PREVALENCE OF COMMON MENTAL DISORDERS (ANXIETY AND DEPRESSION) AND ASSOCIATED FACTORS AMONG MEDICAL STUDENTS IN UNEC

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ABSTRACT

Background: Mental health issues, including anxiety and depression, are increasingly recognized among university students, particularly in demanding academic environments. This study explores the prevalence, manifestations, and associations of common mental disorders among medical students at the University of Nigeria, Enugu Campus.

Methods: A cross-sectional study was conducted with 360 undergraduate medical students using a descriptive survey. Data was analyzed with SPSS version 26, and a 99.0% response rate was achieved from the distributed questionnaires. Socio-demographic and psychosomatic factors were examined, and the prevalence of mental disorders was assessed.

Results: The mean age of participants was 21.96 years (SD=3.35), with the majority aged 21-25 and in their 5th year of study. Prevalence rates for common mental disorders included headaches (42.3%), poor sleep (31.5%), and nervousness (45.3%). Feeling unhappy was observed in 31.9% of students, with 15.0% reporting suicidal thoughts. Notably, 38.8% of students had scores indicating the presence of common mental disorders. Significant associations were found between financial distress and academic decline with the presence of mental disorders ($p<0.05$), socio-demographic factors and number of hours of sleep

Conclusions: A significant proportion of medical students at the University of Nigeria experience common mental disorders, with academic and financial stressors being prominent contributors. These findings underscore the need for targeted mental health interventions and support systems to address the challenges faced by students in high-pressure academic settings

INTRODUCTION

Anxiety can be defined as apprehension, tension, or uneasiness that stems from the anticipation of danger, which may be internal or external [1]. Depression is a common disorder involving a depressed mood or loss of pleasure or interest in activities for long periods of time [1,2]. The burden of anxiety globally is 3% in the general population [3] however is rises to about 30% among medical students. In Nigeria a similar scenario is seen with anxiety recorded among medical students from the various medical schools in different states [4]. Although, the prevalence decreases to below 15% in Enugu, anxiety remains burden among medical students in Enugu [5-10].

This study aims to determine the prevalence of mental disorders and associated factors among medical students of in University of Nigeria. By examining the prevalence of anxiety and depression and its relationship with poor sleep, academic performance, and financial burden among medical students, this research will help to inform evidence-based interventions and policies aimed at promoting mental health and wellbeing among medical students.

METHODOLOGY

Study area and design

This study was carried out in University of Nigeria Enugu Campus and University of Nigeria Teaching Hospital Old site and University of Nigeria Teaching Hospital New site in Ituku/Ozalla Enugu State. The study was an analytical cross-sectional study which assessed the prevalence of anxiety and associated factors.

Study Population

This study was carried out among medical students from second to the final year of academic study who gave their consent after appropriate explanation of the study and liberty to withdraw from the study at any point. Students who were too sick to participate were excluded from the study.

Sample size determination

The sample size was calculated and determined using the Cochrane's formula. The minimum sample size used was to be 361.

Ethical Consideration:

Ethical approval will be sought from the Ethical Committee University of Nigeria Teaching Hospital, Ituku-Ozalla.

An informed verbal consent will be sought from all participants prior to the administration of the survey instrument. The participants comfort and convenience were put into consideration.

Respondents were assured of the confidentiality of the information shared and revealing identity such as name was not required.

The information sought was obtained without bias and was strictly restricted to relevance to the study

Study instrument:

A well-constructed, written and self-administered questionnaire was used for this study.

Data Analysis

Data was analyzed using the Statistical Package for Social Sciences Software (SPSS 26.0 version, 2018). The results computed will be presented in percentages and figures. The responses were properly scrutinized to ensure invalid responses and missing information were not used for analysis.

RESULTS

We had a response rate of 99.9%, with 360 out of 362 distributed questionnaires completed and returned.

4.1 SOCIO-DEMOGRAPHICS OF RESPONDENTS

TABLE 1:SHOWING PARTICIPANTS SOCIO-DEMOGRAPHIC CHARACTERISITCS

Variables		Frequency (N=360)	Percentage (%)
Age	16-20	107	29.7
	21-25	224	62.2
	26-30	28	7.8
	>30	1	0.3
	Mean= 21.96 (SD=3.35)		
Undergraduate level	2nd year	60	16.5
	3rd year	70	19.3
	4th year	56	15.6
	5th year	125	34.9
	6th year	49	13.7
Gender	Male	214	59.4
	Female	146	40.6
Ethnicity	Igbo	316	87.8
	Yoruba	13	3.6
	Hausa	8	2.2
	Others	22	6.1
Marital status	Single	337	93.6
	Married	18	5.0
	Divorced	2	0.6
	Widowed	2	0.6
Religion	Christian	346	96.1
	Muslim	12	3.3
	Traditional religion	2	0.6
Monthly allowance	<10,000	56	16.1
	10,000 – 20,000	56	16.1
	20,000 – 40,000	94	27.1
	40,000 – 60,000	73	21.0
	>60,000	68	19.6

The socio-demographic characteristics of the 360 participants reveal a mean age of 21.96 years (SD=3.35), with the majority (62.2%) aged 21-25. Most students are in their 5th year (34.9%). The gender distribution is 59.4% male and 40.6% female. Ethnically, 87.8% are Igbo, followed by 3.6% Yoruba and 2.2% Hausa. The majority (93.6%) are single, with 96.1% identifying as Christian. Monthly allowances vary, with 27.1% receiving 20,000 – 40,000 Naira. This demographic snapshot highlights the predominance of Igbo ethnicity and Christianity among the students, with a significant proportion in the 21-25 age range and in their later years of study.

Table 2: Prevalence of common mental disorders (Anxiety and Depression) disorders among Medical students in University of Nigeria

Variables		Frequency (N=360)	Percentage (%)
Headaches	YES	150	42.3
	NO	204	57.5
Poor appetite	YES	59	16.6
	NO	296	83.1
Sleeps badly	YES	111	31.5
	NO	241	68.5
Easily frightened	YES	89	24.9
	NO	268	75.1
Shaky hands	YES	62	17.5
	NO	293	82.5
Feels nervous, tense or worried	YES	163	45.3
	NO	193	54.2
Poor digestion	YES	56	15.7
	NO	299	83.8
Have trouble thinking clearly	YES	69	19.3
	NO	288	80.7
Feels unhappy	YES	115	31.9
Religion	NO	239	67.1
Cries more than usual	YES	45	12.6
	NO	313	87.4
Difficulty in enjoying daily activities	YES	108	30.5
	NO	246	69.5
Difficulty in making decision	YES	116	32.4
	NO	242	67.4
Poor daily activities	YES	97	27.4
	NO	256	72.3
Inability to carry out a is useful part of my life	YES	59	16.8
	NO	293	83.2
lost interest in things	YES	154	43.8
	NO	198	56.3
Feeling of worthlessness	YES	33	9.3
	NO	320	90.7
Having suicidal thought	YES	53	15.0
	NO	300	85.0
Feels tired all the time	YES	124	34.8
	NO	232	65.2
Uncomfortable feeling in the stomach	YES	84	23.5
	NO	270	75.6
Easily tired	YES	151	42.2
	NO	206	57.5

Among 360 medical students at the University of Nigeria, common mental disorders are prevalent. Headaches affect 42.3%, poor appetite 16.6%, and poor sleep 31.5%. Anxiety symptoms include nervousness in 45.3%, easily frightened in 24.9%, and shaky hands in 17.5%. Depression symptoms include feeling unhappy (31.9%), crying more than usual (12.6%), and feeling worthless (9.3%). Additionally, 15% have suicidal thoughts. Daily activities are impacted, with 30.5% finding it difficult to enjoy them and 34.8% feeling tired all the time. These figures highlight significant mental health challenges among the student population.

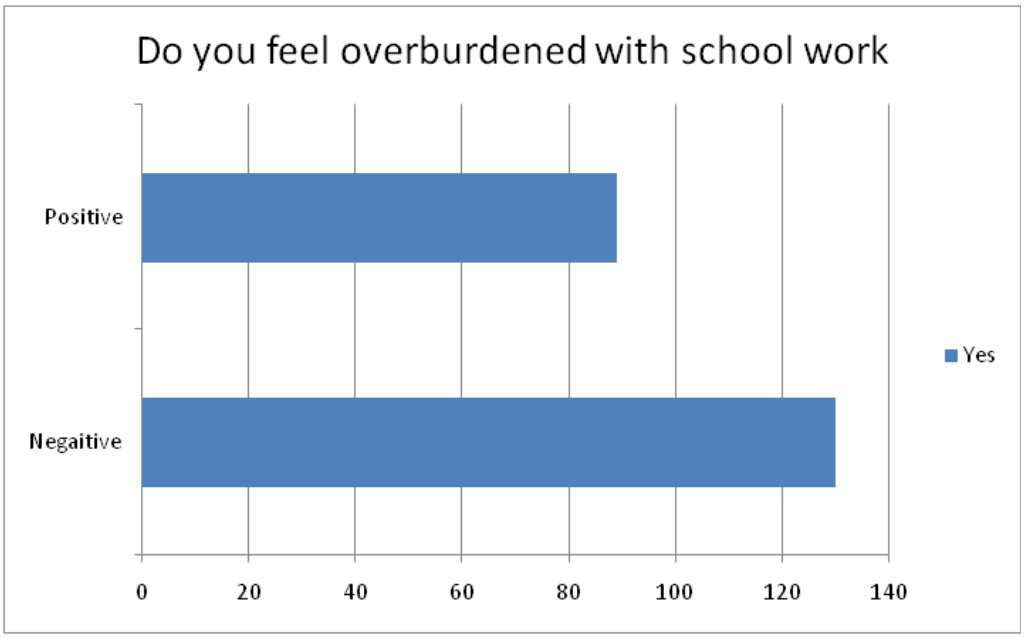


Figure 1: Showing undergraduates who feel overburden with school work

This figure indicates that among students who feel overburdened with school work, 130 do not have a mental health disorder, while 89 do. This suggests that a substantial number of students experiencing a high academic burden are also dealing with mental health issues, highlighting the potential impact of academic stress on

Table 3: To determine the manifestations of common mental disorders among Medical students in University of Nigeria

Variables		Frequency (%)	Percentage
Common mental disorder	**Present** (with score of ≥ 6)	124	38.8%
	Absent (with score of <6)	196	61.2%

The table presents the prevalence of common mental disorders among medical students at the University of Nigeria. Of the 360 students surveyed, 124 (38.8%) had scores indicating the presence of common mental disorders (≥6), while 196 (61.2%) had scores indicating the absence of such disorders (<6). This suggests that a significant portion of the student population, over one-third, experiences common mental disorders.

Table 4: The socio-demographic factors associated with common mental disorders among Medical students in University of Nigeria.

Variables		Common mental disorder present	Common mental disorder Absent	Chi square (p-value)
Age	**16-20** **21-25**	44 60	54 120	5.696 (0.127)

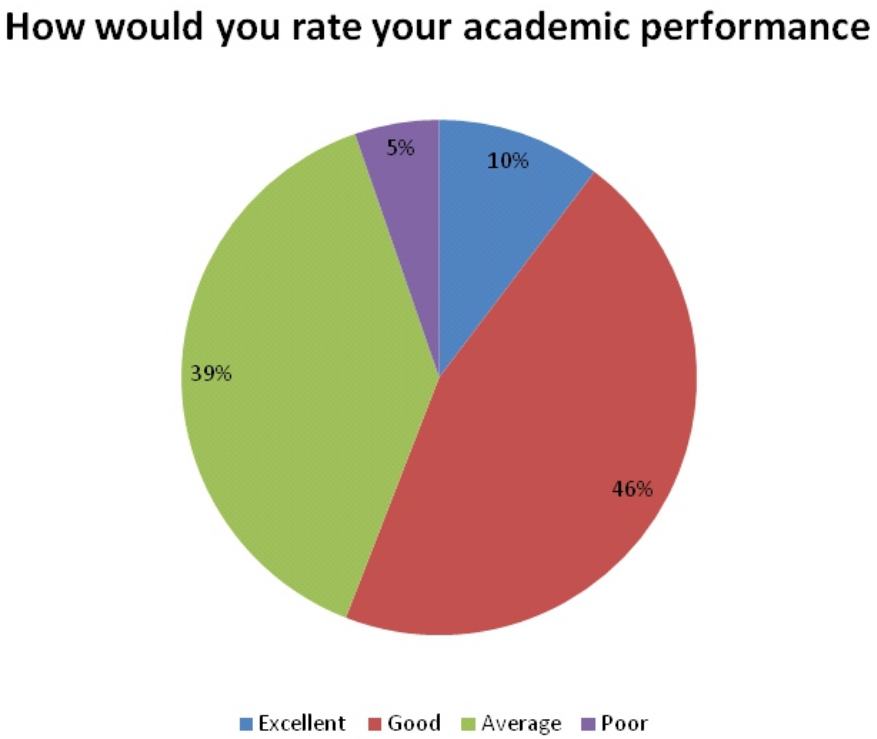
	26-30 >30	12 0	12 1	
Undergraduate level	2nd year 3rd year 4thyear 5th year 6th year	21 26 20 36 19	29 34 28 81 24	4.598 (0.331)
Gender	Male Female	68 54	125 72	2.496 (0.287)
Ethnicity	Igbo Yoruba Hausa Others	111 1 2 7	171 9 6 12	5.756 (0.218)
Marital status	Single Married Divorced Widowed	114 8 0 0	186 7 1 2	3.931 (0.415)
Religion	Christian Muslim Traditional religion	113 7 1	194 3 1	4.656 (0.097)
Monthly allowance	<10,000 10,000 – 20,000 20,000 – 40,000 40,000 – 60,000 >60,000	18 17 30 23 29	32 33 54 41 32	3.085 (0.544)

The table presents socio-demographic factors associated with common mental disorders among medical students at the University of Nigeria. No significant associations were found between age, undergraduate level, gender, ethnicity, marital status, religion, and monthly allowance with the presence of common mental disorders, as indicated by p-values greater than 0.05 for all variables. The highest prevalence was observed in the 21-25 age group, 5th-year students, males, Igbos, singles, Christians, and those with a monthly allowance of 20,000-40,000 Naira. However, the lack of statistical significance suggests these factors do not strongly correlate with mental disorders in this sample.

Table 5: Psychosomatic factors associated with common mental disorders among Medical students in University of Nigeria

Variables		Common mental disorder present	Common mental disorder Absent	Chi square (p-value)
Number of hours of sleep	<4hours 4-6 hours 6-8 hours 8hrs	22 57 35 8	29 101 62 5	4.010 (0.260)

The table shows the association between the number of hours of sleep and the presence of common mental disorders among medical students at the University of Nigeria. The highest prevalence of mental disorders was observed among students sleeping less than 4 hours (22) and 4-6 hours (57). However, the chi-square test indicates no significant association between sleep duration and the presence of mental disorders (p = 0.260). This suggests that the number of hours of sleep does not significantly impact the occurrence of common mental disorders among students.



Majority of respondents, 45.6%, rate their academic performance as "Good," followed by 38.8% who rate it as "Average." A smaller proportion, 10.3%, considers their performance "Excellent," while 5.3% rate it as "Poor." This indicates that most students perceive their academic performance positively, with a significant portion feeling it is at least good or average.

Table 6: Association between common mental disorders and those experiencing other associated factors performance among medical students in university

Variables		Common mental disorder present	Common mental disorder Absent	Chi square (p- value)
Have you ever been treated for mental disorder	Yes	9	6	3.017 (0.082)
Have you ever used any psychoactive substance	Yes	67	82	8.289 (**0.040**)*
How often do you use psychoactive substance	Daily Weekly Occasionally Rarely Never	5 6 34 31 46	3 4 29 52 103	13.879 (0.08)

Family History of mental disorder	Yes	13	5	8.557 (**0.003**)*
Do you consider your relationship strained? If they are no longer alive, did you consider your relationship	Yes	20	8	13.732 (**0.000**)*

The table examines the association between common mental disorders and various mental health-related variables among medical students in the University of Nigeria. Students previously treated for mental disorders showed a higher prevalence of common mental disorders (p=0.082, not significant).
Psychoactive substance use was significantly associated with common mental disorders (p=0.040). Frequency of substance use varied but was not statistically analyzed for significance. A family history of mental disorders significantly correlated with common mental disorders (p=0.003). Strained relationships were also significantly associated with common mental disorders (p=0.000).
These findings indicate that psychoactive substance use, family history, and relationship strain are significant factors linked to mental disorders among this population.

DISCUSSION

The emotional well-being of medical students has been a concern since as early as 1956, as it can significantly impact their overall performance and lead to a cascade of consequences at both personal and professional levels. Numerous studies have highlighted considerable distress among medical students, although some have reported minimal or no evidence of stress.

In our study, 38.8% of students experienced anxiety and depression, indicating a high prevalence and is a little above the range of 29.2% to 38.7% in the global prevalence [3] but however similar to a study on mental health status of medical students in Calabar which showed that 39.2% had a poor mental health status,. It is a higher than the results of comorbid anxiety and depression of 21.20%, with depression and anxiety at 51.30% and 30.1% independently, in a study in Ethiopia [11-13].

A study in ESUT showed a prevalence of anxiety of 63% which a is higher prevalence than the results in our study [5]. This higher value might be due to that study focusing only on anxiety whereas our study focuses on comorbid anxiety and depression. The self-administered and anonymous nature of the SRQ20 questionnaire prevented further follow-up on students with common mental disorders.

The study also showed higher anxiety and depression prevalence among 5th year mental disorders possibly due to the stress of facing a clinical oriented professional MBBS exam (4th MBBS exam) which is different from the higher prevalence in preclinical students medical in a study in the University of Benin [11]. Also, our study showed a higher prevalence of anxiety and depression levels in males.

To better understand the variables affecting medical students' stress levels, we included socioeconomic factors in our questionnaire and found a relationship between financial distress, also sleep quality and academic performance where associated with common mental disorders. This is similar to the study on the evaluation of anxiety and depressive symptoms among University of Abuja medical students showing factors independently associated with co-morbid anxiety and depression were being a student receiving less than one dollar equivalent per day as allowance and being a student from the Igbo ethnic group and factors associated with psychiatric morbidity included being a student of a private institution, average academic performance, below average academic performance, and having a father or a mother with highest level of formal education below first degree and respectively[13].

Policy Implications

1. **Increased Funding:** Allocate resources for mental health services, research, and awareness campaigns.
2. **Improved Access:** Enhance access to evidence-based treatments, including psychotherapy and medication.
3. **Reduced Stigma:** Implement initiatives to reduce stigma and promote mental health literacy.
4. **Integrated Care:** Integrate mental health services into primary care and community settings.
5. **Workforce Development:** Train healthcare professionals to address mental health needs.

6. Research Prioritization: Fund research to better understand anxiety and depression, and develop effective interventions.

7. Policy Reforms: Address social determinants of mental health, such as education, employment, and housing.

8. Monitoring and Evaluation: Establish systems to track progress and evaluate policy effectiveness.
By studying anxiety and depression, we can inform policy decisions, improve mental health outcomes, and reduce the significant social and economic burden associated with these conditions.

STUDY LIMITATIONS

The study's generalizability is limited as the sample was drawn from a single medical school, preventing cause-effect associations between psychological variables and depression. Another limitation is cost and distance between the three campuses as well as time constraint.
Other limitations include the lack of baseline mental health data at medical school entrance and the absence of population-based data for comparison. A mixed method study may have provided more insights.

The self-administered and anonymous nature of the SRQ20 questionnaire prevented further follow-up on students with common mental disorders.
Anxiety and depression have significant costs for individuals and society, including medical school dropout, suicide, relationship deterioration, marital problems, and impaired work ability.

CONCLUSION

A notable percentage of medical students at the University of Nigeria face mental health challenges. Academic stress and financial distress are strongly associated with these mental health issues. No significant correlation was found between socio-demographic factors and mental disorders, suggesting that mental health issues might be more influenced by psychosocial stressors rather than demographic characteristics.

RECOMMENDATIONS

Enhanced Mental Health Support Services: Establish or expand counseling and mental health services on campus to provide students with access to professional support. Regular workshops on stress management and mental well-being should be implemented.

Academic Support and Counseling: Develop academic support programs to help students manage their workload more effectively. Consider providing academic counseling and tutoring to alleviate stress and improve performance.

Financial Assistance Programs: Introduce or enhance financial aid and support programs to address financial distress among students. This could include scholarships, emergency funds, or budgeting workshops.

Stress Management Initiatives: Implement stress management and resilience training as part of the curriculum or as extracurricular activities. Offer resources such as mindfulness and relaxation techniques.

Regular Mental Health Screenings: Conduct regular mental health screenings and assessments to identify students at risk and provide early intervention. Incorporate mental health education into the academic curriculum to increase awareness and reduce stigma.

Peer Support Networks: Encourage the formation of peer support groups and networks where students can share experiences and provide mutual support. Train student leaders in mental health first aid to foster a supportive community.

Sleep and Lifestyle Education: Provide education on the importance of adequate sleep and healthy lifestyle practices. Offer workshops or resources on maintaining a balanced lifestyle to support overall well-being.

Collaborative Research and Evaluation: Continuously evaluate the effectiveness of mental health interventions and support systems. Encourage ongoing research into the mental health needs of medical students and other high-pressure academic environments.
Implementing these recommendations can help address the mental health challenges faced by medical students and improve their overall well-being and academic performance.

REFERENCES

1. World health organization (WHO) [Internet]. Who.int. [cited 2024 Apr 15]. Available from: https://www.who.int/

2. Paho/who [Internet]. Paho.org. [cited 2024 Apr 15]. Available from: https://www.paho.org/en

3. Longino A. International journal of environmental research and public health. Wilderness Environ Med [Internet]. 2015 [cited 2024 Apr 15];26(1):99. Available from: https://www.mdpi.com/journal/ijerph

4. Esan O, Esan A, Folasire A, Oluwajulugbe P. Mental health and wellbeing of medical students in Nigeria: a systematic review. Int Rev Psychiatry [Internet]. 2019;31(7–8):661–72. Available from: http://dx.doi.org/10.1080/09540261.2019.1677220

5. Chinawa TAT, Chinawa JM, Aniwada E, Amadi O, Ndukuba AC, Uwaezuoke SN, editors. Spectrum of Anxiety Disorders Among Medical Students in a Nigerian Medical School: A Cross-Sectional Study With Standardized Screening

6. Abdulghani et al.Med Teach, 2012. Sleep disorder among medical students: relationship to their academic performance

7. Symptoms of anxiety and depression among medical students: study of prevalence and associated factors Bartira Oliveira Sacramento, Tassiana Lima dos Anjos, Ana Gabriela Lopes Barbosa, Camila Fagundes Tavares. Juarez Pereira Dias Revista Brasileira de Educação Médica. 45(01).

8. Carmen M, Lee M, Juarez G, Rae L, Robert M, Rodriguez JA, et al. PTSD, and stressors in medical students during the initial peak of the COVID-19 pandemic

9. Priyanka Shah, 1 Alisha Sapkota, 1 and Anjeel Chhetri. Anxiety and Stress among First-year Medical Students in a Tertiary Care Hospital: A Descriptive Cross-sectional Study

10. Banu H, Al-Fageer R, Al-Suwaidi R, editors. Cognitive emotions: Depression and anxiety in medical students and staff Author links open overlay panel Isra Ahmed.

11. Prevalence and predictors of depression and anxiety among medical students in Addis Ababa. Getinet Ayano International journal of mental health systems. 2019;13.

12. ORCID [Internet]. Orcid.org. [cited 2024 Apr 15]. Available from: https://orcid.org/0000-0002-3896-226X

13. Umar M, Suraj S, Umar B, Gajida A. Prevalence and factors associated with depression among medical students in Nigeria. Niger Postgrad Med J [Internet]. 2021;28(3):198. Available from: http://dx.doi.org/10.4103/npmj.npmj_414_21