ORIGINAL RESEARCH

Social Anxiety Disorder Among Undergraduate Students of Hawassa University, College of Medicine and Health Sciences, Ethiopia

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Introduction: Social anxiety disorder (SAD), also called social phobia, is an uncontrollable fear of social situations, which involve fear of observation or making contact with strangers. So, helping individuals with social anxiety, which is among the factors affecting mental health, can significantly influence a students' mental health and prevent other problems.

Objective: The study aimed at assessing the magnitude of SAD and its determinants among undergraduate students of Hawassa University, College of Medicine and Health Sciences.

Methods: An institution based cross-sectional study was conducted from April 1 to May 30, 2018, in Hawassa University, College of Medicine and Health Sciences. We selected participants by a stratified random sampling method, and we collected data independently from each stratum (department) using a 17 item self-rating Social Phobia Inventory (SPIN) scale to assess SAD. We performed multiple logistic regression analysis to find factors associated with SAD.

Results: Out of 304 students, 293 completed the questionnaire, with a response rate of 96.3%. The mean age of the participants was 22.13 years with a standard deviation of ± 2.176, and 172 (58.7%) were males. The prevalence of SAD was 32.8%. Family history of mental illness (AOR=4.72, 95% CI (1.25, 17.74)), being a 3rd-year student (AOR=0.178, 95% CI (0.055, 0.57)) and being a 4th year student (AOR=0.15, 95% CI (0.049, 0.49)) were significantly associated with SAD.

Conclusion: This study showed a high prevalence of SAD among medicine and health science students of Hawassa University. Therefore, the Ethiopian Ministry of Higher Education and university officials need to draw up a plan to reduce social phobia.

Keywords: social anxiety disorder, undergraduate students, Ethiopia

Introduction

DSM-V defines Social anxiety disorder as intense fear or anxiety about one or more social situations in which the individual is exposed to scrutiny by others, for example, social interactions (eg, having a conversation, meeting new people), being observed (eg eating or drinking), and performing in front of others (eg, giving a speech).[1] SAD also called Social phobia is described by an enormous, persistent, and unreasonable fear of being evaluated negatively by other persons when in social performances or social interactions such as public speaking or speaking to unfamiliar people.[2,3]

The circumstances where social phobia might occur include restaurants, cafeterias, dining halls, seminars, meetings, and other places where the person feels observed by

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others.[4] The individual will experience anxiety symptoms that make it uncomfortable and shameful.[5] Frequently, a variety of somatic and cognitive signs and symptoms occur because of being embarrassed or judged pessimistically by others, which is typically characterized by autonomic excitement, including symptoms like increased sweating, apnea, tremors, tachycardia, and nausea.[2]

Fear of speaking in public is one of the most common symptoms of social phobia; where studies found out that nearly nine out of ten people with social anxiety are frightened to speak in front of others.[6] In higher educational institutions were speaking in front of others is essential academic skills and a key to participate in social activities, having a SAD will impose a significant burden on students' academic performance and social life.[7] Furthermore, severe anxiety may cause increased school dropout.[8]

Students with a SAD may become functionally disabled in different areas of their life, such as poorer educational achievement,[9] unstable employment, absenteeism from work and decreased productivity which leads to being dependent on family, community, and country.[10] Medical students with social phobia have shown low performance in clinical examinations and have reported depressive symptoms, and social phobia raises susceptibility to the frequent use of substances and results in employment difficulties in their future lives.[11,12]

Social phobia is one of the most prevalent anxiety disorders among adolescents and youths, and that may hinder the individual's performance if left untreated.[13,14] It is also the third most common mental disorder following depression and alcohol use disorder.[6] Epidemiological studies report that the lifetime prevalence of social phobia ranges from 3 to13 percent.[1] In United Kingdom (UK), a cross-sectional study revealed a 10% prevalence of social anxiety in higher education students (n=1007)[15] and closer to this finding a study from India using Social Interaction Anxiety Scale (SIAS) reported 12.6% prevalence of social phobia among undergraduate medical students.[16] A study with large sample size (n=4368) in Australia, 30% of first-year university students were reported to suffer from SAD,[17] similarly, a study from Iraq (n=198),[7] Saudi Arabia (n=283)[18] and India (n=272)[19] reported a prevalence of 28.3%, 29.8% and 30.5% SAD among medical students, respectively. Higher prevalence (44%) of SAD is observed in Egyptian undergraduate students (n=2919)[20] and 31.2% of health science students are reported to have SAD in the University of Gondar.[21]

Different factors may increase the probability of having SAD; for instance, females are more dominantly affected by SAD than males,[1,20–22] on the other hand, clinical samples showed males are more vulnerable to SAD.[3,11] Its onset may occur as early as age 5, but it is most common in the mid-teens and uncommon above 30 years of age.[23] Poor social support, a field of study and academic year were the other factors that may lead to SAD.[7,9,20,21]

Social phobia is associated with significant impairment in educational achievement, occupational performance, social interaction, relationships, and quality of life that leads to decrease achievement, lower-income and reduce individuals' quality of life.[9,24] Medical and health science students are often confronted with various stressors and the need to become accustomed suitably to achieve academic and professional success elucidates the importance of having good mental health.[9,25] Therefore, understanding the level of SAD is crucial to reveal facts which can significantly influence a students' mental health and prevent other related problems.

To the best of the authors' knowledge, SAD is hardly ever recognized and managed in universities of Ethiopia. So, this study measures the level of SAD and examines the relationships of various factors with SAD among medical and health science students and the findings of this study could deliver valuable information to other researchers and results could be an asset by revealing the gap of information for university officials and policymakers.

Methods
Study Design, Area and Period
An institution-based cross-sectional study was conducted from April to May 2018, at Hawassa University, College of Medicine and Health Sciences. Hawassa University is one of the 44 universities in Ethiopia which is found 273 km from the capital city Addis Ababa. The university has around seven colleges and Hawassa University, College of Medicine and Health Sciences is one of the seven colleges which was established in 1996 in Hawassa town, and the campus has ten departments in undergraduate studies (Medicine, Public Health Officer, Anesthesia, Psychiatry nursing, Nursing, Midwifery, Medical laboratory, Radiology, Optometry, and Environmental Health).

Population
All regular undergraduate students at Hawassa University, College of Medicine and Health Sciences who are available during the study period were the source population.

Regular undergraduate students selected during sampling were considered as the study population.

Sample Size

The sample size was determined using a single population proportion formula considering assumptions like the proportion (p= 27.5%) from the study conducted in Woldiya preparatory school,[26] sampling error 5%, Confidence interval 95%. Since the source population is less than 10,000, we used a correction formula, adding 10% nonresponse rate, the final sample size was 304.

Sampling Technique

The study population was selected by stratified random sampling methods by assuming their department of study as a stratum and the total sample size was proportionally allocated based on the total number of students in each department. Then data was taken independently from each stratum (department) by simple random sampling techniques.

Data Collection Instrument and Procedure

We collected the data using a pretested, structured self-administered questionnaire. We used a nine-item structured questionnaire to assess socio-demographic, academic and clinical characteristics of the students, and trained data collectors and supervisors facilitated the data collection. A 17 item self-rating scale called Social Phobia Inventory (SPIN) scale in which each point is ranked with a five-degree Likert scale (0=No, 1=Low, 2=Somewhat, 3=High, 4=Very Much) was used to assess social phobia.[27–29] In Nigeria, SPIN was validated with sensitivity and specificity of 82.2% and 77.6% respectively.[30] SPIN also reported having high reliability and validity in different countries.[27,29,31] The total score ranges from 0–64, thus an individual who scores 20 or more is considered to have a SAD.[27,30]

We used Oslo-3 item social support scale to assess social support. Each item was scored from one to four, yielding a total score ranging from 3 to 14. A score of 3 to 8 shows "poor support", 9 to 11 shows "moderate support", and 12 to 14 shows "strong support". Different studies reported that good predictive validity for the scale regarding psychological problems[32–34] and the scale was found to have acceptable validity and reliability in the African context.[35]

Data Processing and Analysis

After checking for completeness and consistency, the collected data was entered and analyzed using SPSS version 22. We used binary logistic regression to examine the association between the dependent variable and each independent variable. Variables that showed statistical significance during binary logistic regression analysis at p-value ≤ 0.25 were entered into multiple logistic regressions to identify an independent effect of the determinants. Adjusted odds ratios (AOR) with 95% CI, were estimated to assess the strength of associations and variables with p-value <0.05 were considered as having a significant association.

Results

Socio-Demographic, Psychosocial and Clinical Characteristics of Study Participants

A total of 304 study participants were included in this study, of which 293 students completely filled the questionnaire with a response rate of 96.3%. Of the total participants, 172 (58.7%) were males between the ages of 18 and 30 years. The mean age of the respondents was 22.13 with a SD of +2.18. Majorities 95.6% (n=280) were single, Amhara by ethnicity (48.1% (n=141)), and Ethiopian orthodox followers (63.1% (n=185)). The large proportion, 72.0% (n=211) of the students were below 4th year of study and around half of the study participants were medical students (56.7% (n=166)) (Table 1).

According to the Oslo score substantial proportion, 24.2% (n=71) of the students reported having excellent social support, about 15% (n=44) of the students reported having poor social support. Around 8.5% (n=25) of the students reported having a previous history of mental illness, and 7.5% (n=22) had a family history of mental illness (Table 1).

Factors Associated with Social Anxiety Disorder

During multiple logistic regression, we found years of study and family history of mental illness to have a significant association with SAD. Being 3rd-year students (P=0.004, AOR=0.178, 95% CI (0.05, 0.57)) was 17.8% less likely to develop SAD compared with 5th-year students and 4th year students were 15.5% less likely to develop SAD compared with 5th-year students (P=0.001, AOR=0.155, 95% CI (0.049, 0.49)). Students who have a family history of mental illness (p<0.022, AOR=4.72,

Table 1 Frequency and Percentage Distribution of Sociodemographic, Psychosocial and Clinical Characteristics of Undergraduate Students of Hawassa University, College of Medicine and Health Sciences, Hawassa, Ethiopia, May 2018

Variable	Category	Frequency	%
Age	18–25	276	94.2%
	26–30	17	5.8%
Sex	Male	172	58.7%
	Female	121	41.3%
Marital Status	Single	280	95.6%
	Married	13	4.4%
Ethnicity	Amhara	141	48.1%
	Oromo	75	25.6%
	Gurage	24	8.2%
	Tigre	13	4.4%
	Others (Sidama, Wolayta)	40	13.7%
Religion	Orthodox	185	63.1%
	Muslim	29	9.9%
	Protestant	72	24.6%
	Others (Catholic, Adventist)	7	2.4%
Previous resident area	Urban	180	61.4%
	Rural	113	38.6%
Department	Environmental	12	4.1%
	Medicine	166	56.7%
	Medical Laboratory	13	4.4%
	Midwifery	16	5.5%
	Nurse	20	6.8%
	Anesthesia	11	3.8%
	Public health officer	21	7.2%
	Psychiatry nursing	13	4.4%
	Radiology	11	3.8%
	Optometry	10	3.4%
Year of study	1st	60	20.5%
	2nd	87	29.7%
	3rd	64	21.8%
	4th	37	12.6%
	5th	45	15.4%
Social support	Excellent	71	24.2%
	Very good	92	31.4%
	Good	86	29.4%
	Poor	44	15.0%
Previous history of mental illness	Yes	25	8.5%
	No	268	91.5%
Family history of mental illness	Yes	22	7.5%
	No	271	92.5%

95%, CI (1.256, 17.749)) were 4.7 times more likely to develop a SAD than who did not have a family history of mental illness (Table 2).

Discussion

The overall prevalence of SAD in this study was 32.8%, and this finding is consistent with a similar study in the Ethiopian University of Gondar (31.2%),[21] and it is also in line with studies from universities of Iraq (28.3%),[7] Saudi Arabiya (29.8%),[18] India (30.5%)[19] and Australia (30.0%).[17] Agreement of these studies with our result can be explained by similar study population[7,17–19,21] and using similar screening tool.[19,21]

The prevalence of SAD in this study was higher than the study conducted in the UK (10%)[15] and Delhi, India (12.6%).[16] This difference might be because of socio-cultural differences between the UK and Ethiopia. For instance, in Ethiopia, shyness is a measure of politeness and has been emphasized as a dominant cultural norm.[36] The other reason for this difference might be the tool used in the current study, which is a nondiagnostic self-administered tool, and this might overestimate the prevalence of SAD among students.[27,37]

In this study, a family history of mental illness has a significant association with social phobia. The odds of having SAD is 4.72 times more likely among students with a family history of mental illness than those students with no family history of mental illness. Genetic studies have produced substantial evidence that at least some genetic component contributes to the development of SAD, and heredity has been recognized as a predisposing factor.[1,2]

The year of study also has a significant association with social phobia. In this study, 3rd-year and 4th-year students are significantly predicted social phobia in which a 3rd-year student is 17.8% less likely to develop SAD compared with a 5th-year student and 4th-year students are 15.5% less likely to develop SAD as compared to 5th-year students. This result contradicts the results report by Gondar University, Iraq and Egypt,[7,20,21] in which most studies support the prevalence of SAD reduces as the academic year increases. The potential explanation for this disparity could be that besides attending classes, 5th-year students are loaded with internship examinations, community training programs, and research projects which can exacerbate SAD, and we also recommend further robust studies which can come up with strong evidence for explaining this gap.

Table 2 Bivariate and Multivariate Logistic Regression Analysis of SAD Among Undergraduate Students of Hawassa University, College of Medicine and Health Sciences, Hawassa, Ethiopia, May 2018

Variables	Category	Social Phobia Score		COR (95% CI)	AOR (95% CI)
		<20	≥20		
Age	18–25	182	94	3.87(0.87, 17.29)	1.63(0.31, 8.52)
	26–30	15	2	1	1
Sex	Male	121	51	1	1
	Female	76	45	0.71(0.43, 1.16)	1.49(0.85, 2.60)
Family history of mental illness	Yes	19	3	0.30(0.87, 1.04)	4.72(1.25, 17.74)*
	No	178	93	1	1
Year of study	1st year	30	30	8(2.77, 23.06)	0.63(0.311, 1.27)
	2nd year	53	34	5.13(1.84, 14.29)	0.59(0.276, 1.28)
	3rd year	42	22	4.19(1.44, 12.13)	0.178(0.055, 0.57)*
	4th year	32	5	1.25(0.33, 4.69)	0.155(0.049, 0.49)*
	5th year	40	5	1	1
Social support	Excellent	49	22	1	1
	Very good	60	32	1.53(0.64, 3.63)	1.63(0.62, 4.28)
	Good	54	32	1.81(0.79, 4.14)	1.58(0.16, 4.08)
	Poor	34	10	2.02 (0.81, 3.91)	1.78(0.71, 4.45)

Note: *$P<0.05$.
Abbreviations: CI, confidence interval; AOR, adjusted odds ratio; COR, crudes odds ratio.

Conclusion

The overall prevalence of SAD in Hawassa University College of Medicine and Health Sciences was high (32.8%). Factors like the year of study and family history of mental illness played a significant role in the development of SAD. The Ethiopian Ministry of Higher Education and university officials, therefore, need to draw up a plan to reduce social phobia. We suggest that campus psychologists pay particular attention to improving the psychological well-being of students and that teachers may provide enhanced pedagogical support to students with SAD.

Limitations of the Study

As we used a cross-sectional study design, the analysis does not allow the correlation to be inferred. Although widely used and validated as a screening tool for social phobia in other countries, including Africa, the SPI scale is no validated in Ethiopia and SPI is a nondiagnostic self-rating screening tool, it might overestimate the prevalence of SAD.

Abbreviations

AOR, adjusted odds ratio; CI, confidence interval; COR, crudes odds ratio; DSM-V, diagnostic and statistical manual version four; IRB, institutional review board; SAD, social anxiety disorder; SPIN, social phobia inventory.

Data Sharing Statement

All generated data are included in this article.

Ethics Approval and Consent to Participate

We obtained ethical clearance from the Institutional Review Board (IRB) of Hawassa University, College of Medicine and Health Sciences. Participants were fully informed about the purposes of the study before the data collection, and written consent was obtained from the study participants. Study participants were also informed that; if they did not want to answer any question, they had the right to do so. All participants were randomly selected, and we carefully handled filled out questionnaires. Anonymity was maintained to ensure the confidentiality of respondents.

Acknowledgment

Author Contributions

All authors made substantial contributions to conception and design, acquisition of data or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

Funding

No funding was received for this research work.

Disclosure

The authors declare no competing interests.

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