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Mental Distress and its Associated Factors among Students of Mizan Aman Health Science College, Ethiopia

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Background and Objective: Mental distress is a collection of mental problems that affect society as a whole and no one is immune against it. Students have a significantly high level of psychological distress which affects their ability to concentrate on academics. So the present study was aimed to assess the prevalence of mental distress and its associated factors among students of Mizan Aman Health Sciences College in South West Ethiopia. **Materials and Methods:** An institution based quantitative cross sectional study was conducted among 308 students from 1st June, 2016-30th June, 2016. Stratified random sampling followed by simple random sampling technique was used to select the study participants. Data were collected using pre-tested structured self-administered questionnaire. The collected data was entered into the computer using Epidemiological information software version 3.5.1 and analysis were done by using Statistical Package for Social Sciences (SPSS) version 20:00. Finally, a multivariate logistic regression model was created to predict the mental distress among students. **Results:** Ninety seven percent of the study participants had written the questionnaires. The proportion of the students experiencing mental distress was found to be 29.2%. Being female [AOR 3.13, 95% CI = 1.5-6.49], having conflict with family [AOR 2.20, 95% CI = 1.24-3.90], having financial distress [AOR 1.99, 95% CI = 1.10-3.56] and ever use of khat [AOR 2.29, 95% CI = 1.04-5.04] were statistically significant predictors of mental distress. **Conclusion:** The prevalence of mental distress among the students was found to be relatively high. Being female sex, conflict with family, having financial distress and ever use of Khat were predictors of mental distress. Therefore, it is recommended that remedial action and due attention from policy makers, college officials, non-governmental organizations, parents, students and other concerned bodies should be needed to reduce the mental distress.

Key words: Mental distress, psychological distress, financial distress, academic stress, epidemiological data

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INTRODUCTION

Mental health is defined as a "state of well-being in which every individual realizes his or her potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community"[1]. Mental distress is a collection of mental problems that may not fall into standard diagnostic criteria. It is characterized by symptoms like anxiety, depression insomnia, fatigue, irritability, forgetfulness, difficulty in concentrating and somatic symptoms such as sleep problems, headache and backache[2].

Although college students share similarities with individuals in the general population, they are most prone to negative mental health outcomes because they are exposed to two sources of transitional stresses: stress related to the transition from high school to college student and stress related to the transition from adolescence to adulthood[3].

Medical education poses many new, challenging and potentially threatening situational demands on the incoming student throughout the world. Medical school has long been recognized as a setting that has numerous stressors that can affect the well-being of students. In addition to coping with stressors of everyday life, medical students must deal with stressors specific to medical schools such as the new information flow and input overload, examinations, chances of failure, lack of leisure time, workload and relationships with peers and career choices[4]. These have negative effects on student's ability to study and academic outcomes. Such situations of stresses may later lead to mental health problems but students seldom seek help for their problems[5,6].

Globally, mental health problems account for 13% of the total burden of diseases and 31% of all lived with disability[7]. A study was done among the undergraduate students in Canada[8] showed that 30% of students had a psychological distress which was significantly higher than that of adults in the general population. Similar studies among college students of developed countries revealed that 57% of students in USA[9], 53% of students in Australia[10], 25.7% of students in France[11], 22.9% of students in Norway[12] and 22.5% of students in Iceland[13] have experienced mental distresses. Reports from colleges found in developing countries like Brazil 44.7%[14], Malaysia 41.9%[15] and Kenya 10.8%[16] also showed that the prevalence of mental distress among their students. Studies conducted in Hawassa[17] and Gondar[18] universities of Ethiopia showed that the prevalence of mental distress among students was 49.1 and 40.9%, respectively.

Even though mental health service was included in the national health policy of Ethiopia, interventions against the problem are very limited and lack of information about the problem is a contributory factor for poor mental health services. Hence, Epidemiological data which shows the burden of mental health problems in students is mandatory in Ethiopia. There were few reports concerning the prevalence of mental distress among the college students in Ethiopia. Therefore, the present study was conducted to assess the prevalence of mental distress and its associated factors among the students of Mizan Aman Health Science College, Ethiopia.

The findings of this study will help in developing evidence based mental health promotion and disease prevention programs and used as a resource to search remedial action from policy makers, college officials, non-governmental organizations (NGOs), parents, students and other concerned bodies. As a result, this study will be used as a base line data for policy makers, NGOs and significant others.

MATERIALS AND METHODS

An institution based cross sectional study was conducted from 1st June, 2016-30th June, 2016 to assess the prevalence of mental distress and its associated factors among the students of Mizan Aman Health Sciences College (MAHSC), South West Ethiopia. Mizan Aman Health Science College is among the four health science colleges, found in South Nation Nationalities and People Region (SNNPR) of Ethiopia. The college is founded in Mizan Aman town which is located 588 km away from the capital city of the country (Addis Ababa) to the South-West of Ethiopia. The college was established first as a nursing school in 1999 and is the first health science college in the South Western part of Ethiopia. A total of 986 students were enrolled in the college under five departments in the academic year 2015-2016.

Before conducting the study, the proposal was approved by the MAHSC Research Ethical Review Committee (RERC) and ethical clearance letter was obtained. The purpose of the study was explained to the study participants and privacy and confidentiality were ensured. Prior to data collection, informed verbal consent was obtained from the study participants. While obtaining consent, the detailed explanation of the survey purpose and its benefits were described to the participants. There was an affirmation given that they are free to withdraw consent and to discontinue participation without any form of prejudice. Privacy and confidentiality of collected information were ensured throughout the process.

The actual sample size for the study was determined using single population proportion formula with a confidence interval of 95% and margin error of 5%. The prevalence of mental distress among college students was considered to be 50%. By considering finite population correction formula (Since the population size is less than 10,000) and 10% non-response rate, the final sample size was 317 students.

Stratified and simple random sampling techniques were used in this study. The students of MAHSC were stratified into five strata based on their respective departments [i.e. clinical nursing (CN), midwifery (MW), health informatics (HIT), medical laboratory technician (MLT) and health extension worker (HEW)]. Then the respective sample size was calculated for each stratum based on probability proportion to

population size in each department. Finally, the study units were selected from each department using simple random sampling technique considering the list of students as a sample frame.

The data were collected by 5 data collectors and 2 supervisors by using a pre-tested, structured and self-administered questionnaires. The questionnaire was developed after a thorough review of various literatures relevant to the study and prepared in the English language. Before the actual data collection, the questionnaire was pre-tested on 5% (15) students in Mizan Aman Poly Technique College. The data were collected while the students were in class rooms and the instructors co-operated with data facilitators in disseminating the questionnaire. On completion, the questionnaires were placed and sealed by the students themselves in a separate post prepared for each participant. The filled questionnaire was checked for completeness and consistency of the data by the researchers on daily basis.

Statistical analysis: The collected data was cleaned, coded and entered in the computer using EPI info software version 3.5.1 and then exported to Statistical Package for Social Sciences (SPSS) version 20:00 for analysis. First, descriptive analysis was carried out for each variable. Bivariate and multivariate logistic regression analyses were conducted to identify determinant factors.

Explanatory Variables with a $p<0.2$ in the bivariate logistic regression were entered into the final multivariate logistic regression analysis to control possible confounding and for further analysis associated with the dependent variable, variables having the $p<0.05$ were considered as significant. Finally, descriptive summary using frequencies, proportions, graphs and tables were used to present study results.

RESULTS

Socio demographic characteristics: Out of the expected 317 study participants, a total of 308 students have actually participated in the study giving a response rate of 97.2%. Near to three fourth (227) of the respondents were female. The mean age of the respondents was 19.25 (± 2.0) years. More than two third (68.8%) of respondents were first year students. Greater than one third 240 (77.9%) were single and 139 (45.1%) were orthodox religion followers. 29.5% of the respondents were from Kaffa ethnic group and (60.1%) from the rural background (Table 1).

Socio economic related characteristics: About one third of respondents (75.3%) get pocket money from the family. More than half of the respondents (53.5%) live renting lonely and half (52.3%) had a monthly income of less than three hundred Ethiopian birrs. Of the total participants, 191(62%) participants had financial distress and 132(42.8%) participants had moderate social support (Table 2).

Table 1: Frequency and percentage distribution of socio-demographic characteristics of the respondents, MAHSC, Ethiopia, June, 2016 (n = 308)

Characteristics	Variable	Number	%
Age category	<19	177	57.5
	20-24	128	41.6
	25+	3	1.0
Sex	Male	81	26.3
	Female	227	73.7
Year of enrollment	First year	212	68.8
	Second year	42	13.6
	Third year	54	17.5
Department	CN	69	22.4
	MW	40	13.0
	MLT	49	15.9
	HIT	37	12.0
	HEW	113	36.7
Religion	Orthodox	139	45.1
	Muslim	32	10.4
	Protestant	125	40.6
	Catholic	8	2.6
	Others	4	1.3
Marital status	Single	240	77.9
	Married	29	9.4
	On friend ship	37	12.0
	Others	2	0.6
Ethnicity	Bench	65	21.1
	Kaffa	91	29.5
	Amhara	36	11.7
	Oromo	32	10.4
	Wolaita	29	9.4
	Sheka	33	10.8
	Others	22	7.1
Family residence	Urban	123	39.9
	Rural	185	60.1
Family history of mental distress	Yes	25	8.1
	No	283	91.9

CN: Clinical nurses, HEW: Health extension workers, HIT: Health information technicians, MLT: Medical laboratory technicians, MW: Midwifery

Table 2: Frequency and percentage distribution of socioeconomic characteristics of respondents, MAHSC, Ethiopia, June, 2016 (n = 308)

Variables	Category	Number	%
Pocket money	Yes	232	75.3
	No	76	24.7
Having close friends	Yes	229	74.4
	No	79	25.6
Current religious practice	Yes	252	81.8
	No	56	18.2
Had conflict with students	Yes	47	15.3
	No	261	84.7
Had conflict with family	Yes	87	28.2
	No	221	71.8
Having opposite friend	Yes	152	49.4
	No	156	50.6
Had conflict with opposite friend	Yes	60	19.5
	No	248	80.5
Had conflict with instructors	Yes	25	8.1
	No	283	91.9
Financial distress	Yes	191	62.0
	No	117	38.0
Social support	Low	100	32.6
	Moderate	131	42.7
	High	76	24.8
Monthly income in birr	<300	161	52.3
	301-499	42	13.6
	>500	105	34.1
Style of residence	Renting with boy/girl friends	96	31.2
	Renting lonely	165	53.5
	With family	26	8.4
	Relatives	21	6.9

Teaching learning process related characteristics: The study showed that majorities of the participants (76.9%) had joined the department by their own choice and 82.8% had interest to the department. About 108 (35.1%) of them had a

weekly class load of 26-30 h and 74 (24%) of respondents had experience of the center of competence (COC) assessment. More than half of the respondents 163 (53.1%) slept >8 h and one third of the respondents 112 (36.5%) slept 3-4 h within 24 h (Table 3).

Substance abuse related characteristics: Among the total respondents, 18.5% of the respondents are always using alcohol and only14% are started to use alcohol in the last twelve months. Likewise, 40 participants are ever using khat and 33 are started to use Khat in the last twelve months (Table 4). The main reasons responded by the participants for the use of Khat and alcohol are as follows: to get personal pleasure, acceptance from others, to increase their academic performance and to relief tension (Fig. 1 and 2).

Table 3: Frequency and percentage distribution of teaching learning related variables of respondents, MAHSC, Ethiopia, June, 2016 (n = 308)

Variables	Category	Number	%
Hour slept within 24 h	< 2	14	4.6
	3-4	20	6.5
	5-7	110	35.8
	>8	163	53.1
Hour spent for study within 24 h	< 2	46	15.0
	3-4	112	36.5
	5-7	99	32.2
	>8	50	16.3
Year of stay in this college	1	214	69.5
	2	39	12.6
	3	55	17.9
Department choice	Preferred	237	76.9
	Not preferred	71	23.1
Interest to the department	Yes	255	82.8
	No	53	17.2
Anticipated grade than expected	Yes	166	53.9
	No	142	46.1
Missed many classes	Yes	32	10.4
	No	276	89.6
Weekly load of course	15-20 h	91	29.5
	21-25 h	51	16.6
	26-30 h	108	35.1
	>31 h	58	18.8
Experience for COC exam	Yes	74	24.0
	No	234	76.0
Having vacation	Yes	187	60.7
	No	121	39.3

Prevalence and predictors of mental distress: The study showed that the prevalence of mental distress among students was 29.2%, with a higher proportion (84.4%) among female students as compared to males (15.6%).

In the analysis, respondent's sex, marital status, family history of mental illness, having conflict with students, conflict with family, having opposite friend, conflict with opposite friend, conflict with instructors, having financial distress and

Table 4: Frequency and percentage distribution of substance abuse related variables of respondents, MAHSC, Ethiopia, June, 2016 (n = 308)

Variables	Category	Number	%
Ever used of khat in life	Yes	40	13.0
	No	268	87.0
Khat use in the last 12 months	Yes	33	10.7
	No	275	89.3
Ever used of alcohol drinks in life	Yes	57	18.5
	No	251	81.5
Used of alcohol in last 12 month	Yes	43	14.0
	No	265	86.0
Ever used tobacco products	Yes	11	3.6
	No	297	96.4
Tobacco use in the last 12 month	Yes	13	4.2
	No	295	95.5
Ever used substances such as shisha	Yes	9	2.9
	No	299	97.1
Ever used shisha in the last 12 month	Yes	9	2.9
	No	299	97.1

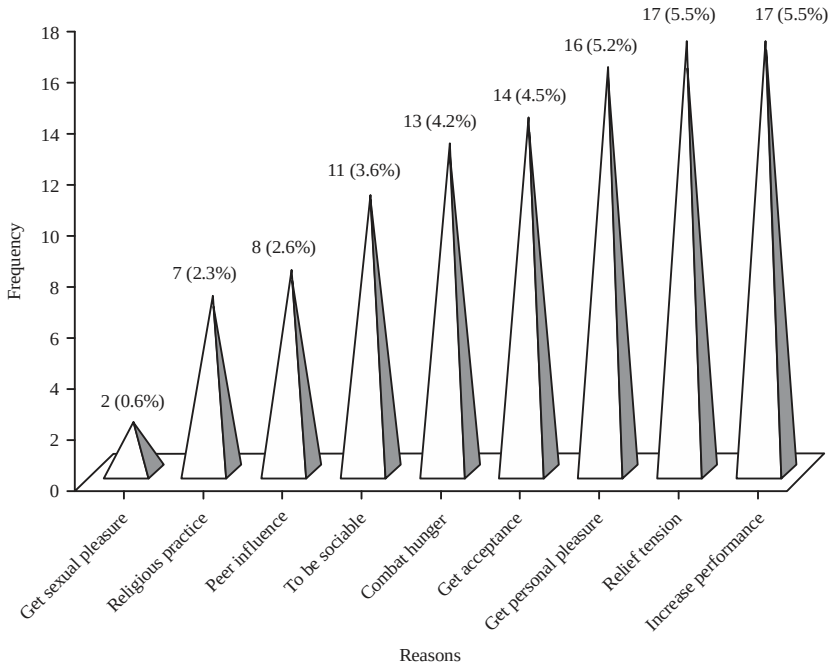

Fig. 1: Frequency and percentage distribution of reasons provided by the respondents for use of alcohol

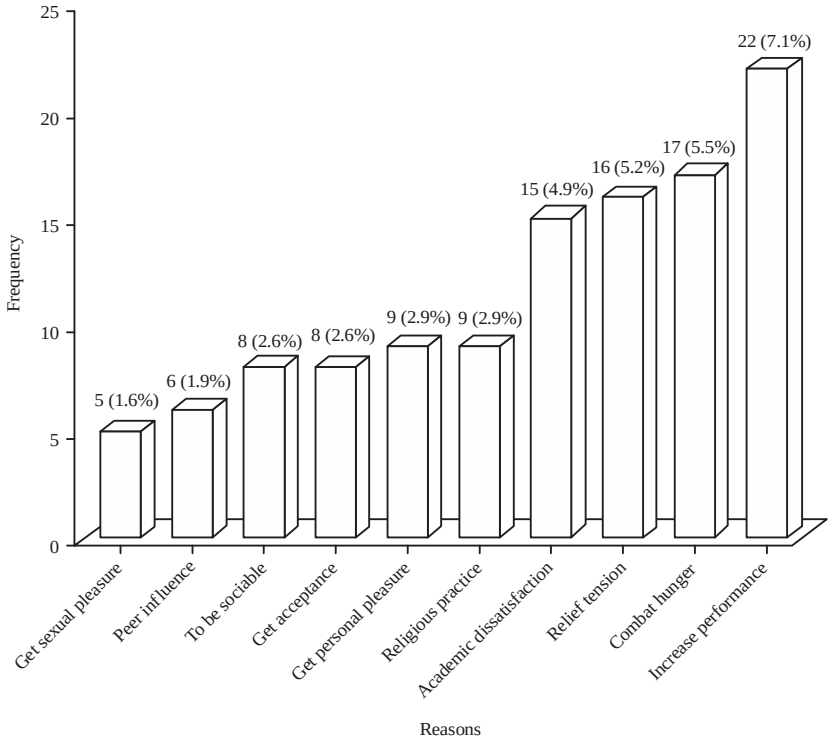

Fig. 2: Frequency and percentage distribution of reasons provided by the respondents for use of khat

ever use of Khat in life, ever use of alcohol, use of alcohol in the last 12 months and hours spent for study were variables associated with mental distress in bivariate logistic regression.

Furthermore, the multivariate analyses results revealed that the respondent's sex [AOR 3.13, 95% CI = 1.5, 6.49], conflict with family [AOR 2.20, 95% CI = 1.24, 3.90], having financial distress [AOR 1.99, 95% CI = 1.10, 3.56] and ever use of khat [AOR 2.29, 95% CI = 1.04, 5.04] were the determinants of mental distress among the students (Table 5).

DISCUSSION

The study showed that the prevalence of mental distress among students was 29.2%, which is consistent with the study conducted in Canada[8]. But it is lower as compared to studies done in USA[9], Australia[10], Brazil[14] and Malaysia[15]. The difference could be attributed to the socio economic, cultural and environmental factors.

The likelihood of having mental distress was higher among female students as compared to their male counterparts (Table 5). This finding is similar to other studies in Australia[7], France[11], Norway[12] and Turkey[19]. The affective nature of their response to stressors, domestic violence and hormonal changes during menstruation could be the possible causes for the higher prevalence of mental distress among female students.

Moreover, the study revealed that financial distress was strongly associated with mental distress. Those students who have financial distress were more likely to experience mental distress (Table 2). It is supported by other studies done in Australia[7], France[20], United States of America[21] and Nigeria[22]. It suggested that financial hardship was independently associated with mental distress. This might be due to rising cost of stationary materials, house rent and photocopy services. These may create a stressful situation in students.

On the other hand, students who had a conflict with their family were highly exposed to mental distress than their counterparts (Table 5). The finding is in line with a study in Adama University[23]. This might be due to the fact that, campus life where students live apart from their beloved family, may break social ties and might result in a stressful situation.

Furthermore, ever use of khat was found to be a significant factor of mental distress. Students who ever use khat were more than two times more likely to have mental distress as compared to students who never use khat (Table 4). This finding is in line with other studies in Ethiopia[23,24] and Sao Paulo, South Eastern Brazil[25]. This may be due to the fact that the substance use leads to inefficiency in life function, impaired relationship and sleep difficulty. Furthermore, the substance use is associated with increased absenteeism from class and poor academic performance which can further lead to mental distress in students[26].

In general, higher education students face multiple stressors such as academic load, constant pressure to succeed, competition with peers, financial burden, peer, teacher or parental pressure as well as concerns about the future. This can

Table 5: Factors associated with mental distress among respondents, MAHSC, Ethiopia, June, 2016 (n = 308)

		Mental distress					
		No		Yes			
Variables	Category	N	%	N	%	COR (95% CI)	AOR (95% CI)
Sex	Male	67	30.7	14	15.6	1	1
	Female	151	69.3	76	84.4	2.40 (1.27-4.56)	3.13 (1.5-6.49)
Marital status	Single	173	79.4	67	74.4	1	-
	Married	24	11.0	5	5.6	0.54 (0.19-1.47)	
	In relationship	21	9.6	18	20.0	2.21 (1.11-4.41	
Family history of mental distress	Yes	14	6.4	11	12.2	2.02 (0.89-4.66)	-
	No	204	93.6	79	87.8	1	
Conflict with students	Yes	25	11.5	22	24.4	2.50 (1.32-4.71)	-
	No	193	88.5	68	75.6	1	
Conflict with family	Yes	48	22.0	39	43.3	2.70 (1.60-4.58)	2.20 (1.24-3.90)
	No	170	78.0	51	56.7	1	1
Having opposite friend	Yes	96	44.0	56	62.2	2.09 (1.27-3.46)	-
	No	122	56.0	34	37.8	1	
Conflict with opposite friend	Yes	38	17.4	22	24.4	1.54 (0.84-2.78)	-
	No	180	82.6	68	75.6	1	
Conflict with instructors	Yes	12	5.5	13	14.4	2.89 (1.26-6.62)	-
	No	206	94.5	77	85.6	1	
Having financial distress	Yes	124	56.9	67	74.4	2.20 (1.28-3.80)	1.99 (1.10-3.56)
	No	94	43.1	23	25.6	1	1
Ever use of khat in life	Yes	21	9.6	19	21.1	2.51 (1.27-4.94)	2.29 (1.04-5.04)
	No	197	90.4	71	78.9	1	1
Ever use of alcohol	Yes	31	14.2	26	28.9	2.45 (1.35-4.43)	-
	No	187	85.8	64	71.1	1	
Alcohol use in last 12 month	Yes	23	10.6	20	22.2	2.42 (1.25-4.68)	-
	No	195	89.4	70	77.8	1	
Hour spent for study in 24 h	<2	34	15.6	12	13.3	0.45 (.19-1.06)	-
	3-4	84	38.5	28	31.1	0.43 (0.21-0.85)	
	5-7	72	33.0	28	31.1	0.49 (0.24-1.00)	
	>8	28	12.8	22	24.4	1	

AOR: Adjusted odds ratio, COR: Crude odds ratio

have negative effects on student's ability to study and academic outcomes. Such situation of stress may later lead to mental health problems. As a limitation, this study cannot ascertain cause and effect relationship since it is a cross-sectional type, social desirability bias cannot be totally eliminated as the study touches sensitive issues that might lead to under reporting.

CONCLUSION

This study has shown that the prevalence of mental distress was higher among female students. The students having a conflict with their family, having financial distress and students with Khat abuse are more prone to mental distress. As a result, the prevalence of mental distress among MAHSC students is going to be increased. So, remedial action and due attention have been expected from the college in collaboration with other stakeholders like NGOs, regional administrates, parents and students union to reduce the prevalence of mental distress among the students. More focus should be given to design and implement the different health information, Education and Communication programs on mental distress and its impact. Designing an economical support system for students with financial scarcity and empowerment of female students is also recommended.

SIGNIFICANCE STATEMENTS

This study identifies the factors associated with mental distress among the college students. Mental distress affects the academic performance and future carrier of the college students. Therefore, the findings of this study will be used as a baseline data to develop evidence based mental health promotion and disease prevention programs.

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