Research Article

Prevalence of Mental Distress and Suicidal Ideation among Undergraduate Students of Mekelle University, Ethiopia -

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ABSTRACT

Introduction: About 450 million people worldwide suffer from mental or behavioral disorders and among them college students are a susceptible population. Mental distress is becoming a common health problem among university students. Suicide is a serious and growing public health problem and it remains a serious cause of death in the world. It is the second leading cause of death in college students.

Objective: To assess the prevalence of mental distress and suicide ideation among undergraduate students of Mekelle University, Tigray, Ethiopia 2017.

Methods: Institutional based cross-sectional study was conducted among 406 from a total of 20244 students of Mekelle university from February -July 2017 using a structured self-administered questionnaire(SRQ 20) and suicidal ideation was assessed using semi structured yes/no question face to face interview. Stratified multistage sampling technique was used to select the study participants. The collected data were checked for completeness, consistency, categorized, and coded. Data entry and cleaning was done by epi.INFO and then exported into Statistical Package for the Social Sciences (SPSS window version 20) for analysis. The relationship between variables (association between single explanatory variable and dependent variable) was examined through chi square test. Figures, tables and texts are used to present the data.

Result: A total of 406 undergraduate students were surveyed with a response rate of 100%. Majority of the participants (n = 214, 52.70%) were males, Tigray (n = 192, 47.30%) and Orthodox Christians follower, (n = 254, 62.60%). The mean age of the students was 21.6 ± 1.8 years. The overall prevalence of mental distress was 29.10% (n = 118), 27.10% (n = 58) in male, and 31.25% (n = 60) in female students. The prevalence of mental distress was the highest among the first and fourth year students, 35.4% and 49.4% respectively. Both college of health science and college of veterinary medicine have the same prevalence 33.30% of mental distress. The prevalence of suicidal ideation and suicidal attempt one month before the study was 17% (n = 69) and 0.70% (n = 3), respectively.

Conclusion and Recommendation: About one tenth (29.1%) and one sixth (17%) of the university students had mental distress and had suicidal ideation respectively. All students who have mental illness have mental distress and students who have history of death in their families, substance user, suicidal ideation and suicidal attempt has highly prevalence of mental distress. Preventive measures should be taken for significantly associated factor of mental distress (suicide ideation, economical support, history of mental illness and substance use) is important.

Keywords: Prevalence; Mental distress; Suicidal ideation; Undergraduate students; Mekelle university

ABBREVIATIONS

ETB: Ethiopia Birr; MIT: Mekelle Institute of Technology; MU-CHS: Mekelle University-College of Health Science; SPSS: Statically Package for Social Sciences; SRQ: Self Reporting Questionnaire; WHO: World Health Organization

INTRODUCTION

Worldwide about 450 million people suffer from mental or behavioral disorders, of that only small minority of them receive the basic treatment. [1] Mental illness can affect anyone, in any age, gender, culture, ethnicity, or social class. Regardless of who they are, people who have been diagnosed with a mental illness are all likely to experience stigma, and despite of this fact, mental health has been hidden behind a curtain of stigma and discrimination for a very long period [2]. Studies showed that university and college students are vulnerable to mental health problems and many students experience their first psychiatric episode while at college, and 12 to 18% of students have a diagnosable mental illness [3-5].

Mental distress is a mental health problem that includes anxiety, depression, and somatic symptoms such as sleep problems, headache, and backache [6-7]. Nowadays, mental distress is an important public health problem and it is a leading cause of disability worldwide, accounting for one-third of disability-adjusted life years [8-9]. Many studies reported that high prevalence of mental distress among college students compared to the general population, in particular it is more common among medical students; due to the environmental setting of their living condition which exposes them to other dynamics such as added stress with academic challenge, social interaction within the mixed cultural pool and separation from preexisting social support [10,11]. Mental health problems affect society as a whole and no group is immune to mental disorders [12]. The university students

face multiple stressors may be as a result of being separated from their historical support systems and networks of care, and as a result of the collegiate environment 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 [13]. This can have negative effects on the student's ability to study and academic outcomes [14-15].

A study among undergraduate students in Canada showed that 30% of students had a psychological distress which was significantly higher than that of adults in the general population of Canada [16]. And more than half of the students in the USA have mental distress [17]. 10.8% of students in Kenya experienced mental distress [18]. In Ethiopia mental distress prevalence among university students ranges between 32.6% to 49.1% [19]

Suicide is a serious and growing public health problem, and it remains a serious cause of death in the world; therefore, it is essential to increase our knowledge concerning the etiology of suicide among undergraduate student. Suicidal ideation among university students has unique circumstances due to the stress that occurs in university life, including changes in family and peer relationships [20].

The prevalence of suicide rate among young is the second leading cause of death in college students, making it a significant [21]. Over 1,100 students die by suicide each year. It is estimated that each year, for individuals ages 18-29 years old, 2.9 million people have suicidal thoughts and an estimated 477,000 attempt suicide [22]. In college students, found that 21.6% of their sample reported thoughts of suicide [23] and, in another study, approximately 49% of college students reported a lifetime history of suicidal ideation or attempts [24].

The main aim of this study was to assess the prevalence of mental distress and suicide ideation among undergraduate students of Mekelle University, Northern Tigray, Ethiopia.

METHODS AND MATERIALS

Study area and period

The study was conducted in Mekelle University, which is located in the Northern of Ethiopia, Tigrai region, Mekelle city, at a distance of 783 kilometers from Addis Ababa the capital city of Ethiopia. Mekelle University was established in 1993 and currently it hosts over 31,000 regular students, continuing education program and summer, evening, distance education and in-service programs in both undergraduate and postgraduate programs. It has seven colleges, eight institutes, and more than 90 undergraduate and 70 postgraduate programs. Mekelle University has five campuses with two more under construction within the city of Mekelle namely Endayesus(Main Campus or Arid gibbi), AdiHaqi Campus, Ayder Campus, Kalamino Campus, Aynalem Campus, with under construction of Quha Campus and Maydegene Campus. The fundamental elements of the Universities mission are teaching, research and consultancy. The study was conducted from February-July 2017.

Study design and study population

This institution based cross-sectional study was conducted from February to July 2017. Source population comprised of all students who were registered in Mekelle University during 2017, and the study population included the sampled undergraduate students who were registered for the second semester in the university.

Eligibility Criteria

Students who were registered as a regular for undergraduate classes, during the data collection were included in the study whereas; Students who were in extension program, summer, distance education, postgraduates and students who were absent during the date collection were excluded from the study.

Sample size and sampling technique

The sample size was determined using a 95% confidence, a proportion of 40.9% (proportion prevalence of mental distress among students, and a 5% margin of error [25]. The final sample size, after adding a 10% non-response rate was 406.The classrooms were selected using simple random sampling, and students within selected classrooms had been selected using simple random sampling thorough proportion to population size from each department and programs of each campus. The total undergraduate students at Mekelle University were 20244.

Data Collection and analysis

The data was collected using a structured self-administered questionnaire developed by reviewing relevant literature and this self-reporting questionnaire (referred to as the SRQ-20) is a standardized questionnaire having 20 item questions, originally developed by the World Health Organization (WHO) designed to indicate mental distress [8] and suicidal ideation was assessed using semi structured yes/no question. There had been training for the data collectors aimed at how to approach and how to do the assessment. The suicidal ideation was assessed using semi structured yes/no questions. The tool was pretested in 5% of the sample 02 weeks prior to the data collection period in the study setting yet there was no major modification. The self-administered data collection method was employed by which a total of 03 data collectors who have a bachelor degree in Psychiatric Nursing were recruited to collect the data. Supportive supervision was held by master's level mental health professionals along with daily data entry and checkup of the filled questionnaire. Data entry and cleaning was done by epi.INFO and then exported into Statistical Package for the Social Sciences (SPSS window version 20) for analysis. The relationship between variables (association between single explanatory variable and dependent variable) was examined through chi square test. Figures, tables and texts are used to present the data.

Study variables

The outcome variable was mental distress and suicide ideation as well independent variables include socio-demographic factors, socio-economic characteristics, psychological issue(like stress, love,) and family issues, substance use and interest towards their field of study.

Ethical consideration

This study was carried out after obtaining ethical approval from the college of health sciences, Mekelle University. Study participants were informed about the procedures and significance of the study. Before conducting the interview informed consent was obtained. No personal identifiers were used on the questionnaire.

RESULT & DISCUSSION

Result

(A) **Sociodemographic data:** A total of 406 students satisfactorily completed the survey .177 (43.6%) were female and 229(56.4%) male. Majority of participants (n = 193, 47%) were between 19-21 years of age, with mean age of 21.61 ± 1.8. About 254(62.6%) of the students were follower of orthodox religion and Tigray ethnic group comprises the largest proportion of the study subjects 195(48%). Regarding parental educational status 171(42.1%) their father is college and above and their mother 136(33.5%) are illiterate. About 365(89.9%) fathers' and 214(52.7%) mothers' of the students has a job.

The mean monthly economic support of students was 601.1birr with ± 388.4. from the participants of the survey 65 were the first year, 113 second year, 122 third years, 85 fourth years and the rest 21 were fifth year students. Majority of the participants 233(57.4%) were from Arid campus, 93(22.9%) were from Adihaki campus, 60(14.8%) were from Ayder campus, 14(3.4%) were from Aynalem campus and the remaining 6(1.5%) were from Kalamino campus (Table 1).

(B) **Distribution of psychological symptoms:** In this study, 156(72.9%) of male and 132(68.75%) of female respondents had no symptoms of mental distress at all. The distribution of cut points and taking into account of 6 or more of the SRQ20 items, about 58(27.1%) males and 60(31.25%) female students had mental distress in the last 4 weeks during the study period.

C) **Prevalence of mental distress:** Our study found that the total prevalence of mental distress for both sex were 29.1%, out of this 58(27.1%) were males and 60(31.25%) females. The prevalence rate of mental distress among the fifth, fourth and third year students were 14.3%, 49.4% and 28.7% respectively. Also among second and first-year students were 13.3 % and 35.4% respectively. When it is categorized into each campus in Arid, Adihaki and Aynalem campuses were 29.6%, 27.95% and 27.95% respectively. In the Ayder and kalamino campus students had the same prevalence of mental distress 33.3%. Based on college, college of health science and college of veterinary medicine had the same prevalence 33.3% of mental distress. College of business and economics had the highest prevalence 40.5% among Mekelle university colleges. College of social science and language 16.1%, and college of law and governance were

Table1: Socio-demographic characteristics undergraduate students of Mekelle University, Tigray, Ethiopia, May 2017[N=406].

Variables		Respondents
		N (%)
Age(in years)	19-21	193(47.5)
	22-24	192(47.3)
	25-27	21(5.2)
Sex	Male	229(56.4)
	Female	177(43.6)
Mother level of education	Illiterate	136(33.5)
	Elementary	70(17.2)
	High school	115(28.3)
	College and above	85(20.90)
Ethnicity	Amara	117(28.8)
	Tigray	195(480)
	Oromo	34(8.4)
	SNNP	27(6.7)
	Wolayta	20(4.9)
	Hareri	6(1.5)
	Somali	7(1.7)
Residency	Urban	297(73.2)
	Rural	109(26.8)
Year of study	First	65(16)
	Second	113(27.8)
	Third	122(30)
	Fourth	85(20.9)
	Fifth	21(5.2)
Campus	Arid/main campus	233(57.4)
	Aynalem	14(3.4)
	Kalamino	6(1.5)
	Adihaki	93(22.9)
	Ayder	60(14.8)
Institute and college	MIT	15(3.7)
	College of health science	60(14.5)
	CVM	6(1.5)
	College of law and governance	18(4.4)
	College of business &economics	42(10.3)
	College of social science & language	31(7.6)
	College of natural & computational	36(8.9)
	Ethiopian Institute of Technology	161(39.7)
	College of dry land & natural	38(9.4)
monthly economic support	Less than average(601.1)¥	281(69.2)
	Greater than or equal to average	125(30.8)
GPA results	2-2.74	83(20.4)
	2.75-3	82(20.2)
	Greater than 3	241(59.4)

¥ 23 US currency, CVM = College of Veterinary Medicine, MIT= Mekelle Institute of Technology, SNNP = South Nation and Nationality People.

16.7%. College of natural and computational was 19.4%, whereas among college of dry land and natural were 28.9%. Among Ethiopian Institute of technology were 32.3% and among MIT 6.67 %. The prevalence of mental distress among rural and urban residence students were 43% and 28.9% respectively.

The prevalence of mental distress among those students who are studying the field they don't choose were higher than those who are studying the field of their choice which is 40.8% and 25 % respectively. All students who had mental illness had mental distress.

The prevalence of mental distress among substance users were 41(48.8%), whereas among students who had suicidal ideation and suicidal attempt 48% and 59.4% respectively.

D) Prevalence of suicide: Suicidal ideation and attempt one month before the study among the students were (n = 69, 17%) and (n = 3, 0.70%) respectively.

DISCUSSION

Our finding of the study were lower than what was found in Malaysian university, Jizan University, and Gonder University where 48.3%, 71.90% and 40.9% respectively mentally distressed [34, 37, and 43].

But, the finding of this study is higher than what was reported from Kolata, Adama University and Alamaya University which were 14.50%, 21.60% and 19.30% respectively [34, 39, and 42]. Whereas almost similar findings were reported from Sapthagril institute of medical science and research center university, and Hawasa university were 30.39% and 30% respectively [37, 41].The difference could be due to the socioeconomic, cultural and environmental factors, and most of these studies were done among medical schools students where the medical education environment is thought to be stressful, and contributes to emotional and psychological disturbances.

LIMITATIONS

There are several limitations that need to be considered when interpreting the findings.

● The occurrence of mental distress & suicidal ideation among, irregular & postgraduate students of the university was not covered, Since the questionnaire was administered only to undergraduate regular students

● The questionnaire is a self-reported and, it may have biases since some students may not answer truthfully, may not recall, or maybe not be comfortable to disclose sensitive information, and others may simply misunderstand the question.

● The study was cross-sectional in nature, so temporal stressors may have influenced students' responses.

CONCLUSION & RECOMMENDATION

Conclusion

About one tenth (29.1 %) and one sixth (17%) of the university students had mental distress and had suicidal ideation respectively. Based on this study the more vulnerable female students (P-value = 0.023), preventive measures should be taken to overcome this issue. All students who had any type of mental illness had mental distress. Students with history of substance use suicidal ideation and suicidal attempt highly at risk for mental distress. Preventive measures should be taken for significantly associated factor of mental distress (suicide ideation, economical support, history of mental illness and substance use) is important.

Recommendations

The prevalence of mental distress & suicidal ideation among undergraduate students has major implications. So, it is better to develop strategies in place to identify and support all students suffering from mental distress & suicide ideation.

For counselors and other health caregivers:

- This study may help to the counselors and other caregivers to become aware of the potential factors that can predict students at risk to mental distress & suicidal ideation.

For the university administrative: University communities such as counselors, teachers, and administrators should take different actions for those students who were at risk for mental distress like by opening counseling office and refreshment areas.

Table 2: Variables related to socio-demographic undergraduate students of Mekelle University, Northern Tigray Ethiopia, May 2017[N = 406].

Variables	Respondents	
		N (%)
Do you like your department?	Yes	303(74.6)
	No	103(25.4)
Is there any stress in your education?	Yes	70(17.2)
	No	336(82.8)
Do you have financial stress?	Yes	103(25.4)
	No	303(74.6)
Have you ever fall in love?	Yes	178(43,8)
	No	228(56.2)
Are you in a relationship?	Yes	153(37.7)
	No	253(62.3)
Do you have a conflict with your partner?	Yes	49(12.1)
	No	357(87.9)
Did your partner died this year?	Yes	7(1.7)
	No	399(98.3)
Have you ever used any substance?	Yes	84(20.7)
	No	322(79.3)

Table 3: Variables related to suicide, mental illness and mental distress of undergraduate students of Mekelle University, Northern Tigray, Ethiopia, June 2017.

Variable	Respondents	
		N (%)
Have you ever thought about killing yourself?	Yes	69(17)
	No	357(82.9)
Have you ever attempt suicide?	Yes	3(.7)
	No	403(99.3)
Do you have any mental illness	Yes	10(2.5)
	No	396(97.50
Mental distress	SRQ less than 6	288(70.9)
	SRQ greater than 6	118(29.1)

Table 4: Factors associated with mental distress of under graduated students of Mekelle University, Northern Tigray.

	Sig	95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
Age of students	.229	-.028	.116
Monthly economic support	.024¥	-.201	-.015
GPA result	.091¥	-.105	.008
Have you ever thought about killing yourself?	.000¥	-.391	-.158
Have you ever attempt suicide?	.525	-.393	.769
Do you have any mental illness?	.008¥	-.812	-.123
Have you ever used any substance?	.003¥	-.273	-.056
Campus	.914	-.024	.026
Sex	.756	-.077	.105

¥Significant at P value < 0.005.

- For first year students orientations regarding learning and communication skills in order to meet academic requirements and adapting to the new environment that may the factor of mental distress & suicidal ideation should be given.

- Clinical setup strengthening and establishment of good referral linkage with mental health institutions

7.2.2. For the government: The government should focus on awareness creation about mental distress, suicide prevention in schools and higher institutions. For this to be meaningful, mental distress & suicide education should be capable of loading its contents with topics such as signs, myths, and facts about mental distress & suicide, factors associated with them and the possible ways of helping the mentally distressed & suicidal persons

- Prevention centers whose scope should not only preventing mental distress & suicide but also handling other psychological and emotional problems of crisis nature should be opened. Specific university-based mental health services should be established in various universities.

- The government should give more emphasis on social health problems through sponsoring studies to identify factors that can enhance mental distress and suicide and to find solutions to them.

For researchers: Epidemiology of suicidal attempts, suicidal ideation and mental distress among university should be conducted; and research on the development, delivery, and evaluation of mental distress & suicide preventive interventions in reducing suicidal behaviors among students should be carried.

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