal.

5. Results

5.1. Socio-demographic characteristics of the respondents

Out of 824 students, 674 (81.8 %) males and 150 (18.2 %) females, aged 18 to 47 participated in the study both from under graduate and post graduate studies of Alemaya University. Majority of the respondents 764 (92.7 %) were between the age group of 18-24 years while the remaining 60 (7.3 %) were 25 or more age group. The mean and median age of the study population were found to be 21.54, and 21.00 years respectively with SD ($\pm$ 3.26). Distribution of education level by academic year enrollment 433 (52.5 %) of the students were 2nd year, 254 (30.8 %) were third year, 104 (12.6 %) were fourth year undergraduate students and 33 (4.0 %) were post graduate students at the University. (Table1).

Among the total study subjects 519 (63 %) were followers of orthodox Christian, while 154 (18.7 %) were protestants, 108 (13.1 %) were Muslims, and the remaining 43 (5.1 %) were other religion followers, such as catholic and Waqefata (*a traditional belief of Oromo ethnic group*). Seven hundred ninety five (96.4 %) of the study participants subjects were unmarried, where as 26 (3.1 %) were married and the remaining 10 (1.2 %) were divorced or widowed (Table 1).

As to the ethnic composition of the respondents 313 (38.0 %), were Amhara, 265 (32.2 %) were Oromo, and 135 (16.4 %) were from Tigree ethnic groups, while the remaining

111 (13.4 %) were from other ethnic groups such as Gurage Kambata, Wolaita and other ethnic groups (Table1). The geographical distribution of the students according to their parental origin was; 287 (34.8 %) were from Oromia region, 185 (22.5 %) were from Amhara region, 138 (16.7 %) were from Addis Ababa region, 120 (14.6 %) were from Tigray region, 74 (9.0 %) were from South nations, Nationalities and Peoples region (SNNPR), and the other remaining 20 (2.4 %) were from other regions such as Beneshangul gumuz, Diredawa Administrative Council and other regions. The knowledge of geographical distribution was important, because different ethnic groups were found to reside in specified region(s), so that specified region my represent different ethnic groups (example Addis Ababa), again which may represent different cultural practices important to mental distress explanations.

Among the total respondents 527 (64 %) had no income, 148 (18.1 %) were earning monthly income of less than 100 Birr, 111 (13.5 %) were earning monthly 100 to 499 Birr, 38 (4.5 %) were getting 500 Birr and above, from different sources such as family, some donating agencies which are donating pocket money for some poor students; in the case of post graduate students they were earning their monthly salary (Table1).

Among a total of 824 students of Alemaya University participants of this study the response rate was 95.7 %, the main reason for non response of some students was due to the commencing period of final examination by the time of data collection. Though we were not able to measure most of the socio-demographic characteristics of the study population of Alemaya University students, there was no difference between the sample and source population ($P > 0.1$) (Table I).

The total distribution of study subjects among different faculties of the university depicted in (Figure1) , 236 (28.6 %) were of them were from faculty of education, 205 (24.9 %) from college of agriculture, 147 (17.8 %) from faculty of business and economics, 131 (15.9 %) were from faculty of health sciences, 58 (7 %) were from faculty of law, 33 (4 %) were from School of graduate studies (SGS) and the remaining 20 (2.4 %) were from faculty of Veterinary medicine (Fig 1)

Table1. Socio-demographic Characteristics of the respondents n=824, Alemaya University, January 2005.

Characteristics		Sample population		Population		
		Frequency	%	Frequency	%	P-Value
Age in years:	18- 24	764	92.7	-	-	-
	25-47	60	7.3	-	-	-
	Mean ± SD	21. 54 (± 3.26)		-	-	-
Sex.	Male	674	81.8	4116	80	>0.1
	Female	150	18.2	1104	20	
Educational status						
Secondyear Undergraduate		433	52.5	-	-	-
Third Year Undergraduate		254	30.8	-	-	-
Fourth Year Undergraduate		104	12.6	-	-	-
Post graduate		33	4.0	-	-	-
Religion:						
Orthodox		519	63	-	-	-
Protestant		154	18.7	-	-	-
Islam		108	13.1			
Others		43	5.2	-	-	-

Table 1. Continued.

Marital status:						
Unmarried		788	95.6	-	-	-
Married		26	3.2	-	-	-
Others/widowed or divorced/		10	1.2	-	-	-
Ethnicity:	Amhara	313	38.0	-	-	-
	Oromo	265	32.2	-	-	-
	Tigre	135	16.3	-	-	-
	Others	111	13..5	-	-	-
Monthly Income (in Birr)						
No income		527	64.0	-	-	-
Less than 100.00 birr		148	18.0	-	-	-
100 to 499.00 birr		111	13.5	-	-	-
500.00 birr and above		38	4.5	-	-	-

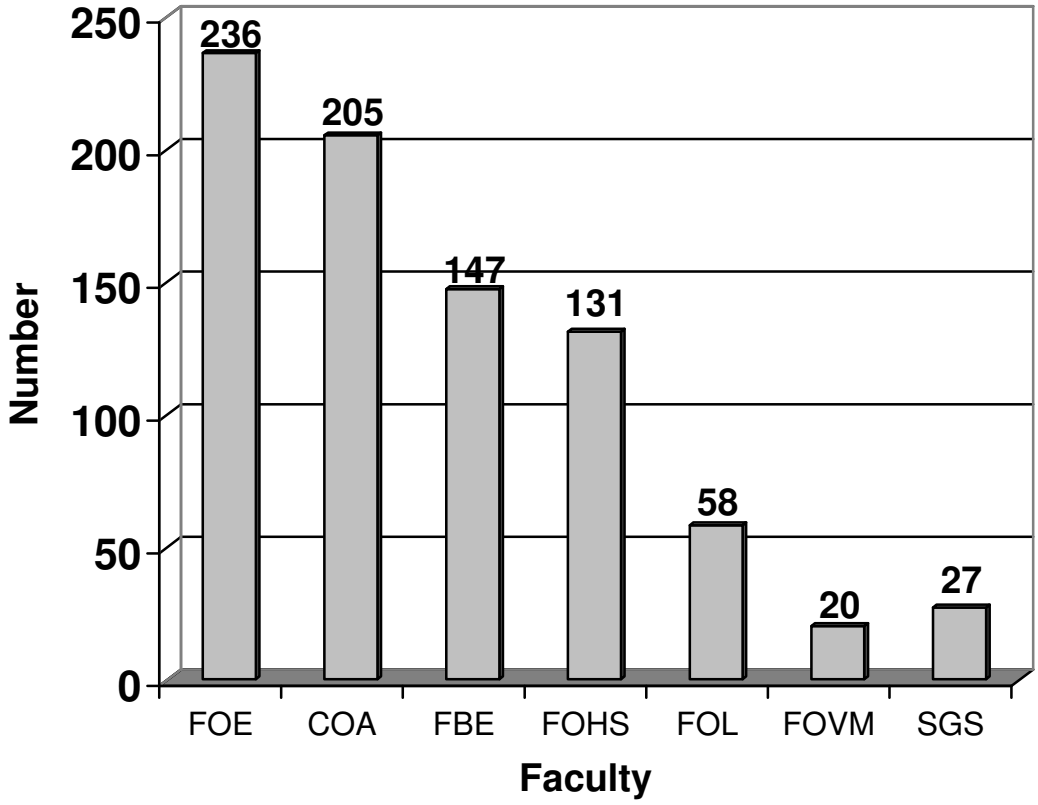

Figure 1: Distribution of Alemaya University students by faculty, January 2005

5.2. History of Substance use among study subjects

Out of the total 824 study subjects 232 (28.2 %) were currently (in the last 12 months period) using khat by the time of this study conducted, and 400 (48.5 %) had practiced khat chewing at least once in their life time. More over 232 (28.2 %) of the respondents were drinking alcohol in the last 12 months period, and 620 (75.2 %) had used alcohol at least once in their life time.

Fifty eight (7.0 %) of the respondents were found smokers by the time of this study conducted. Among the total respondents 172 (20.9 %) had practiced tobacco products consumption at least once in their life time. On the other hand 15 (1.8 %) of the study subjects were found to use substances like Hashish currently, and 27 (3.3 %) respondents had practiced these substances at least once in their life time. Similarly among the total respondents 34 (4.1 %) were using sedatives by the time this study was conducted, and 55 (6.7 %) had used sedatives at least once in their life time (Table 2).

Those students who used substances were asked for their reasons to use. Accordingly, among 400 students who practiced Khat chewing mentioned major reasons for khat chewing practice, among them 134 (33.5 %) to maximize achievement, 97(24.25 %) for personal pleasure, 48(12 .00%) to relief tension, 26(6.25%) due to peer influence the remaining 95 (23.75 %)mentioned other reasons.

Among 620 students who reported alcohol consumption behavior, 284 (45.81 %) for personal pleasure 81(13.10 %) to relief tension 37 (5.97%) to get acceptance from others 34(5.48 %) due to peer influence the remaining 183 (29.64 %) mentioned other reasons. Among 172 cigarette smokers in their life time 57 (33.12 %) to relief tension 38 (22.09 %) for personal pleasure12 (6.98 %) due to peer influence12 (6.98 %) to get acceptance from others the remaining 53 (30.98 %) mentioned other reasons.

Smokers reported that it was to maximize achievement, to have personal pleasure, to relief tension and due to peer influence, and so on. Among 27 Hashish and the like substance users, 8(29.63) for personal pleasure, 6(22.22) due to peer influence, 5(18.52) to relief tension, the remaining 8 (29.63 %) mentioned other reasons. Among 55 students who were using sedatives in their life time 20(36.36 %) to maximize achievement 17(30.91 %) to relief tension6 (10.91 %) Due to academic dissatisfaction 5(9.09 %) to relief exhaustion and hunger. the remaining 7(12.73 %) mentioned other reasons.

Table 2: Distribution of Substance use among respondents of Alemaya University n=824, January 2005.

Characters tics	Last 12 Months		Life time	
Khat Use	**Frequency**	**Percent**	**Frequency**	**Percent**
Users	232	28.2	400	48.5
Non users	592	71.8	424	51.5
Alcohol use				
Users	232	28.2	620	75.2
Non Users	592	71.8	204	24.8
Cigarette use				
Users	58	7.0	172	20.9
Non Users	766	93.0	652	79.1
Substance like Hashish use				
Users	15	1.8	27	3.3
Non Users	809	98.2	797	96.7
Sedative use				
Users	34	4.1	55	6.7
Non Users	790	95.9	769	93.3

5.3. Mental Distress/ student's performance

The distribution of SRQ_{20} in this study among the total respondents showed a mean score of 6.43 and standard deviation of $\pm$ 4.38, and ranging between 0 and 19. In the study, 308 (37.4 %) respondents had got a score less than five, with a 95 % Confidence interval of (34.1 %, 40. 7 %); 312 (37.9 %) of the respondents had got a score between 5 and 9, with a 95 % confidence interval (34.6 %, 41.2 %). One hundred and sixty seven (20.3 %) of the respondents had got a positive score between 10 and 14, with a 95 % confidence interval (17.6 %, 23.0 %), and 37 (4.5 %) of the respondents gave a positive score of 15 or more of the 20 SRQ items with a 95 % confidence interval (3.1 %, 5.9 %).

The distribution of cut-off points is described using Fig. 2, and taking into account a cutoff point of 11 of the 20 SRQ_{20} items, about 159 (19.3 %) with a 95 % confidence interval between (16.6 % and 20.0 %) had mental distress in the last 4 weeks (Table 3).

Distribution of student's performance was measured using their cumulative GPA in the last year, and it accounted a mean score of 2.83 and standard deviation $\pm$ 0.05 and had a range between 1.13 and 4.00 (Fig 3).

Table 3: Distribution of SRQ_{20} among respondents of Alemaya University, n=824 January 2005.

Characters tics	Number	Percent	95% CI
SRQ 20 Results			
<5	308	37.4	(34.1, 40.7)
5-9	312	37.9	(34.6, 41.2)
10-14	167	20.3	(17.6, 23.0)
≥ 15	37	4.5	(3.1, 5.9)
SRQ_{11}	159	19.3**	(16.6, 22.0)
Mean ± SD	6.43 ± 4.38		

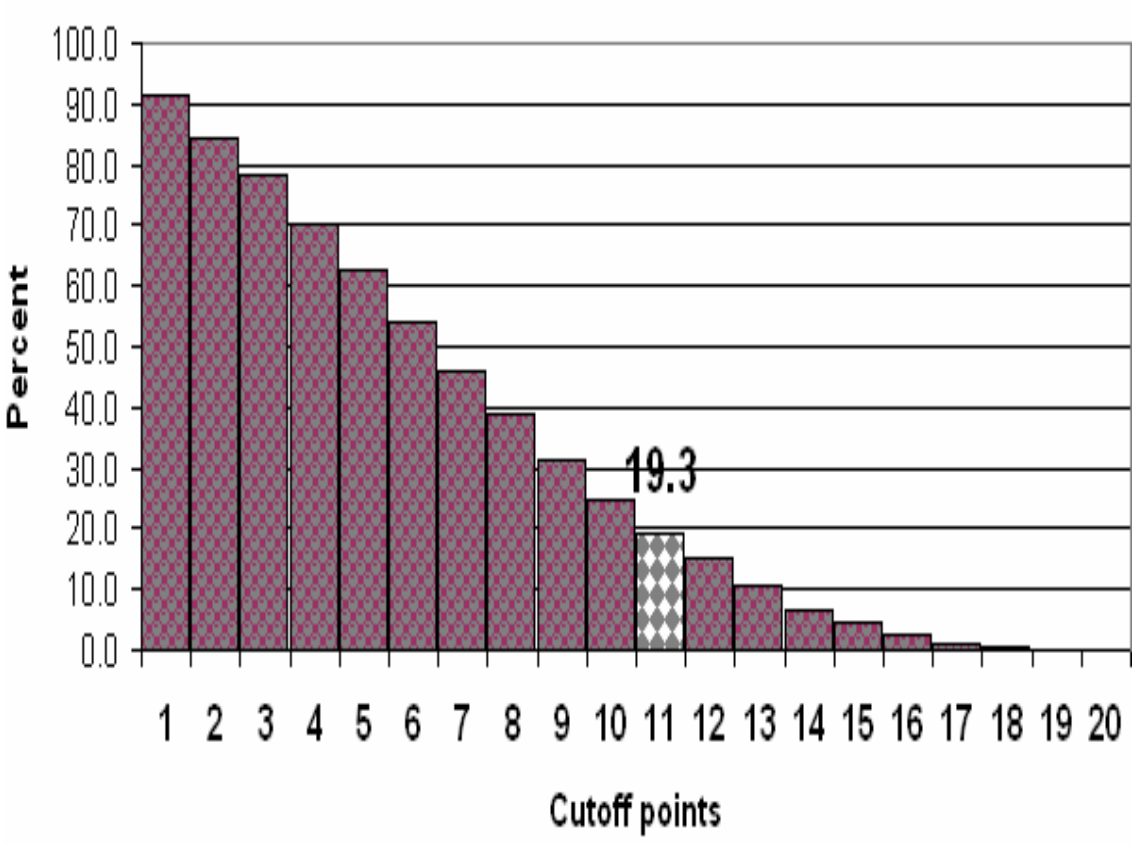

Fig.2 . Distribution of scores for cut-off point selection of the SRQ 20 items.

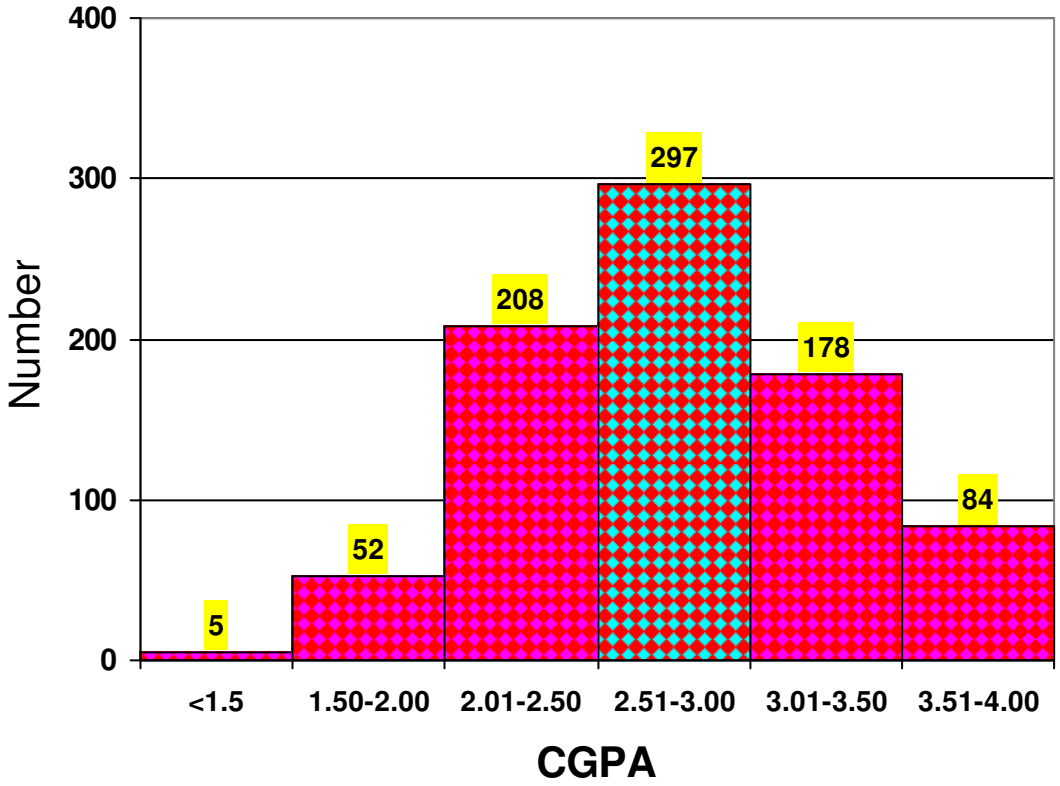

Fig 3. Distribution of Cumulative Grade point Average of Alemaya University students, January 2005. n=824, mean 2.83 $\pm$ SD 0.05, range 1.13-4.00

5.4 Socio-demographic Characteristics and mental distress

Comparison between cases having mental distress and those who don't have was made for difference in socio-demographic characteristics crudely, and there was statistically significant association between mental distress and ethnicity. The likelihood of having mental distress among students who were not from (Oromo, Amhara and Tigray) ethnicity was found to be lower compared to students who were from Amhara ethnic group [Crude-OR= 0.44; 95 % CI, (0.21, 0.87]. But there was no difference in prevalence of mental distress between Amhara ethnicity and Tigray or Oromo ethnicity (Table 4). This could be as a result of differences of cultural and religious practices and habits which could contribute for mental distress; otherwise there was no enough supportive literature which substantiates this finding. But there was no statistically significant difference in prevalence of mental distress among Amhara Oromo and Tigray ethnic groups in this study. In different studies the majority is the healthier group of the society for many reasons; but in this study the minority found to be protected from mental distress, which needs further verification.

There was statistical significant difference in mental distress between different level of education, and the odds of mental distress in the last month among post graduate students was lower when compared to undergraduate students of year II [Crude OR = 0.13; 95 % CI, (0.01, 0.88)]. But there was no difference in prevalence of mental distress in the last four weeks among undergraduates of year II and years III and IV, (Table 4). Moreover, the prevalence of mental distress in the last month was lower among students who were

getting Birr 500 or more per month when compared to students who had no income at all [Crude OR = 0.23; 95 % CI, (0.03, 0.92)]. But there was no statistical difference in mental distress between students having who had no income and others having different income but below Birr 500 (Table 4). However, there was no statistically significant association between mental distress and age, sex, religion, marital status and geographical distribution in this study.

Table 4: Comparison of socio-demographic characteristics by mental distress among Alemaya University students. January 2005.

Characteristics	Frequency	Number of cases	%	Crude OR with 95% CI
Age in years				
18- 24	764	150	20.12	1.38(0.64,3.09)
25- 47	60	9	15.00	1.00<
Sex				
Male	674	126	18.70	1.23(0.78,1.98)
Female	150	32	21.33	1.00<
Level of education				
Undergraduate 2nd Year	433	86	19.9	1.00<
Undergraduate 3rd Year	254	52	20.5	1.04(0.69,1.55)
Undergraduate 4th Year	104	20	19.2	0.96(0.54,1.70)
Post graduate	33	1	3.0	0.13(0.01,0.88)*
Religion				
Orthodox	519	106	20.42	1.00<
Protestant	108	21	19.44	0.94(0.54,1.63)
Islam	154	25	16.23	0.76(0.45,1.25)
Others	43	7	16.28	0.76(0.30,1.84)
Marital status				
Unmarried	788	153	19.42	1.00<
Married	26	3	11.54	0.54(0.13,1.93)
Others	10	3	30.00	1.78(0.36,7.72)
Ethnicity				
Amhara	313	68	21.73	1.00<
Oromo	265	56	21.88	0.97(0.64,1.47)
Tigre	135	23	17.04	0.74(0.42,1.28)
Others	111	12	10.81	0.44(0.21,0.87)*
Geographical distribution				
Oromia	287	55	19.16	1.00<
Amhara	185	49	26.49	1.52(0.98,2.36)
Addis Ababa	138	21	15.22	0.76(0.44,1.31)
Tigray	120	19	15.83	0.79(0.45,1.41)
SNNPR	74	8	10.81	0.51(0.23,1.13)
Others	20	7	35.00	2.27(0.87,5.96)
Monthly (in Birr)				
No income	527	107	20.30	1.00<
Less than 100.00 birr	108	28	25.93	1.37(0.85,2.22)
100 to 299.00 birr	92	13	14.13	0.65(0.35,1.21)
300.00s to 499.00 birr	19	1	5.26	0.23(0.03,1.65)
500.00 birr and above	38	2	5.26	0.23(0.05,0.92)*
Don't know income	40	8	20.00	0.98(0.44,2.19)

Note: 1.* statistically significant. 2. < Reference groups.

5.5. Substance use and mental distress

In this study, there was statistically significant association between mental distress and use of sedatives by students. The likelihood of having mental distress in the last four weeks was higher among students who were using sedative compared to students who were not using [Crude OR=2.73, 95% CI (1.26, 5.86)], however, there was no statistically significant association between mental distress and other substance users like, khat, alcohol, cigarette, substances like hashish in this study and who were using combinations of substances (khat, alcohol and cigarettes) (Table 5). The relationship of mental distress and substances mentioned above are the established fact starting long ago. But the absence of relationship between mental distress and substance abuse in this study could be as a result of small sample size, other wise there is no tangible evidence to deny the relationship of mental distress and substance abuse.

Table 5: Comparison of substance use by mental distress among Alemaya University respondents. January 2005.

Substance use		Frequency	Cases		Crude OR 95% CI
			Number	%	
Khat:	Non users	592	107	18.1	1.00<
	Users	232	52	22.4	0.76(0.52, 1.13)
Alcohol:	Non Users	592	110	18.6	1.00<
	Users	232	49	21.1	1.17(0.79, 1.74)
Cigarette	Non Users**:**	766	143	18.7	1.00<
	Users	58	16	27.6	1.66(0.87, 3.14)
Substances like Hashish					
	Non Users	809	155	19.2	1.00<
	Users	15	4	26.7	1.53(0.41, 5.29)
Sedatives	Non Users**:**	790	146	18.5	1.00<
	Users	34	13	38.2	2.73 (1.26, 5.86)*
Combined use:	Non Users	431	75	17.4	1.00<
	Users	395	84	21.4	1.29 (0.91, 1.83)

Note: * Statistically significant. < Reference groups

5.6. Socio-economic and substance use determinants of mental distress

Comparison between cases having mental distress and those who don't have was made for difference in socio-economic and substance use determinants of mental distress after adjusting for, Age, sex, level of education, ethnicity, monthly income, and use of sedatives.

Accordingly, there was statistically significant association between mental distress and ethnicity. The likelihood of having mental distress among students who were not from (Oromo, Amhara and Tigray) ethnicity was found to be lower compared to students who were from Amhara ethnic group [Adjusted -OR= 0.43; 95 % CI, (0.22, 0.85)]. But there was no difference in prevalence of mental distress between Amhara ethnicity and Tigray or Oromo ethnicity (Table 4).

The likelihood of having mental distress in the last four weeks was higher among students who were using sedative compared to students who were not using sedatives [Adjusted OR=3.01, 95% CI (1.41, 6.44)] (Table 6).

There was statistical significant difference in mental distress between different level of education, and between monthly incomes of students, however, after adjusting for certain variables mentioned above their significance has failed to resist. Moreover, there was no statistically significant association between mental distress and age, sex, religion, marital status and geographical distribution in this study (Table 6).

Table 6: Correlates of mental distress with socio-demographic characteristics and substance abuse among Alemaya University Students, n=824, January 2005.

Characters tics		Frequency	Case		Crude OR 95% CI	Adjusted OR 95% CI
			Number	%		
Age in years	18- 24	764	150	20.12	1.38 (0.64, 3.09)	0.72 (0.30, 1.72)
	25- 47	60	9	15.00	1.00<	1.00<
Sex	Male	674	126	18.70	1.23 (0.78, 1.98)	0.73 (0.46, 1.15)
	Female	150	32	21.33	1.00<	1.00<
Level of education						
Undergraduate 2nd Year		433	86	19.9	1.00<	1.00<
Undergraduate 3rd Year		254	52	20.5	1.04 (0.69, 1.55)	1.03 (0.69, 1.54)
Undergraduate 4th Year		104	20	19.2	0.96 (0.54, 1.70)	0.99 (0.56, 1.77)
Post graduate		33	1	3.0	0.13(0.01, 0.88)*	0.18 (.02, 2.11)
Ethnicity						
Amhara		313	68	21.73	1.00<	1.00<
Oromo		265	56	21.88	0.97 (0.64, 1.47)	0.92 (0.61, 1.38)
Tigre		135	23	17.04	0.74 (0.42, 1.28)	0.71 (0.41, 1.21)
Others		111	12	10.81	0.44 (0.21, 0.87)*	0.43(0.22, 0.85)*

Table 6: Continued.

Monthly (in Birr)						
No income		527	107	20.30	1.00<	1.00<
Less than 100.00 birr		108	28	25.93	1.37 (0.85, 2.22)	1.35 (0.83, 2.21)
s100 to 299.00 birr		92	13	14.13	0.65 (0.35, 1.21)	0.54 (0.28, 1.03)
300.00s to 499.00 birr		19	1	5.26	0.23 (0.03, 1.65)	0.22 (0.03, 1.73)
500.00 birr and above		38	2	5.26	0.23 (0.05, 0.92)*	0.40 (0.07, 2.34)
Don't know income		40	8	20.00	0.98 (0.44, 2.19)	1.04 (0.46, 2.38)
Sedatives	Non Users**:**	790	146	18.5	1.00<	1.00<
Users		34	13	38.2	2.73(1.26, 5.86)*	3.01 (1.41, 6.44)*
Combined:	Non Users	431	75	17.4	1.00<	1.00<
	Users	395	84	21.4	1.29 (0.91, 1.83)	1.41(0.97, 2.05)

Note: 1.* statistically significant. 2. <- Reference groups. 3. P value is < 0.05 4. The logistic model include: age, sex, level of education, ethnicity, income level, and use of sedatives.

5.7. Effect of academic performance on mental distress

The effect of academic performance on mental distress of the students was assessed as a determinant factor. We also assessed whether there is difference in academic performance between students using substance. Based up on this study, the mean CGPA among those who have mental distress was 2.72, while this mean CGPA among those who have no mental distress was 2.86. This difference in mean score of CGPA among students having mental distress and students who don't have mental distress was statistically significant, ($P < 0.01$). However, there was no statistically significant difference in mean score of CGPA among khat chewers and non chewers, among alcohol users and non users, among cigarette smokers and non-smokers and between combined users of substances and those who don't use (Table 7).

Table 7. Effects of academic performance and substance use on mental distress among Alemaya University Students. January, 2005.

Characters tics	Mean CGPA	Mean difference	Statistics (P-Value)
Mentally Distressed			
No	2.86	0.138	0.002
Yes	2.72		
Khat Chewers			
No	2.84	0.014	>0.1
Yes	2.82		
Alcohol Users			
No	2.82	0.060	>0.1
Yes	2.88		
Cigarette Smokers			
No	2.83	0.023	>0.1
Yes	2.86		
Combined use			
No	2.82	0.020	>0.1
Use	2.84		

6. Discussions

A total of 824 students were participated in the study both from under graduate and post graduate studies of Alemaya University. Majority of the respondents were in the younger age group. This study tested the prevalence rate of mental distress among Alemaya University students. In doing so, the participants were randomly selected and found to have similarity in sex to the source population. accordingly, regarding the sex of the sample and source population there was no difference observed in this study. This similarity to some extent may enhance generalizability of the finding of the study to source population as a result of slight observed homogeneity between the sample and source population.

In this study, prevalence of mental distress was found consistent to the prevalence of mental distress done using the same instrument in urban Addis Ababa's community which was 11.7 % (6), and in Jimma urban community which was 22.7 % (4). But it was found a little bit higher than the prevalence study using the same instrument conducted in Butajira rural community having a prevalence rate of 17.4 % (24) and lower than the prevalence of emotional distress among Malaysian medical students in Malaysian universities which was 41.9 %. The difference in this study and that of the Butajira study could be as a result of more rural population and more psycho social support one another than in Alemaya University student community. It could also be explained by existence of social support among rural population compared to urban population, and worsening among collage or university students. On the other hand the higher prevalence in this student community could be as a result of competitive and stressful academic life and environmental factors such as economic pressure, separation from family members and

any problem arise from adolescent age group. So that, the finding of this study had a good argument back ground and evidence based to find out more or less similar prevalence rate compared to other community based studies.

Even though being from the majority ethnic group is a protective factor (which is a established fact for many illnesses); in this study, there was statistically significant association between mental distress and ethnicity, where the prevalence of mental distress among students who were not from (Oromo, Amhara and Tigray) ethnicity(major ethnic groups in Ethiopia) was found to be lower compared to students who were from Amhara ethnic group. This could be as a result of differences of cultural and religious practices and habits among students who came from major ethnic groups and those from other ethnic groups which could contribute for mental distress. Since psychiatric problems are culture and habit bound, some cultures and customs could be more protective than the others, otherwise there was no enough supportive literature which substantiates this finding. The likelihood of having mental distress in the last four weeks was higher among students who were using sedative compared to students who were not using sedatives.

Many theories attempting to explain and predict substance abuse in adolescents and young adults often correlate drug use to factors such as peer drug use and approval, low self-esteem, and low academic performance. Substance abuse , violence and behavioral disorders can form a cluster of risk behaviors including mental distress . These clusters can often be found affecting particular individuals – or communities – whose life and social circumstances place them at risk. And those problems can have a profound impact on the ability of students to learn. Adolescents who are

under the influence of f drug and alcohol are affected by emotional distress and fear is going to less succeed in school due too cognitive impairment

The mean CGPA among those who have mental distress was lower than those who have no mental distress. Though, it was difficult to find literature in regard to student's performance and mental distress, possible explanation for such lower mean CGPA among students with mental distress could be that in a poor country, where there is only few opportunity for success, having lower mark or having a cumulative GPA in a border level for a failure could not give time to sleep or take rest and could do all possibilities in a non-programmed manner. This physical restless and lack of adequate sleep is enough reason to bring not only socio-psychological health problems, but also physical health problem.

Though literatures, showed there is marked difference in mental distress between males and females, in our study there was not marked difference. This may be due to lower number of female students to show such differences, or it may be due to decrement in gender related role than in women living at community level, or it may be a real finding that in the university there may not be difference in prevalence of mental distress between the two sexes.

7. Conclusions

By taking in to account all the limitations and draw backs of this study (cross-sectional study) the following conclusions can be drown:

1. The over all prevalence rate of mental distress in the university was found to be 19.3 % with a confidence interval between 16.6 % and 22.0 %.
2. The likelihood of having mental distress among students who were not from (Oromo, Amhara and Tigray) ethnicity was found to be lower compared to students who were from Amhara ethnic group.
3. Mental distress was found about three times higher among students who were using sedative compared to students who were not using
4. In this study, there was no significant difference in mental distress between different age groups, sex, marital status, and other variables we considered

Strength of the study:

Use of SRQ instrument which is a world wide accepted, standardized well adopted in the country and well valid instrument to measure mental distress, is the major strength this study has. Use of quality control, in the training, pre-testing, data entry programming, double entry and validations are other condition the study is proud off.

This study is an original study in this particular study area that paves a way and expected to generate valid base line information for the one who needs to conduct another assessment. Secondly, it generates valid information for the institution to establish or strengthen the mental health service in the University campus. So that, the finding of this study, will contribute for the epidemiology of mental health status in the country by generating valid information in its part, in order to help planning of mental health service in general, and to generate information for the respective institution, in specific.

Limitations of the study

The limitations for cross-sectional study, holds true also for this study. Student's performance is a sensitive area where it may be difficult to get real score. But in this study, it was tried to avoid such problems by taking out identifiers like names and identity numbers.

Recommendations

The result of this study showed that mental distress is more affecting students with major ethnicity and students taking sedatives and those having lower cumulative GPAs. In order to mitigate these problems, based up on the finding, the following points are recommended.

1. Establishment of advisory mechanism to regulate and monitor student's school performance within the university campus.

2. Strengthening or establishing positive affirmative action to protect students who are at risk of substance abuse especially sedatives.

3. Strengthening the clinical set up and establishment of good referral linkage with mental health institutions is strongly recommended, as it would lessen the catastrophic effect of mental disorder among the student population.

4. Further study with more valid instrument, covering wide range of samples and different higher institutions in different geographical locations and different ethnic groups is important to substantiate this finding for more generalizabilty.

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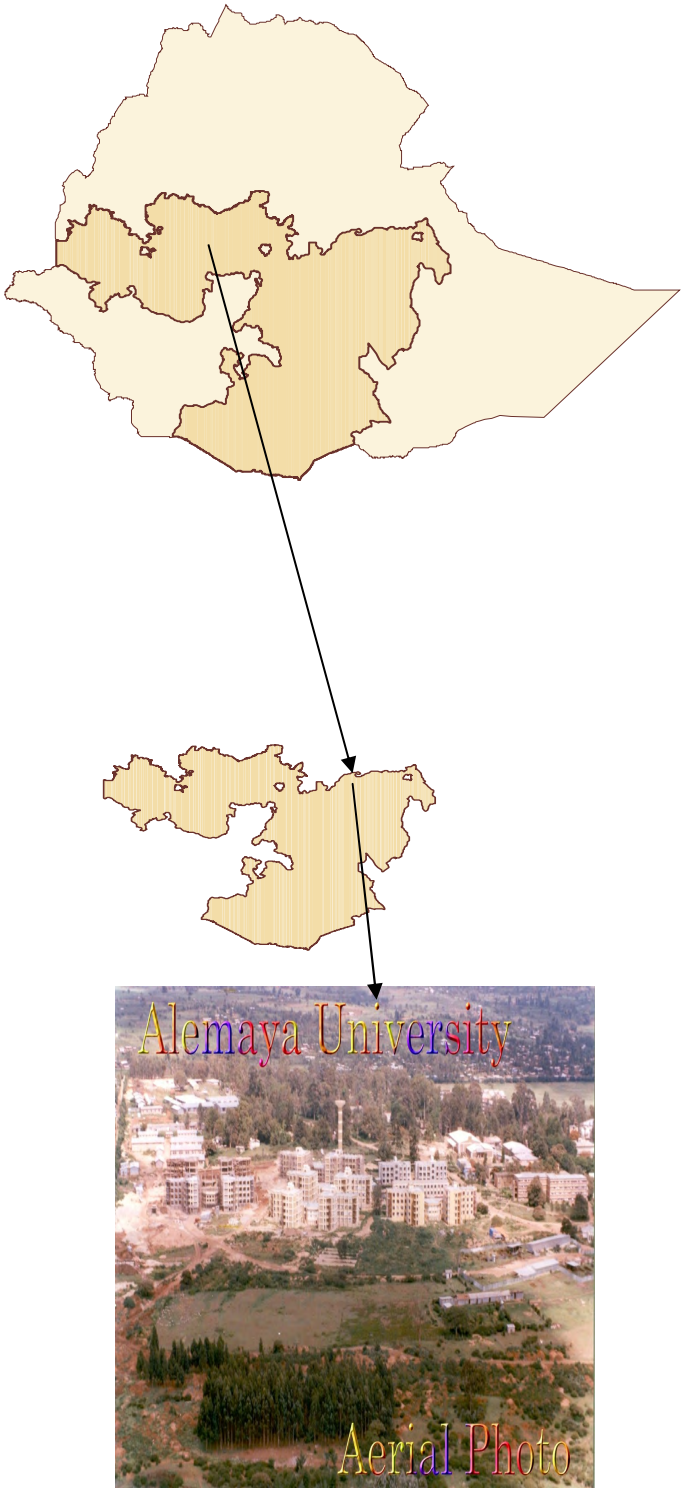
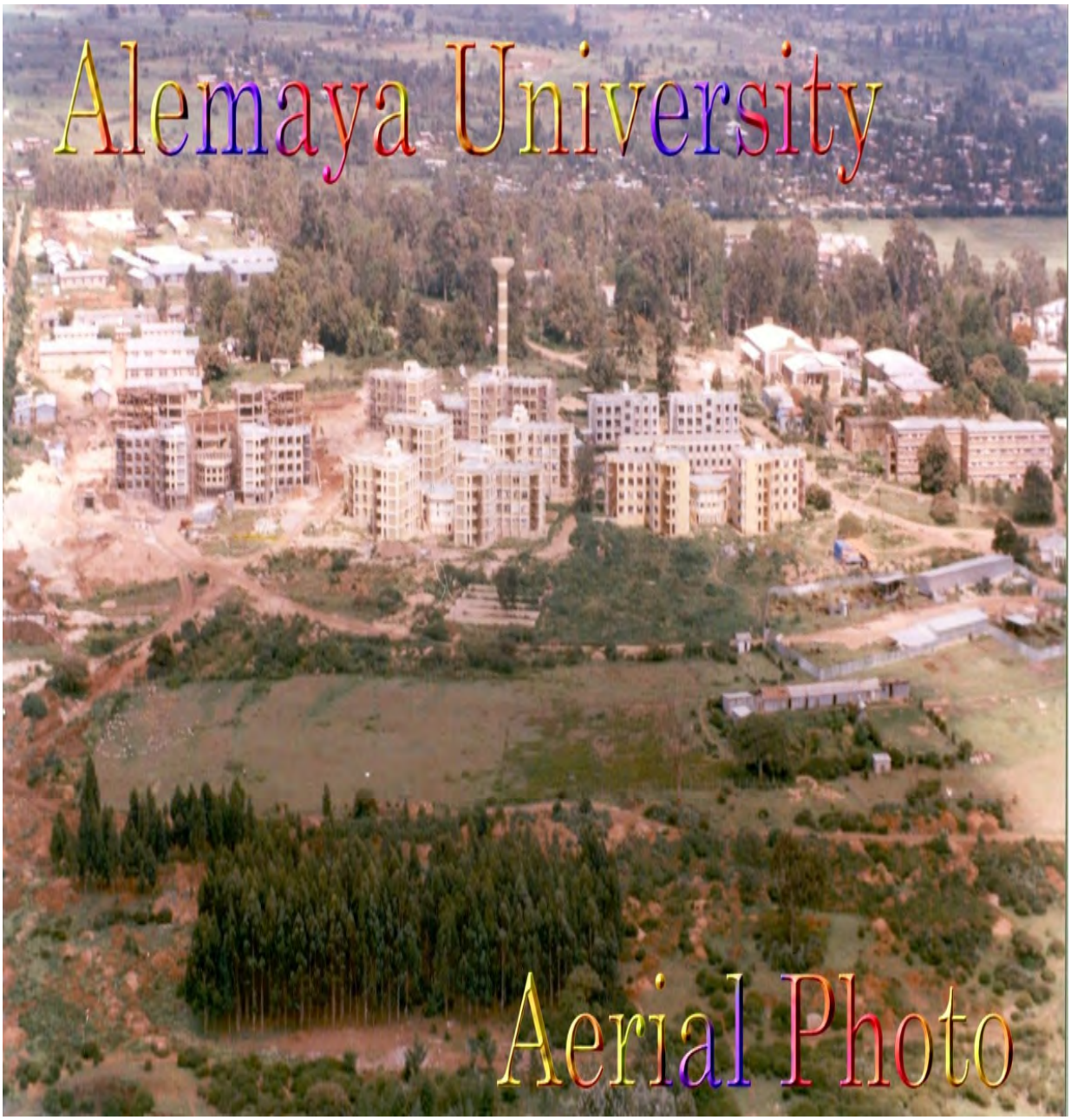
Annex IA. Location of Alemaya University Eastern Ethiopia, in Oromia region



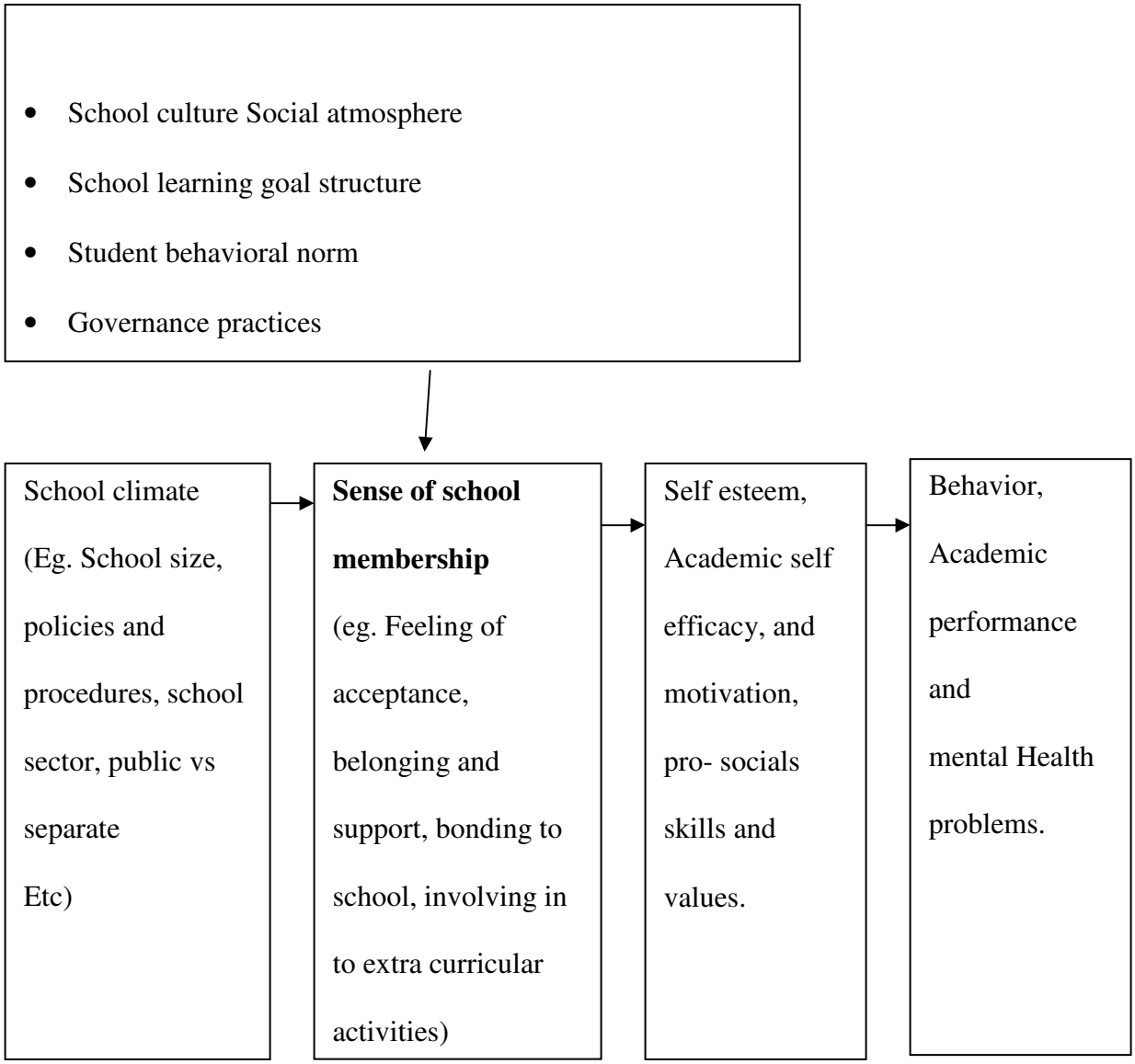
Annex I. B. Aerial photo of Alemaya University



Alemaya University October, 2004.

Annex II

Conceptual framework for Schools as community's theoretical frame Work for mental health problems



ANNEX III. Sensitization remarks for students about the study

December 27, 2004

HOT ISSUE FOR ALL

Studies in many parts of the world have found a high incidence of psychological symptoms among the college population. In the majority of circumstances, effective treatment is available for mental symptoms. However, the impact of untreated psychological symptoms on a college student's life can be devastating Unless we educate our students and work to reduce the stigma associated with seeking help, young people will suffer needlessly, with negative outcomes in their personal, academic and social functions. It can even lead to premature death.

Many college students experience sadness, nervousness, different aches and burning feelings in the head and body, and problems relating with others. Many students have unexplainable worries and disturbing thoughts. These and other symptoms are warning signs of psychological problems. Yet, the students lack awareness and understanding of these symptoms. As a result, the student unnecessarily suffers from failures in academic and social performances.

In order to create proper awareness and to help increase the knowledge of Alemaya university students, a group of experts in the field of mental health plans to do a study in the campus from December 27, 2004 to January 25, 2005. The study will be done anonymously and nobody's name will be mentioned. The result of this study will help students to understand the types of and extent of psychological and behavioural problems amongst the campus group. It will help the administration to plan appropriate services to university students.

We hope that students understand the positive significance of this study. We request you to make history by participating in this study. The study will require you to fill a prepared questionnaire. The time you spend filling this form will benefit you as well as the present and the coming generations of Alemaya University. You will definitely learn a lot from this experience.

We urge you to be responsible and be proud to participate in this historical scientific project!!

Showing responsibility is a sign of civilization!!

Annex IV. English version Questionnaire

Students self reporting questionnaire

To be filled by Alemaya university students

Dear students!

In the case of mental health promotion of the young educated people to understand the existing prevalence (magnitude) of some common mental distress in Higher learning institute it is found or to be evidence based. In line with this a study is proposed to assess the prevalence, determinants and other socio cultural factors which contribute for mental distress and you are chosen to participate in this study. The choice is made randomly using a lottery method. The questions include various private and personal lives.

In order to attain the goal effectively, we request your willful cooperation. Her under are the questionnaires you to complete. There is no need of writing your name or id number on the format. Confidentiality is strictly protected. It is your right to participate or to refuse in the study. If you do not wont to participate in the study, you can put the format in the table upside down. But your honest participation will have contribution to generate valid information that can be used for intervention designs. So please take these questions to answer. If there is any thing that require clarification please don't hesitate to ask the facilitators for clarification.

Do you wish to participate in the study?

Yes I want to participate { }

No I don't want to participate { }

Thank you,

Questionnaire to be answered by Alemaya University students

To make this study each question should be answered carefully. Your answer will be kept confidentially. No need of mentioning your name on the questionnaire. Be sure for your reading instructions correctly before giving answers for each question.

This questionnaire is not examination. There is no write or wrong answer. But make sure that you have read each question carefully, and give the answer you think correct for your self by circling the number of your choices.

Part One Demographic Data: After reading the following ten questions which asks about demographic characteristics, give appropriate answer concerning your demographic information.

No.	Questionnaire and filters	Coding categories	Code
Q101	How old were you at your last birth day?	Age in complete years(_____/_____)	
Q102	Sex	Male Female	**1** **2**
Q103	What is the level of your study year	Under graduate 2nd year (PPC) Under graduate 3rd year(FPC) Under graduate 4nth year Post graduate 2nd year and above Post graduate 3rd year & above If your are PHD mention your year of enrollment	**1** **2** **3** **4** **5** **6**

Q104	From which faculty you are?	College of Agriculture (COA) Faculty of Education Faculty of Health Sciences Faculty of Law Faculty of Business and Economics Faculty of Veterinary Medicine School of Graduate studies	**1** **2** **3** **4** **5** **6** **7**
Q105	What is your religion	Orthodox Islam Protestant Catholic I have no religion Others	**1** **2** **3** **4** **5** **6**
Q106	What is your marital status now?	Single Married and living together Married but not living together Divorced Widowed Others	**1** **2** **3** **4** **5** **6**

Q107	What is your ethnicity	Oromo	**1**
		Amhara	**2**
		Tigre	**3**
		wolaita	**4**
		Harari	**5**
		Somale	**6**
		Gurage	**7**
		Others	**8**
Q108	What is your current family place of residence?	Oromia	**1**
		Amhara	**2**
		SNNPR	**3**
		Tigray	**4**
		Addis Ababa	**5**
		Diredawa	**6**
		Beneshangul Gumuz	**7**
		Gambela	**8**
		Afar	**9**
		Somale	**10**
		Harari	**11**

Q109	What is your monthly personal income in Birr?	No income Less than 100 From 100 to 299 From 300 to 499 500 and above I don't know	**0** **2** **3** **4** **5** **6**
Q110	What was your yearly consecutive CGPA in this University?	First Year CGPA_____ Second Year CGPA_____ Third Year CGPA_____	

Part TWO The Self-Reporting Questionnaire (SRQF)

The following questions are related to certain pains and problems that may have bothered you in the last **30 days**. If you think the question applies to you and you had the described problem in the last **30 days**, answer YES.

On the other hand, if the question does not apply to you and you did not have the problem in the last **30 days,** answer **NO**.

If you are unsure about answering a question, please give the best answer you can.

We would like to reassure you that the answers you are going to provide here are confidential.

No	**Encountered health problems with in the last 4 weeks**	**yes**	**No**
201	Do you often have headaches?	1	2
202	Is your appetite poor?	1	2
203	Do you sleep badly?	1	2
204	Are you easily frightened?	1	2
205	Do your hands shake?	1	2
206	Do you feel nervous, tense or worried?	1	2
207	Is your digestion poor?	1	2
208	Do you have trouble thinking clearly?	1	2
209	Do you feel unhappy?	1	2
210	Do you cry more than usual?	1	2
211	Do you find it difficult to enjoy your daily activities?	1	2

212	Do you find it difficult to make decisions?	1	2
213	Is your daily work suffering?	1	2
214	Are you unable to play a useful part in life?	1	2
215	Have you lost interest in things?	1	2
216	Do you feel that you are a worthless person?	1	2
217	Has the thought of ending your life been on your mind?	1	2
218	Do you feel tired all the time?	1	2
219	Do you have uncomfortable feelings in your stomach?	1	2
220	Are you easily tired?	1	2
221	Do you feel that someone has been trying to harm you in some way?	1	2
222	Have you noticed any interference or anything else unusual with your thinking?	1	2
223	Do you ever hear voices without knowing where they come from, and that other people can't hear?	1	2
224	Do you easily get angry at other people?	1	2
225	Do you feel that someone has insulted or humiliated you?	1	2
226	Do you feel that someone has cursed you?	1	2
227	Do you feel that someone is jealous of you?	1	2
228	Do you feel crawling sensations under your skin?	1	2
229	Do you feel burning sensations in your scalp or all over the body?	1	2
230	Do you often feel your heart is beating too fast?	1	2

PART THREE SUBSTANCE USE (ABUSE)

The following questions focuses on Khat chewing practices , Alcohol drinking , Cigarette smoking other substances like Hashish use and sedatives use, so you are requested to give answers about your personal behaviour on the abuse of these substances

No:	Questions and filters	yes	No
The following three questions are specific to Khat chewing Practices in particular			
301	Have you ever used khat in your life?	1	2
302	Have you used Khat in the last 12 months?	1	2
303	What was your reason(s) to use khat?		
	a. To increase work or academic performance	1	2
	b. To get relief from tension	1	2
	c. To combat against exhaustion and hunger	1	2
	d. Due to academic dissatisfaction	1	2
	f. Due to religious practices	1	2
	g. To get acceptance from others / to be like others/	1	2
	h. To be sociable	1	2
	i. To get personal pleasure	1	2
	j. To increase pleasure during sexual intercourse	1	2
	k. Due to pear influence	1	2
	l. Specify if any other	1	2

2. The following three questions are specific to Alcohol drinking habits Practices in particular			
304	Have you ever used alcohol drinks in your life /such as Areke, Tela Tej (local liquors) beer, and other alcohol drinks ?	1	2
305	Have you used any kind of alcohol drinks in the last 12 months?	1	2
306	What was your reason(s) to use alcohol?		
	a. To increase work or academic performance	1	2
	b. To get relief from tension	1	2
	c. To combat against exhaustion and hunger	1	2
	d. Due to academic dissatisfaction	1	2
	f. Due to religious practices	1	2
	g. To get acceptance from others / to be like others/	1	2
	h. To be sociable	1	2
	i. To get personal pleasure	1	2
	j. To increase pleasure during sexual intercourse	1	2
	k. Due to pear influence	1	2
	l. Specify if any other	1	2

3. The following three questions are specific to cigarette and other Tobacco products use (habits of Practices)			
307	Have you ever used Tobacco products such as cigarette, wrapped tobacco leaf Pipa and chewable tobacco products (by smoking, chewing, sniffing?)	1	2
308	Have you used any kind of tobacco product in the last 12 months?(by smoking, chewing, sniffing?)	1	2
309	What was your reason(s) to use tobacco products?		
	a. To increase work or academic performance	1	2
	b. To get relief from tension	1	2
	c. To combat against exhaustion and hunger	1	2
	d. Due to academic dissatisfaction	1	2
	f. Due to religious practices	1	2
	g. To get acceptance from others / to be like others/	1	2
	h. To be sociable	1	2
	i. To get personal pleasure	1	2
	j. To increase pleasure during sexual intercourse	1	2
	k. Due to pear influence	1	2
	l. Specify if any other	1	2

4. The following three questions are specific to Substances such as Hashish and others			
310	Have you ever used in your life substances / Such as hashish , Pat, Kaya, Joyint, Hait, Cannabis, Ganja, and or Heroin and others.	1	2
311	Have you ever used in the last 12 months / Such as hashish , Pat, Kaya, Joyint, Hait, Cannabis, Ganja, and or Heroin and others	1	2
312	What was your reason(s) to use tobacco products?		
	a. To increase work or academic performance	1	2
	b. To get relief from tension	1	2
	c. To combat against exhaustion and hunger	1	2
	d. Due to academic dissatisfaction	1	2
	f. Due to religious practices	1	2
	g. To get acceptance from others / to be like others/	1	2
	h. To be sociable	1	2
	i. To get personal pleasure	1	2
	j. To increase pleasure during sexual intercourse	1	2
	k. Due to pear influence	1	2
	l. Specify if any other	1	2

The following three questions are specific to Sedative medications use			
313	Have you ever used in your life substances / Such as hashish , Pat, Kaya, Joyint, Hait, Cannabis, Ganja, and or Heroin and others.	1	2
314	Have you ever used in the last 12 monthes / Such as hashish , Pat, Kaya, Joyint, Hait, Cannabis, Ganja, and or Heroin and others	1	2
315	What was your reason(s) to use tobacco products?		
	a. To increase work or academic performance	1	2
	b. To get relief from tension	1	2
	c. To combat against exhaustion and hunger	1	2
	d. Due to academic dissatisfaction	1	2
	f. Due to religious practices	1	2
	g. To get acceptance from others / to be like others/	1	2
	h. To be sociable	1	2
	i. To get personal pleasure	1	2
	j. To increase pleasure during sexual intercourse	1	2
	k. Due to pear influence	1	2
	l. Specify if any other	1	2