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RESEARCH ARTICLE

Prevalence and Associated Factors of Social Phobia Among College of Health Science Students, Mettu Town, Southwest Ethiopia 2019; Institutional Based Cross-Sectional Study

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Abstract:

Background:

Social phobia or social anxiety disorder is a serious and disabling mental health problem that begins before or during adolescence, and is associated with significant impairment in social functioning. It was the most prevalent anxiety disorder to seek psychiatric help, leading to an underestimation of the problem.

Objective:

The objective of the study was to assess the prevalence and associated factors of social phobia among Mettu health science college students, Mettu, Southwestern Ethiopia, 2019.

Methods:

Pretested and self-administered questionnaires were used to collect data. Social phobia was assessed using the Social Phobia Inventory. Data was entered into the Epi - data version 3.1 and analysis was done using statistical package for social science version 20. Logistic regression analysis was done and the strength of the association was presented by odds ratio with 95%CI and variable with P value less than 0.05 considered as statistically significant.

Results:

The prevalence of social phobia in the current study was 16.4%. Of 336 total study participants, 16.4% showed positive for social phobia; **female** sex.[AOR: 1.95, 95% CI [1.07, 3.55], previous history of chronic physical illness[AOR: 1.83, 95% CI [1.01, 3.35], current use of tobacco[AOR: 2.95, 95% CI [1.36, 6.40]] were found to be independent predictors of social phobia among college students.

Conclusion:

Social phobia among college students was significantly higher than studies conducted in different settings. Early detection and availing appropriate management in the college students may be of great importance in reducing the prevalence of this common disorder.

Keywords: Social phobia, Cross-sectional, College students, Ethiopia, Social support scale, Mental health problem.

Article History

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1. BACKGROUND

Social phobia is a marked and persistent fear of one or more social or performance situations in which the person is

posed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way [or show anxiety symptoms] will be humiliating or embarrassing. Social phobia or social anxiety disorder is a serious and disabling mental health problem [1] that begins before or during adolescence, has a chronic course, is associated with significant impairment in social functioning and work, and reduces quality

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of life [2].

A great number of changes are experienced during university education, which covers the period of time between adolescence and the period of reaching full responsibility and freedom. Among university, social phobia symptoms arise in a great number of students or existing symptoms increase. During this period, which covers the last stage of adolescence, an individual goes into the effort of having himself or herself accepted by others as a self-governing person and showing himself or herself [3].

It is generally estimated that 13% of the population will meet the diagnostic criteria for social phobia at some point in their lives, with onset typically occurring in adolescence or early adulthood [4]. However, recent studies suggest that lifetime prevalence rates may be much higher [5]. After major depression disorder and alcohol dependence, this disorder is the third most common disorder in the general population and it is also the most prevalent anxiety disorder [6].

The prevalence of social phobia among school adolescents varies from country to country. For instance, in high-income countries, the magnitude ranges from 3.5% to 21% [7]. In the European Study of the Epidemiology of Mental Disorders (ESEMED), the prevalence of social phobia within the last twelve months and over a lifetime was 1.7% and 4.7%, respectively [8]. According to a study of Swedish college students with the Social Phobia Screening Questionnaire (SPSQ) and using simple random and cross-sectional study design reported to be as high as 16.1% [9].

A cross sectional study conducted at Jordan University, Saudi Arabia, and University of Parakuo students, using a self-reported questionnaire, Mini International Neuropsychiatric Interview (MINI) and the Liebowitz social anxiety intensity evaluation scale respectively show that about 9-11.6% of participants were positive to social phobia [10 - 12]. Research conducted in Nigeria [13] revealed about 9.4% of had social phobia, and states a significant difference in the phobic health of adolescents in the selected private and public universities. In Ethiopia, research conducted among high school students in Woldia reported 27.5% of adolescents have social anxiety disorder [14]. **Being** female, younger age, religion, marital status, the presence of psychiatric illness, having a positive family history of mental disorder had a significant role in the development of social phobia [15].

In **another** finding, low socioeconomic status, unemployment, low level of education, and social support were identified as a risk factor for social phobia [16]. *Taijinkyofusho* (TKS) has frequently been discussed as a culture-specific expression of SAD, particularly prevalent in Japanese and Korean cultures. Similar to individuals suffering from SAD, individuals with TKS are concerned about being observed and consequently avoid a variety of social situations. It has been expected that the major difference from typical SAD in Western cultures is that a person with TKS is concerned about doing something, or presenting an appearance, that will offend or embarrass the other person [17]. Indeed, in Ethiopia, shyness has been stressed as a dominant cultural norm [18]. The importance of social phobia in adolescence compared to other

disorders is that this disorder will experience more damages in educational performance, social and also with their peers and family life [7]. The adolescents with a phobia have high levels of unhappiness, general fear and weak social skill with healthy samples [18].

Meanwhile, if the social phobia is detected on time and the treatment takes place, the patients suffering from it will be safe from the problems due to this disorder. But unfortunately, only one-third of patients with social phobia are detected and treated [19].

Social phobia is highly prevalent among college students and students are dropping out because of this illness; waiting lists at the counseling center are increasing. Given that the majority of college students fall in the age period of increased risk for the onset of social phobia, and are also struggling with fundamental issues related to identity and self-management, the college student population may be particularly vulnerable to experiences of social anxiety [11]. Therefore the pressures of the university system may have any significant impact on their social phobia.

Given that the majority of college students fall in the age period of increased risk for the onset of social phobia, and are also struggling with fundamental issues related to identity and self-management. The college student population may be particularly vulnerable to experience such social anxiety.

However, there was a scarcity of literature and research done in Ethiopia and many Universities are on the verge of crisis. The purpose of this study was to explore the relationship between social phobia and associated factors among college students, which help to give baseline data to governmental and non-governmental bodies who work directly or indirectly on social phobia prevention. Give information for local authorities and other stakeholders to re-evaluate current strategies. The outcome of this study would also provide information about social phobia among Mettu health science college students.

2. METHODOLOGY

2.1. Study Area

A study was conducted in Mettu health Science College, which is found in Mettu town. Mettu is a capital town of an Ilubabor administrative zone of Oromia Regional, State and it is located at 600 Km South West of Addis Ababa, a capital city of Ethiopia. It was established in 1958 E.C. Currently, Mettu health science college has five departments, which are pharmacy, rural health extension, urban health extension, Laboratory and, health information administration and the total number of students in the college is 1179.

2.2. Study Design and Period

Institutional based cross-sectional study was conducted from April to June 2019.

2.2.1. Source of Population

All Mettu health science college students.

2.2.2. Study Population

A sample of students present during the time of data collection.

2.2.3. Sample Size Determination

The actual sample size for the study was determined using a single population proportion formula:

$$n = \frac{\left(\frac{Z\alpha}{2}\right)^2 p(1-p)}{d^2}$$

Where n_i = required an initial sample size

$Z_{\alpha/2}$ = critical value for normal distribution at 95% confidence interval.

P = estimated proportion; that is, the prevalence of a study conducted in Woldia, Ethiopia was 27.5% [14] and 5% marginal error [d] was used.

Finally, by considering a 10% non-response rate, the final sample size [N] was calculated to be **336**.

2.2.4. Sampling Technique

A stratified sampling technique was used to select the study participants. The total number of students in the college with their identification number taken from Mettu health science college registrar office. Departments in each field of study were stratified by their year of study. Finally, taking students from registration as a sampling frame, a random selection was made.

2.3. Data collection Procedure and Tools

Data was collected using a structured questionnaire by face to face interview technique. Initially, tools and developed structured questionnaire in the English language was translated to Amharic and Afan Oromo and back to English by language experts to check for consistency and understandability of the tool. A questionnaire has different subsections: sociodemographic data, Social Phobia Inventory [SPIN], psychosocial factors, clinical related factors, social support and substance use. Questionnaires about demographic and structured questions for assessment of associated factors were developed after an extensive review of literature and similar study tools.

SPIN is a reliable and valid psychometric tool for screening, social phobia in adolescents and other populations. Social phobia was assessed using the Social Phobia Inventory [SPIN], which is a 20-item self-rating scale developed by Connor and his colleagues. It shows the symptom domains of social phobia [fear, avoidance, and physiological arousal]. It will be rated from 0 [not at all] to 4 [extremely] and the sum score ranged from 0 to 68 and a score of 20 and above on SPIN will be considered as having social phobia [20].

Further classification **indicates**, a score of less than 20 shows non-social phobic individual, 21 to 30 shows mild, 31 to 40 shows moderate, 41 to 50 shows severe, and scores of more

than 50 classify as very severe condition. The tool has a sensitivity and specificity of 89% and 90%, respectively [21]. Clinical factors were assessed by **developing** a structured questionnaire. The Oslo 3-item social support scale was used to assess social support [22]. The magnitude of substance like a lifetime or current alcohol use, cigarette use and khat chewing was assessed by developing a structured questionnaire.

2.4. Operational Definition

2.4.1. Social Phobia, According to SPIN

A global sum of "20" or greater indicates a "social phobia" [23]. Further classification shows score < 20 [none], 21 to 30 [mild], 31 to 40 [moderate], 41 to 50 [severe], and > 50 classified as a very severe social phobia [20].

2.4.2. Social Phobia

Is an irrational, intense, and persistent fear of a specific object, activity, or social situation, which people avoid or endure with extreme distress and anxiety [24,25].

2.4.3. Level of Social Support

Oslo 3-items social support scale has 3 items with the sum ranging from 3-14. Participants who score 3-8 are poor support, score 9-11 are moderate support and score of 12-14 are strong support [22].

2.4.4. Chronic Illness

An illness that can be managed but cannot be cured and has a greater risk of developing depression, for example, Heart diseases, Diabetic mellitus, HIV/AIDS, past mental illness, etc. And the response to chronic illness is from the self-report of the participants.

2.4.5. Substance Use

Current Use - Use of at least one of the substances in the past 3 months and **Ever use**: Use of at least one of the specified substances even once in a life time.

2.4.6. Presence and Absence of Major Illness

[Medical or psychiatric] will also be based on the report of the participants.

2.5. Data Processing and Analysis

Once all necessary data were obtained, data were checked for completeness. Data were coded, entered to Epi-data version 3.1, edited, exported to SPSS and cleaned. The collected data were analyzed using SPSS version 20.0. The result was presented in frequency tables, pie chart and discussed with previous findings. Data were processed by using descriptive analysis, bivariate analysis and multivariate logistic regression. Descriptive analysis [median, percentage, frequencies and interquartile range] was used to compute the demographic characteristics of participants. In addition, bivariate analysis was used to observe the significance of the association. Variables that show strong association [p-value < 0.25] in the bivariate analysis were entered to multivariate logistic regressions to identify independently associated variables. Multicollinearity was checked by the variance inflation factor [VIF]. Statistical significance was declared at a p-value of less

than 0.05. The significance of the association of the variables was described using AOR with a 95% confidence interval.

2.6. Ethical Consideration

Ethical clearance is obtained from the ethical review board of faculty of health and medical sciences of Mettu University reference number [RCS/043/2019]. Then an approbation letter was obtained from the head department of psychiatry. Students were told about 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 a written informed consent form for their participation. Participants who had the right to refuse or discontinue participation at any time they want, were strictly respected.

3. RESULTS

3.1. Sociodemographic Characteristics of Respondents

A total of 336 participants were involved in the study with the response rate of 100%. The mean age of the respondents was 23.46[±SD=3.34]. Among the participants, 178 [53.0%] were females. About 123[36.6%] were orthodox followers, 273[81.3%] were single and 296[88.1%] were Oromo by their ethnicity. About 178[53.0%] of respondents were from a rural background and the majority 213[63.4%] had moderate achievement in their grading (Table.1)

3.2. Clinical and Behavioral Characteristics of the Respondents

One hundred eighty seven [45.3%] of the respondents sought professional health service in the last years. Most of the respondents, 376 [91%], used non-prescribed medication for their health condition in the last year. Few of them, 21 [6.2%] of the respondents, had a family history of chronic medical illness. Approximately, 28[6.8%] and 16[3.9%] of the respondents were reported the current use of khat and alcohol drinking, respectively. Nearly half [41.4%] had poor social

support (Table.2)

3.3. Prevalence of Social Phobia

The overall prevalence of social phobia in the current was 16.4% with [95% CI, 12.5 - 20.2%] using a cutoff score of SPIN ≥ 20 was used (Fig. 1).

3.4. Factors Associated with Social Phobia

Binary logistic regression analysis revealed that being female, previous history of chronic physical illness, current tobacco use, lifetime khat use, rural residency were found to **associate** with social phobia (Table.3)

In the multivariate regression model analysis, after controlling the potential confounders, being female, the previous history of chronic physical illness, and current use of tobacco **were** found to be independent predictors of social phobia among college students (Table.3)

4. DISCUSSION

The main purpose of the present study was to investigate social phobia prevalence and its associated factors, in undergraduate students at Mettu health science college. The finding of the current study showed that the prevalence of social phobia among health science college students in Mettu town was 16.4%. The finding was in line with studies carried out in Swedish college where the prevalence of social phobia was 16.1% [9].

However, it was higher than the study performed by the European Study of Epidemiology of Mental Disorders[ESEMeD], revealing the prevalence of social phobia within the last twelve months and over a lifetime, 1.7% and 4.7% respectively [8]. Moreover, a study in the Brazilian community has also reported the prevalence of social phobia was 7.9% [26]. A DSM-V criteria-based US study by the National Comorbidity Survey [NCS-R] also reported a 13.3% prevalence of social phobia [27], which was lower than the current study.

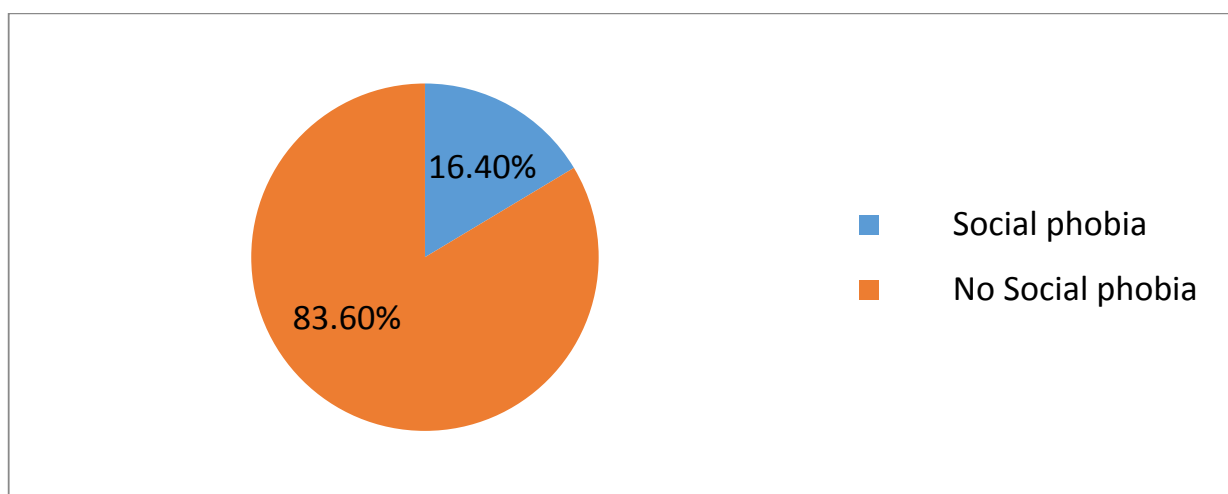


Fig. (1). Prevalence of social phobia among Mettu health science students, Mettu, Ethiopia, 2019 [n=336].

Table 1. Sociodemographic distribution of the respondents [n= 336].

Variables	Category	Frequency[n]	Percentage [%]
Age	18-21	101	30.1
	22-23	96	28.6
	24-26	87	25.9
	≥27	52	15.5
Sex	Male	202	60.1
	Female	134	39.9
Religion	Orthodox	123	36.6
	Protestant	87	25.9
	Muslim	110	32.7
	Others*	16	4.8
Ethnicity	Amhara	21	6.3
	Oromo	296	88.1
	Others†	19	5.7
Marital status	Single	273	81.3
	married	59	17.6
	others‡	4	1.2
Educational level	Level II	76	22.6
	Level III	120	35.7
	Level IV	140	41.7
Residence	urban	178	53.0
	rural	158	47.0
Grade result	<2.00	50	14.9
	2.00-2.50	187	55.7
	2.50-3.00	73	21.7
	>3.00	26	7.7

Legend: * Wakefata and Jova, † Tigre, Gurage and Silte, ‡ Divorced, Widowed, Separated

Table 2. Clinical, substance and psychosocial characteristics [n=336].

Variables	Category	Frequency[n]	Percentage [%]
Past mental illness	No	47	14.0
	Yes	289	86.0
Past chronic physical illness	No	113	33.6
	Yes	223	66.4
Family psychiatric illness	No	56	16.7
	Yes	280	83.3
Family medical illness	No	315	93.8
	Yes	21	6.2
Seeking professional help in the past year	No	265	78.9
	Yes	71	21.1
Use of medication in the past year	No	244	72.6
	Yes	92	27.4
Current use of the substance	Khat	55	23.5
	Tobacco	40	11.0
	Alcohol	63	20.2
Lifetime use of the substance	Khat	79	16.4
	Tobacco	37	11.9
	Alcohol	68	18.8

Table 3. Factors associated with social phobia of participants at Mettu health science students, Mettu, Ethiopia, 2019 [n=336].

Variables	Category	Social phobia	COR, [95%CI]	AOR, [95%CI]
		No Yes		
Sex	Male	183 28	1	1
	Female	98 27	1.80[1.01-3.23]	1.95 [1.07-3.55]*
Previous history of chronic physical illness	No	193 30	1	1
	Yes	88 25	1.83[1.02-3.30]	1.84[1.01-3.35]*

(Table 5) cont.....

Variables	Category	Social phobia		COR, [95%CI]	AOR, [95%CI]
		No	Yes		
Current tobacco use	No	152	35	1	1
	Yes	106	31	1.27[.74-2.2]	2.95 [1.36-6.40]**
Lifetime khat use	No	41	14	1	1
	Yes	240	41	1.99[1.00-3.99]	1.52[0.68-3.37]
Residence	Urban	156	22	1	1
	Rural	125	33	4.52[2.69-7.7]	1.24[.494-3.12]

*P value < 0.05, ** P value < 0.01, VIF 1.06-2.10. Goodness of fit test corresponding, P value = 0.77

The first probable reason for the different prevalence rate might be due to the study instruments, duration [longer in the previous study]. Most of the previous studies were in developed countries, with a supply of better health service utilization, lifestyle, and different sociocultural backgrounds of the participants.

On the other hand, this study finding was lower than the study conducted in Jordan [10], Saudi Arabia[11] and Ethiopia[28], which reported the prevalence of social phobia was 30.6%, 25.8% and 27.5%, respectively. The variation might be in the previous study, the study was conducted at the national level. But the current study was conducted only in one college. The other possible reason for the difference might be in the previous study; the data was collected for a long duration of time, which is more than one year. But in the current study, the data were collected within a month.

Regarding factors affecting social phobia, the study finding revealed that gender, previous history of chronic physical illness, current use of tobacco had a significant association with social phobia. In the current study, the odds of having social phobia in female respondents were 2 times more compared to male respondents. This was supported by a study undertaken in Europe [29]. Altogether, the results from these studies indicate that prevalence is generally higher for females than for males. The possible reason might be because women may be more likely to experience stress contributing to social anxiety, having coped or cognitive styles more prone to rumination and worry[30]. However, apparent inconsistencies in prevalence rates are probably due to methodological variations between the studies. In the current study, the current use of tobacco showed a significant association with social phobia, which was supported by a study undertaken at Boston University[13]. The association between social phobia and tobacco use has been noted by several investigators, suggesting that social phobia frequently self-medicates to relieve their anxiety[31].

Students who had a previous history of chronic physical illness were about 2 times more likely to have social phobia as compared with their counterparts. The possible reason might be the presence of physical illness which may cause worry and anxiety. However, student's media usage, income, past psychiatric history, and family history of mental illness did not show any association with social phobia in this study.

5. THE STRENGTHS OF THE STUDY

A standardized tool with high validity and specificity was used.

A rare study was undertaken regarding social phobia in the country and no study was undertaken in the study area

regarding this issue.

6. LIMITATION OF THE STUDY

The study conducted only included college students and did not represent the general population

Social desirability bias.

Being a cross-sectional nature of the study, a cause-effect relationship cannot be established with this study.

CONCLUSION

Social phobia among college students was significantly higher than studies conducted in different settings. Marital status, past history of chronic physical illness, lifetime tobacco use and current khat chewing had a significant association with social phobia. Early detection and availing appropriate management in the college students may be of great importance in reducing the prevalence of this common disorder.

AUTHOR'S CONTRIBUTION

MAH wrote the protocol, designed the study, organized the data collection process, analyzed the data and reviewed and edited the manuscript. MT revised and approved the protocol, participated in data analysis, reviewed and edited the manuscript. ZA contributed to an analysis of the data, drafted the manuscript, critically reviewed and approved the manuscript for publication. All the authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical clearance is obtained from the ethical review board of faculty of health and medical sciences of Mettu University, Ethiopia reference number [RCS/043/2019].

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

An approbation letter was obtained from the head department of psychiatry. Selected students were told about 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 has signed written informed consent for their participation. Participants' right to refuse or discontinue participation at any time they want was strictly respected.

AVAILABILITY OF DATA AND MATERIALS

The datasets used and analyzed during the current study are available from the corresponding author [M.H] on reasonable request.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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