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ORIGINAL RESEARCH

Social Phobia and Its Impact on Quality of Life Among Regular Undergraduate Students of Mettu University, Mettu, Ethiopia

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Video abstract

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Background: Social anxiety disorder is a serious and disabling mental health problem that begins before or during adolescence, with the potential to significantly interfere with an individual's daily functioning and overall quality of life.

Objective: The aims of this study were to assess the prevalence, severity, and quality of life towards social anxiety disorder among students of Mettu University, Ethiopia.

Subjects and Methods: A cross-sectional study was conducted among a stratified sample of 523 undergraduate students to identify the prevalence, correlates of social anxiety disorder, and impacts on quality life. All participants completed the Social Phobia Inventory, Liebowitz Social Anxiety Scale, and World Health Organization Quality of Life-Brief Form, Turkish Version (WHOQOL-BREF-TR). Of 523 students, 26% were screened positive for social anxiety disorder. About 69.4% and 17.4% of the students had mild and moderate symptoms of social anxiety disorder, respectively. WHOQOL BREF-TR scores showed that students with social phobia had significantly lower quality of life quality than those without social phobia. Being criticized by others or fear of parties was the most commonly feared situations. Talking to strangers was the most commonly avoided situations. Being females, current tobacco use, and family history of psychiatric illness were factors significantly associated with social phobia symptoms using logistic regression analysis.

Conclusion: The current study shows high prevalence of social phobia among the university students and its significant negative effects on quality of life which require prompt identification and treatment.

Keywords: social anxiety, university, quality of life

Background

Social phobia or social anxiety disorder is a serious and disabling mental health problem that begins before or during adolescence, has a chronic course, is associated with significant impairment in social functioning and work, and reduced quality of life.[1] Among university, social phobia symptoms arise in a great number of students or existing symptoms increase.[2] During this period, students go into the effort of having himself or herself accepted by others as a self-governing person and showing himself or herself. Performing or giving a talk in front of an audience was the most commonly feared situations and also showed an association with increased disability, and impaired quality of life.[3,4]

It is generally estimated that 13% of the population will meet the diagnostic criteria for lifetime social phobia with onset typically occurring in adolescence or early

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adulthood.[5] However, recent studies suggest that lifetime prevalence rates may be much higher.[6,7] After major depression disorder and alcohol dependence, social anxiety disorder is the third most common disorder in the general population and it is also the most prevalent anxiety disorder.[8]

A cross-sectional study conducted in Swedish, Jordan University, Saudi Arabia (2014), and University of Parakuo students showed that about 9–16.1% of participants were positive of social phobia.[9–12] Research conducted in Nigeria shows SAD in about 9.4% which states that there will be a significant difference in the phobic health of adolescents in the selected private and public Nigerian universities.[13]

In Ethiopia, research conducted on prevalence of social phobia among high school students in Woldia, Gondar and Hawassa was 27.5%, 31.2%, 32.8%.[14–16] Factors have shown to have an association include being the first or only child,[17] medical science faculties,[18,19] being female, younger age, religion, marital status (unmarried), the presence psychiatric illness, having a positive family history of mental disorder had a significant role for development of social phobia.[16,20] Evidence showed that social phobia was associated with substance use,[21] low socioeconomic status, unemployment, low level of education, and social support.[22] Also decreased academic achievement, poor clinical exam performance,[11] and impaired quality of life[23] also shown to have associated with social phobia.

Despite the high worldwide burden of social phobia, like shy, withdraw, unfriendly, and disinterested in social activity and limited evidence is available, particularly in developing countries. To the best of the author's knowledge, no study has investigated the effects of social phobia on quality of life in Ethiopia. The present study aimed to determine the prevalence of social phobia among university students, its correlate, and impacts on quality of life.

Subjects and Methods

An institution based cross-sectional study conducted at Mettu University from May to April, 2019. Mettu University is one of the higher institutions in Ethiopia, which is a third Generation University. It is located at 600 km southwest of Addis Ababa. Mettu University established in 2011. Mettu University currently has two campuses. Main campus was study area containing 7 faculties. Those are faculty of health science, faculty of natural and computational science, faculty of social science and Humanity, school of law. The campus has a total of 43 departments and 8290 regular undergraduate students.

This study included 8290 undergraduate students at Mettu University during the 2019–2020 academic years. Using a confidence interval of 95%, 5% margin of error, design effect of 2, the prevalence of social phobia of 19.9%[16] and adding 10% non-response rate of 10%, making a final number of participants to be 523. As such, 523 students were selected as the study group.

A study is part of a mega project undertaken in among regular undergraduate students of Mettu University and previously published study assessing suicidal behavior among this population were also part of the project.[24]

Multistage stratified sampling technique was used to select the study participants. Stratification was first done on the faculty/college level, then by department and by the year of study. Finally, taking students from registration as a sampling frame a random selection was done. All regular undergraduate students aged 18yrs old and above were included, while critically ill students were excluded.

A self-administered structured questionnaire was used to collect information. Questionnaires about demographic, family and campus related and clinical factors were developed after an extensive review of literatures and similar study tools. Rating instruments included the Social Phobia Inventory to detect Social Phobia, the Liebowitz Social Anxiety Scale to measure the severity of Social Phobia and the WHO Quality of Life – BREF questionnaire to assess Quality of Life. The questionnaire was translated to Amharic and Afaan Oromo language, and then retranslated back to English so as to see and keep the consistency. Pretest was done on 26 students in Bedele agricultural campus whose completed the questionnaires beforehand and the questions were evaluated and re-arranged accordingly before actual data collection.

Ethical clearance was obtained from the ethical review board of Mettu University and permission was obtained from the concerned body.

Rating Instruments

Social Phobia Inventory (SPIN, a 17-item self-rating scale developed to measure social phobia). It shows the symptom domains of social phobia (fear, avoidance, and physiological arousal) and has reliable and valid psychometric properties in screening social phobia in adolescents and other populations. The Cronbach's α in this study was 0.87. Subjects are asked to rate symptoms occurrences as 0 (not at all), 1 (a little bit), 2 (somewhat), 3 (very much), or 4 (extremely during the past week) and the sum score ranged from 0 to 68. A student with a score of 20 and

above on SPIN will be considered as having social phobia.[25]

Liebowitz Social Anxiety Scale is a self-rating scale used to rate fear/anxiety and avoidance regarding commonly feared performance or social situations. The scale includes 24 items and 2 subscales. The first subscale has 11 items and investigates social relationships. The second subscale has 13 items and investigates performance. The 4-point Likert-type scale measures the intensity of fear and avoidance behaviour during the previous week. It has a good internal consistency and evaluates the severity of fear and avoidance in common social situations. A score of <55 suggests mild social anxiety disorder, 55–64 suggests the moderate social anxiety disorder, 65–79 suggests marked social anxiety disorder, 80–94 suggests severe social anxiety disorder, and >95 suggests very severe social anxiety disorder. It is validated in and reliable for measuring the severity of social phobia[26]. The Cronbach's α in this study was 0.98.

World Health Organization Quality of Life Scale – Brief version (WHOQOL – BREF) which is a 26-item self-administered generic questionnaire. It produces a profile with four domain scores: physical health (7 items), psychological health (6 items), social relationships (3 items), environmental domain (8 items) as well as two separately scored items about the individuals" perception of their quality of life (QI) and health (Q2). Each item was scored in a Likert format from 1 (very dissatisfied) to 5 (very satisfied) in a positive direction, which means that higher scores indicate a higher quality of life. The scores of questions 3, 4 and 26 are reversed, so as to transform these negatively framed questions to positively frame. The Turkish version of the form had an internal validity score of 0.83 (Cronbach's alpha) in physical terms, 0.66 in mental terms, 0.53 in social terms, and 0.73 in both environmental and environment-national terms[27]. The Cronbach's α in this study was 0.82

Statistical Analysis

The data were analyzed using SPSS version 21. Descriptive (frequency and percentage) and inferential statistics (chi square test was used for categorical variables, and ANOVA (analysis of variance) were used to compare groups in terms of SPIN and LSAS scores).

An independent samples *t*-test was used to analyze the difference between the two groups (students with/without social anxiety disorder). Logistical regression analysis was used to evaluate the significance of the relationship between two dependent and independent variables. The Pearson correlation coefficient was used for correlation analysis.

Result
Socio-Demographic Characteristics of the Study Participants

A total of 523 participants were recruited for the study, which makes the response rate 100%. The results show that 270 (51.6%) of respondents were males and 253 (48.6%) were females. The mean age of students was 22.07 (SD = 2.36), with ages ranging from 18 to 32 years and the majority of them (61.0%) were at the age of 22 years or below. The sample consisted of different faculties with the highest number of engineering faculty (110, 21.0%) and the lowest number from Institute of education (42, 8.0%) which was proportionally recruited from each stratum. Also the study has revealed that 351 (67.1%) of the participants had one of two siblings and most perceived that their family income as bad (58.9%). The majority of the participants 319 (61.0%) were from rural backgrounds and first-year students comprises the majority of participants (222, 42.4%) (Table 1).

Social Phobia

The regarding students' reports of their social phobia symptoms, the analysis (Table 2) showed that the mean score for students in general was 13.08 (SD = 9.24), with scores ranging from 0 to 43. About, 70% (n = 361) had a score of 16 or less.

Further analysis using LSAS score, for the levels of social anxiety symptoms showed that the majority of university students had mild symptoms, 69.4% (n = 363) followed by moderate symptoms 91 (17.4%), and those with marked to severe represented about 13.2% (n = 69). The Cronbach's alpha for LSAS scale obtained in this sample was 0.976.

As shown in Table 2, 25.8% of the subjects had a SPIN score of 19 (Connor et al, 2000), and more which accounted for about one-fourth of participants, ie, There was a statistically significant difference in the prevalence of SAD regarding the age category, birth order, faculties, family history of mental illness. Being a younger age[18–20] group was associated with higher prevalence of SAD (26.7%) and being in the age group of 21–23years was associated with lower prevalence of SAD (9.6%) (X2= 0.24, P<0.05). There is a higher prevalence of SAD among students in Engineering

Table 1 The Basic Sociodemographic, Clinical and Substance Use Characteristics of the Participants (n= 523)

Variables	Categories	Frequency	Percentage
Sex	Male	270	51.6
	Female	253	48.6
Age	18–20	148	28.3
	21–23	87	16.6
	24–26	149	28.5
	≥27	139	26.6
Ethnicity	Oromo	321	61.4
	Amhara	117	22.4
	Gurage	41	7.8
	Tigre	25	4.8
	Others*	19	3.6
Faculty	Engineering	110	21.0
	Health sciences	97	18.5
	Social science and humanities	85	16.3
	Natural and computational	89	17.0
	Business and economics	52	9.9
	School of Law	48	9.2
	Institute of education	42	8.0
Residence before campus	Urban	204	39.0
	Rural	319	61.0
Birth order	Frist or only child	123	23.5
	Middle	320	61.2
	Last	80	15.3
Year of study	First	130	24.9
	Second	133	25.4
	Third	107	20.5
	Fourth	77	14.7
	Fifth	76	14.5
Alcohol use	Yes	299	57.4
	No	127	42.5
Cigarette use	Yes	78	14.9
	No	53	67.9
Khat use	Yes	98	18.3
	No	67	68.4

Note: *Wolayta, Dawuro, Kefa, Sidama, Gurage, Silte.

Table 2 Comparing Social Phobia with Demographic and Clinical Variables

Variables	Categories	Frequency	Percentage
Sex	Male	270	51.6
	Female	253	48.6
Age	18–20	148	28.3
	21–23	87	16.6
	24–26	149	28.5
	≥27	139	26.6
Ethnicity	Oromo	321	61.4
	Amhara	117	22.4
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	Others*	19	3.6
Faculty	Engineering	110	21.0
	Health sciences	97	18.5
	Social science and humanities	85	16.3
	Natural and computational	89	17.0
	Business and economics	52	9.9
	School of Law	48	9.2
	Institute of education	42	8.0
Residence before campus	Urban	204	39.0
	Rural	319	61.0
No. of siblings	Mean ±SD (1.98±1.16)		
Birth order	Frist or only child	123	23.5
	Middle	320	61.2
	Last	80	15.3
Fathers education	No formal education	50	9.6
	Primary school	217	41.5
	Secondary school	137	26.2
	Above secondary	119	22.8
Mothers' education	No formal education	62	11.9
	Primary school	187	35.8
	Secondary school	235	44.9
	Above secondary	39	7.5
Perceived family monthly income	Bad	308	58.9
	Moderate	127	24.3

(*Continued*)

faculties, while lower prevalence is seen in the faculty of social science and humanities (X^2=0.163, $P<0.05$).

The results of the present study show that significantly more of the students without social phobia have a family history of psychiatric illness than those with social phobia.

Table 2 (Continued).

Variables	Categories	Frequency	Percentage
	Good	88	16.8
Year of study	First	130	24.9
	Second	133	25.4
	Third	107	20.5
	Fourth	77	14.7
	Fifth	76	14.5
Alcohol use	Yes	299	57.4
	No	127	42.5
Cigarette use	Yes	78	14.9
	No	53	67.9
Khat use	Yes	98	18.3
	No	67	68.4

Note: *Wolayta, Dawuro, Kefa, Sidama, Gurage, Silte.

However, with respect to gender, ethnicity, year of study, family educational status, perceived family income, and residency, there was no statistically significant difference in the prevalence of SAD (all P values >0.05).

Using logistical regression analysis, three independent variables that were significantly shown to have association in the final model. The risk of social phobia was 1. Ninety-five-fold higher among female students than male students, 1. Eighty-four-fold higher among those with a family history of psychiatric illness than those without, and 2. Ninety-five-fold higher among students who smoked cigarettes in the past 3months compared to those who did not (Table 3).

Table 3 Logistical Regression Analysis Showing Factors Associated with Social Phobia Among Students in Mettu Health Science Students, Mettu, Ethiopia, 2019 (n=523)

Variables	Category	COR (95% CI)	AOR (95% CI)
Sex	Male® Female	1.78 (1.20–2.64)	2.04 (1.26–3.28)*
Previous history of chronic physical illness	No® Yes	1.83 (1.02–3.30)	1.84 (1.01–3.35)*
Current tobacco use	No® Yes	1.27 (.74–2.2)	2.95 (1.36–6.40)**
Lifetime khat use	No® Yes	1.99 (1.00–3.99)	1.52 (0.68–3.37)
Residence	Urban® Rural	4.52 (2.69–7.7)	1.24 (.494–3.12)

Notes: *P value < 0.05, **P value < 0.01, VIF 1.06–2.10. Hosmer–Lemeshow - goodness of fit test corresponding, P value = 0.77, Reference = ®.
Abbreviations: COR, crude odds ratio; AOR, adjusted odds ratio.

Using item analysis to examine the items that had the highest and lowest scores (Table 4), the analysis showed that the mean items ranged from 0.56 (SD = 0.81) (item 13: Heart palpitations bother me when I am around people) to 0.99 (SD = 1.07) (item 2: I am bothered by blushing in front of people).

The highest three items in addition to item 2 were item 10 (M = 0.96, SD = 1.10: Talking to strangers scares me) and item 7 (M = 0.85, SD = 1.009: Sweating in front of people causes me distress). This also goes for the highest three items that students reported being very much to extremely experiencing social phobia symptoms over the past week as items 2, 10, and 7 had the highest percentage among all other items.

Table 4 Item Analysis of SPIN Among University Student in Mettu (n= 523)

	Item	Mean	SD
1	I am afraid of people in authority.	0.68	0.976
2	I am bothered by blushing in front of people.	0.99	1.073
3	Parties and social events scare me.	0.82	0.957
4	I avoid talking to people I do not know.	0.75	0.961
5	Being criticized scares me a lot.	0.85	0.959
6	Fear of embarrassment causes me to avoid doing things or speaking to people.	0.80	0.921
7	Sweating in front of people causes me distress.	0.85	1.009
8	I avoid going to parties.	0.79	0.892
9	I avoid activities in which I am the center of attention.	0.79	0.993
10	Talking to strangers scares me.	0.96	1.109
11	I avoid having to give speeches.	0.83	0.990
12	I would do anything to avoid being criticized.	0.65	0.925
13	Heart palpitations bother me when I am around people.	0.56	0.811
14	I am afraid of doing things when people might be Watching.	0.59	0.885
15	Being embarrassed or looking stupid is my worst fears.	0.67	0.931
16	I avoid speaking to anyone in authority.	0.72	0.888
17	Trembling or shaking in front of others is distressing to me.	0.78	0.955

Table 5 Mean Distribution of QOL of Students with and Without Social Phobia at Mettu University, 2019

Areas	Students with Social Phobia ($\chi \pm$ SD)	Students Without Social Phobia ($\chi \pm$ SD)	Analysis*	
			T	P
Physical	22.34±3.76	21.55±4.49	−1.821	< 0.01
Psychological	17.67±2.62	16.03±4.03	−4.42	< 0.001
Social	6.87±2.27	5.59±2.93	−4.59	< 0.001
Environmental	23.55±3.46	22.01±5.02	−3.32	< 0.001

Notes: ANOVA, $\chi \pm$ SD (arithmetic mean ± standard deviation). *For all analyses the degree of freedom was 522.
Abbreviation: QOL, quality of life.

The highest mean item scores varied among the two subscales (more among physiological discomfort) and also, two of lowest mean item scores (item 1,14) belong to fear of the social situation subscale. The results do not strictly support the mean scores of the subscales mentioned above in Table 2 that physiological discomfort in social situation was the lowest reported subscale among the three subscales. The Cronbach's alpha for SPIN scale obtained in this study sample was 0.869. Generally, about one-fourth of the students showed positive symptoms of social phobia (score of >19) and the majority of them present with mild category.

Quality of Life of Students with and Without Social Phobia

Study participants' quality of life was assessed by the world health organization quality of life brief version scale (WHOQOL-BREF) and the mean total quality of life score was found to be (70.87+16.22). The highest QOL domain of the students with social phobia in the current study was environmental health domain mean score of (23.55 ± 3.46), followed by physical health domain mean score of (22.34±3.76), psychological health domain mean score of (17.67±2.62) and social relationships domain mean score of (6.87±2.27). The WHOQOL-

BREF scale demonstrated a high internal consistency reliability coefficient (Cronbach's alpha=0.821).

WHOQOL-BREF-TR scores showed that students without social phobia had significantly higher quality of life scores in all areas than the students with social phobia (Table 5).

Correlating SPIN and LSAS with QOL Scores

As seen in Table 6. Regarding correlation of LSAS scores to QOL scores, they were negatively correlated with respect to physical health, psychological health, social relationship and environment, although not significant in majority of the domains, except the psychological domain.

Again, SPIN scores were also negatively correlated with QOL scores in all areas. Thus, social phobia was associated with reported deterioration in physical, psychological health, social relationship and environmental functioning. SPIN and LSAS scores were found to be more strongly correlated with psychological domain scores and SPIN score were more strongly correlated with physical health domain compared to other domain (Table 6).

Discussion

This study aims on the prevalence of social phobia and its impact on quality of life among university students in Mettu, South western, Ethiopia. The prevalence of social phobia varies widely among different countries. In this study, social phobia was found in 26% of subjects, much more than other studies among undergraduate university students in different settings.[18,28-31] Regarding the severity of social phobia, using LSAS score, the majority of the students have mild forms of social anxiety disorder. In other words, levels of social anxiety symptoms show about 17.4% of them had moderate symptoms, which is in line with the study undertaken at the University of Jordan (6.8%). However, the finding was lower than study done in Woldia, Ethiopia (27.5%),[15] Saudi Arabia,

Table 6 Correlating SPIN and LSAS with QOL Scores

Instrument	Domain of Quality of Life				
		Physical Health	Psychological Health	Social Relationship	Environmental
LSAS score	R P value	−0.010 0.820	−0.168 0.000	−0.019 0.662	−0.053 0.227
SPIN score	r P value	−0.199 0.000	−0.102 0.020	−0.082 0.062	−0.013 0.768

Note: r = Pearson correlation coefficient.
Abbreviations: SPIN, Social Phobia Inventory; LSAS, Liebowitz Social Anxiety Scale; QOL, quality of life.

Riyadh (24.3%).[32] Different studies have shown an association of social phobia with gender. The results of the current study, which showed higher social phobia scores of female students compared to their counterparts. This was in line with the international report of different countries such as India,[11] Turkey,[33] German.[3] However, in one study social phobia prevalence is found to be higher in men in studies of prevalence conducted with clinical samples.[34]

The current study shows an association of cigarette smoking and social anxiety disorder. This finding was in agreement with international report such as in the USA[35] and Turkey.[36] The reason behind might be related to smoking, which used for its reinforcing effect, by socially anxious people to elevated negative affect especially for social interaction.[37]

In contrast to studies done in Australia[18] and Swedish,[9] SAD was more prevalent among students of engineering faculties than students of social science and humanities faculties. It may be related to the consequences of social anxiety on academic performance during pre-engineering years and career choices made thereafter, in addition to a larger quota of students in the school, as this stage greatly matters their life on the campus, particularly.

Considering birth order, SAD was more prevalent among first or only child than being middle or last child. Which was in agreement with study done in Egypt (birth order).[17] It was hypothesized that the first-born child will have a higher level of social anxiety than a non-first born child.[38]

In terms of age, the current study shows significant association, with higher prevalence of SAD among students in the age group of 18–20 years as compared to older age groups. The finding was in accordance with many of the prior studies, shown an early onset of social anxiety symptoms.[20]

Family history of psychiatric illness was found to have significant association with SAD. This could be explained by studies showed association of social phobia and genetic inheritability, although the underlying mechanisms remain unclear.[39]

The most commonly reported feared social situations in the target sample were being criticized by others or fear of parties and social events, followed by doing things or speaking to people and the most commonly avoided situations were talking to strangers followed by being a center of attention. These findings were consistent with result of earlier studies.[4] This is because college years are a critical period to socialize themselves, particularly via social interaction.

Again their expectation matter the way they interact, they may avoid such interaction because of negative evaluation.

The Effects of Social Phobia on Quality of Life

To the best of the author's knowledge, the present study is the first to investigate the direct relationship between social phobia and its impact on quality of life among university students in Ethiopia. In the present study students with social phobia had lower scores on all areas of life quality, including physical and psychological health, social relationships, and the environment than those without social phobia.

Results of an epidemiological study from report that students with social phobia have reduced quality of life in all domains as compared to those without social phobia as in Swedish,[9] and California,[6] and Canada.[40] Similarly, in the current study, students with SAD were more likely than students without SAD to be unsatisfied with their health, suffer from depression and psychological distress, rate their quality of life as poor, and to be unsatisfied with many aspects of life. For example, mean ± standard deviation score of students (2.96 ± 1.42) and (2.11 ±1.24) with SAD reported dissatisfaction with personal relationship and health, respectively.

In sum, our study reported high level of social phobia. These have an impact on impairing health status. Particularly mental health, and predispose students to more complicated dysfunction in different areas of functioning, dropping out of school and letting them disable or dependent.

Study limitations included that this sample was only for university students and did not represent the general population. From an epidemiological perspective, it is necessary to study a community representative sample that best represents the entire population.

Conclusions

The current study shows high prevalence of social phobia among the university students and its significant negative effects on quality of life. These findings necessitate more extra efforts in recognizing and treating social anxiety disorder in higher academic institutions. Prompt identification and treatment will help in reducing the bad consequences of this common condition.

Abbreviations

ANOVA, analysis of variance; CI, confidence interval; DSM-5, Diagnostic and Statistical Manual of mental

disorders Fifth Edition; OR, odds ratio; MINI, Mini International Neuropsychiatric Interview; LSAS, Liebowitz Social Anxiety Scale; SAD, Social Anxiety Disorder; SPIN, Social Phobia Inventory; SPRQ, Social Phobia Screening Questionnaire; SPSS, Statistical Package for Social Science; UK, United Kingdom; USA, United States of America; WHOQOL-BREF, World Health Organization Quality of Life Scale – Brief Version.

Data Sharing Statement

The data that support the findings of this study are available from the Mettu University, but restrictions apply to the availability of these data, which were used under license for the current study and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of Mettu University.

Ethics Approval and Consent to Participate

The study was carried out in accordance with the principles of the Declaration of Helsinki. Ethical clearance is obtained from the ethical review board of faculty of health and medical sciences of Mettu University. An official letter was obtained from Mettu University president's office, and an approbation letter was obtained from the head of the department of psychiatry. Selected students were informed about the nature, purposes, benefits and adverse effects of the study and invited to participate. Confidentiality was ensured and all related questions they raised were answered. Participation was completely voluntary, with no economic or other motivation, and each participant signed written informed consent for their participation. Participants had the right to refuse or discontinue participation at any time according to their choice.

Author Contributions

MAH wrote the protocol, design the study, organized the data collection process, analyzed the data, and reviewed and edited the manuscript. ZA revised and approved the protocol, participated in data analysis, reviewed and edited the manuscript. MAH and ZA contributed to an analysis of the data, drafted the manuscript, critically reviewed and approved the manuscript for publication. All authors contributed to data analysis, drafting or revising the article, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

Disclosure

The authors declare that they have no competing interests, financial or otherwise.

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