African Journal of Tropical Medicine and Biomedical Research (AJTMBR)

The Journal is the Official Publication of the College of Health Sciences, Delta State University, Abraka, Nigeria.

ISSN: 2141-6397

Vol. 8, No. 2, December 2025

Focus and Scope

The African Journal of Tropical Medicine and Biomedical Research is a multidisciplinary and international journal published by the College of Health Sciences, Delta State University of Abraka, Nigeria. It provides a forum for Authors working in Africa to share their research findings on all aspects of Tropical Medicine and Biomedical Sciences and to disseminate innovative, relevant and useful information on tropical medicine and biomedical sciences throughout the continent. The journal will publish original research articles, reviews, editorials, commentaries, short reports, case reports and letters to the editor. Articles are welcome in all branches of medicine and dentistry including basic sciences (Anatomy, Biochemistry, Physiology, Pharmacology, Psychology, Nursing etc) and clinical sciences (Internal Medicine, Surgery, Obstetrics and Gynaecology, Dental surgery, Child Health, Laboratory Sciences, Radiology, Community Medicine, etc). Articles are also welcome from social science researchers that document the intermediating and background social factors influencing health in countries of Africa. Priority will be given to publication of articles that describe the application of the principles of primary health care in the prevention and treatment of diseases.

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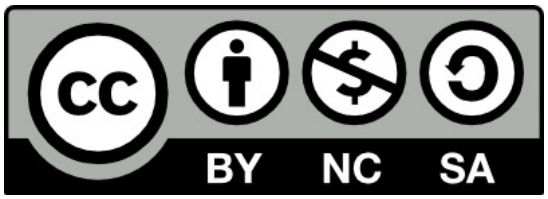

Table of Contents

Pre-Examination Stress Among Pre-Clinical Medical Students: A Nigerian Survey

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ABSTRACT

Introduction: The demands of medical education predispose to high stress levels, compromising students' well-being and performance. This study investigated the sources, severity, and effects of pre-examination stress and the coping mechanisms adopted by medical students in a Nigerian University.

Materials and Methods: This e-survey conducted in Delta State, Nigeria adopted a descriptive cross-sectional design. A questionnaire developed by Google Forms was disseminated using WhatsApp to 200 and 300 level medical students in the Faculty of Basic Medical Sciences after ethical authorization. It encompassed questions concerning the causes and effects of pre-exam stress, and the coping mechanisms. S-Anxiety subscale of the State-Trait Anxiety Inventory (STAI) was included to assess the prevalence and severity of stress. Fully completed questionnaires were received from 167 respondents, aged 18-30 years. The Statistical Package for Social Sciences (Version 27.0) compared the frequencies using the Chi-Square test and analysed the differences in STAI scores using the independent t-test and the analysis of variance. Significance was set at $p < 5\%$.

Results: Mean anxiety scores were higher in females, 200 level students and those residing in personal rooms. High anxiety levels were more prevalent in females (46, 49.5%) than males (28, 37.8%) ($p<0.05$). Prayer and physical exercises were the predominant coping strategies in females and males respectively.

Conclusion: Medical education can adversely affect students' mental health. To mitigate this, universities should design curricula that address students' challenges and provide mental health resources for students.

Key words: Exam stress, mental health, academic performance, coping strategies.

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Introduction

Stress refers to any threat to an individual's bio-psychosocial well-being, including reactions to distress that exceeds one's tolerance capacity.[1,2] It encompasses one's physical, psychological, or emotional feedback to modifications that pose potential danger to one's stability and well-being.[3,4]

Medicine education, though noble, is highly competitive, requiring outstanding entrance exam performance,[5] with an aim of producing skilled physicians, the programme's comprehensive curricula can have overwhelming effect on students' psychosocial wellbeing.[6–8] Mental health challenges can drastically reduce quality of life.[1] Medical students experience higher levels of stress, anxiety and depression compared to the general populace, yet institutional support for their psychological well-being are often insufficient.[4,9] Suicide ranks as the second leading cause of student mortality.[4]

The intensed pressure to excel in exams contributes to medical students' anxiety.[10–12] Test anxiety elicits cognitive, physiological and behavioural responses, driven by fear of failure.[5,13] Excessive anxiety negatively impacts academic performance leading to psychological distress, while moderate levels of anxiety can be motivating.[3,9]

Exam stress arises from the competitive medical training and the pressure to excel, driven by societal expectations and scholarship requirements.[2,4] Fear of exams, recurring tests, ineffective study habits, tight schedules, past failures, poor time management, uncertainty about the future, and overwhelming workloads are the main contributors.[2,4,13,14] Exam stress is furthermore aggravated by social factors like high parental expectations, poor living conditions, financial constraints, insufficient rest and poor nutrition.[3–5,12]

Exam anxiety elicits a multifaceted response, including changes in behaviour, metabolism, hormone levels, psychology and immunity whose degrees vary depending on factors such as exam type, physical activity, age, past experiences, gender, endurance, individual's temperament, spirituality and cultural background.[9,12,15] Junior students and commonly females experience more significant impact of exam anxiety characterized by the following; burnouts, memory impairment, anxiety disorders and decreased focus.[6,9–11,16] Students become isolated and experience impaired cognitive function that subsequently compromises their academic performance and also patient care in future.[4,7] Common documented symptoms of exam stress include sweating, headache, palpitations and fatigue.[2,16] Extreme or high anxiety levels make learning difficult and this may prompt the students to use stimulants in order to relive stress symptoms. Unfortunately, despite knowing the potential side effects of these stimulating substances, students choose to disregard them.[17]

Addressing student stress levels is crucial for ensuring quality medical education.[1,16] Identifying the causes of stress helps in effective prevention of depression and anxiety.[4,9,15] The intention of this research was to investigate the sources, levels, and effects of pre-examination stress at a Nigerian university and identify the relevant coping strategies.

MATERIALS AND METHODS

This study employed a descriptive cross-sectional e-survey design, targeting second- and third-year medical students at a Nigerian tertiary institution. Approval was secured from the ethics committee of the Faculty (Ref. No: RBC/FBMC/DELSU/24/464).

Participants included adult students (aged ≥18 years) enrolled in the Medicine and Surgery program who were preparing for their end-of-semester examinations, scheduled to begin two weeks after the distribution of the questionnaire. Students with diagnosed psychiatric conditions or those currently taking antidepressants or antipsychotic medications were excluded to minimize confounding variables. Students aged below 18 years were also excluded from this study. The investigators explained the purpose and rationale for the study to those who met the selection criteria. Participants who gave their informed consent were included in a WhatsApp group. A questionnaire was developed using Google Forms and distributed via the WhatsApp platform. It was sent to a total of 127 second-year students (200 level) and 43 third-year (300 level) students, with 170 questionnaires filled and returned, forming the study population. To ensure confidentiality, no identifying information, such as names or matriculation

numbers, were included in the questionnaire.

The questionnaire contained five sections: the first section gathered demographic information, while the second section utilized the Spielberger State-Trait Anxiety Inventory (STAI), specifically the state anxiety subscale (S-STAI). The third section assessed the psychological and academic causes of stress, while section four investigated the physical and mental effects of exam stress. The final stage focused on evaluating which coping strategies the students utilized to alleviate stress symptoms.

A validated tool called the S-Anxiety subscale of the S-STAI, confirmed for accurately assessing exam-stress among medical students, was employed to determine the severity and prevalence of exam stress.[12] This self-rated 20-item questionnaire yields scores ranging from 20 to 80, with responses rated on a four-point Likert scale: 1 (not at all), 2 (somewhat), 3 (moderately), and 4 (very much so). Negative items, such as "I feel tense," were scored directly, whereas positive items, such as "I feel calm," were reverse scored. A total score below 40 indicated low anxiety, while scores between 40-59 and 60-80 indicated moderate and high anxiety levels, respectively [18]

Data collected were entered into Microsoft Excel and analyzed using SPSS software (Version 27.0, Chicago IL, USA). The prevalence of stress was calculated and presented as percentages, with comparisons based on gender and year of study assessed using the Chi-Square test. Quantitative variables, such as age and STAI scores, were summarized using means and standard deviations, and their differences evaluated using the unpaired t-tests and analysis of variance. These tests were significant at $P< 0.05$.

RESULTS

Out of the 219 medical students, 170 voluntarily participated in this study. However, 3 students did not fully complete their questionnaires hence, these were excluded from the study. The study evaluated the anxiety levels of 167 medical students, including 125 second-year students (74.9%) and 42 third-year students (25.1%), representing 78.13% and 71.19% of their respective classes. The sample comprised more females (93, 55.7%) than males (74, 44.3%). Participants' ages ranged from 18 to 30 years, with a mean age of 19.56±1.96 years. Notably, males had a higher average age (20.19±2.35 years) than females (19.06±1.41 years), while the mean age of second-year students (19.46±2.13 years) was slightly lower than that of third-year students (19.86±1.30 years), although this difference was not statistically significant (p=0.524). Participants were categorized by age, with the majority falling within the 18-30 age group (126, 75.4%), followed by the 21-25 age group (38, 22.8%), and lastly the 26-30 age group (3, 1.8%). Most participants resided in university hostels (94, 56.3%), while others lived in private hostels (41, 24.6%) or in their own accommodations (32, 19.2%) (Table 1).

Table 1. Distribution of participants based on gender, level of study and place of residence (Original)

Criteria	Grouping	N (%)
Gender	Males	74(44.3)
	Females	93(55.7)
	Total	*167(100.0)*
Age-groups (Years)	18-20	126 (75.4)
	21-25	38 (22.8)
	26-30	3 (1.8)
	Total	*167*
Level	200	125(74.9)
	300	42(25.1)
	Total	*167(100.0)*
Residence	University hostel	94(56.3)
	Private hostel	41(24.6)
	Own room/apartment	32(19.2)
	Total	*167(100.0)*

Mean anxiety scores were significantly higher among females compared to males (*P*=0.035) and among second-year students compared to third-year students (*P*=0.047). Both class and sex categories exhibited moderate anxiety levels. Regarding living arrangements, students in their own rooms or apartments reported the highest anxiety scores, while those in university hostels had the lowest (*P*=0.042) (Table 2). The younger age-groups displayed moderate anxiety levels, while those in the 26-30 age group demonstrated higher anxiety scores although the variances were not statistically significant (*P*=0.390) (Table 2).

Table 2. Comparison of mean anxiety scores based on different groupings (Original)

State Anxiety		Mean ± Std. Deviation	Anxiety level	P value
Gender	Male	54.78±13.27	Moderate	0.035*
	Female	58.85±11.37	Moderate	
Age-group	18-20	56.75±12.04	Moderate	0.390
	21-25	57.26±13.68	Moderate	
	26-30	66.67±6.35	High	
Level	200	58.10±12.10	Moderate	0.047*
	300	53.90±12.82	Moderate	
Residence	University Hostel	55.17±12.45	Moderate	0.042*
	Private Hostel	57.98±12.62	Moderate	
	Own room/ Apartment	61.38±10.89	High	
	Total	57.05±12.38	Moderate	

A majority of students experienced moderate anxiety (78, 46.7%), followed by high anxiety (74, 44.3%), with only a few reporting low anxiety levels (15, 9.0%) (Table 3).

Table 3. Prevalence of anxiety based on severity (Original)

State Anxiety	N (%)
Low Anxiety	15(9.0)
Moderate Anxiety	78(46.7)
High Anxiety	74(44.3)
Total	167(100.0)

High levels of anxiety were more prevalent in females (46, 49.5%) compared to males (28, 37.8%). In contrast, moderate and low anxiety levels were more common in males (p=0.031). Among second-year students, high anxiety levels were predominant (60, 48%), while moderate and low anxiety were more frequent in third-year students (*P*=0.024). Additionally, anxiety levels varied by area of residence (*P*=0.019), with high anxiety most common among those living in their own accommodations (19, 59.4%) and moderate to low anxiety being more frequent among hostel residents (Table 4).

Table 4. Prevalence of anxiety levels based on gender, level of study and place of residence (Original)

State Anxiety	Gender N (%)			P Value
	Male	Female		
Low Anxiety	8(10.8)	7(7.5)		
Moderate Anxiety	38(51.4)	40(43.0)		0.031*
High Anxiety	28(37.8)	46(49.5)		
Total	74(100.0)	74(100.0)		
	Level of Study			
	200 level	300 level		
Low Anxiety	10(8.0)	5(11.9)		0.024*
Moderate Anxiety	55(44.0)	23(54.8)		
High Anxiety	60(48.0)	14(33.3)		
Total	125(100.0)	42(100.0)		
	Place of Residence			
	University	Private Hostel	Own room/	
Low Anxiety	11(11.7)	3(7.3)	1(3.1)	0.019*
Moderate Anxiety	48(51.1)	18(43.9)	12(37.5)	
High Anxiety	35(37.2)	20(48.8)	19(59.4)	
Total	94(100.0)	41(100.0)	32(100.0)	

The main causes of exam stress included unsatisfactory revision time (151, 90.4%), heavy workload (144, 86.2%), irrational thoughts about exam results (131, 78.4%), difficulty recalling information (127, 76%), and disturbed sleep (120, 71.9%). Notably, certain stressors, such as difficulty recalling information, feeling inadequately taught, disrupted sleep, lack of physical activity and finding medical concepts difficult were reported more by females ($P<0.05$) (Table 5).

Table 5. Causes of stress (Original)

Cause of Stress	Total (%)	Males (%)	Female (%)	P Value
Academic causes				
Excessive course load	144 (86.2)	60(81.1)	84(90.3)	0.085
Lack of time to revise well	151(90.4)	64(86.5)	87(93.5)	0.124
Lack of systematic studying	119 (71.3)	56(75.7)	63(67.7)	0.260
Unable to recall	127 (76.0)	50(67.7)	77(82.8)	0.022*
Memorizing text without understanding	108 (64.7)	45(60.8)	63(67.7)	0.352
Feeling you were not taught well	115 (68.9)	45(60.8)	70(75.3)	0.045*
Finding medical concepts difficult	17 (10.2)	25(33.8)	46(49.5)	0.042*
No help from your colleagues	29 (17.4)	16(21.6)	13(14.0)	0.195
Psychosocial causes				
External pressure from parental expectations	96 (57.5)	43(58.1)	53(57.0)	0.884
Lack of Physical/extracurricular activity	113 (67.7)	43(58.1)	70(75.3)	0.012*
Lack of parental presence	38 (22.8)	15(20.3)	23(24.7)	0.495
Financial problems/increased cost of living	107 (64.1)	48(64.9)	59(63.4)	0.849
Home sickness	50 (29.9)	17(23.0)	33(35.0)	0.080
Distraction from mobile phones/social media	116 (69.5)	46(62.2)	70(75.3)	0.068
Disturbed sleep	120 (71.9)	46(62.2)	74(79.6)	0.013*
Peer pressure	62 (37.1)	27(36.5)	35(37.6)	0.879
Poor diet	92 (55.1)	35(47.3)	57(61.3)	0.071
Health problems/sickness	55 (32.9)	21(28.4)	34(36.6)	0.264
Negative thinking/ Self criticism/ Feel incompetent	117 (70.1)	49(66.2)	68(73.1)	0.333
Lack motivation to read	107 (64.1)	47(63.5)	60(64.5)	0.893
Relationship issues	18 (10.8)	9(12.2)	9(9.7)	0.607
Hostel roommate issues	41 (24.6)	13(17.6)	28(30.1)	0.061
Illness/Death of parent/sibling	12 (7.2)	6(8.1)	6(6.5)	0.681
Irrational thoughts about exam results	131 (78.4)	57(77.0)	74(79.6)	0.691
Too many lectures	51 (30.5)	15(20.3)	36(38.7)	0.010*
Studying all night	87 (52.1)	36(48.6)	51(54.8)	0.426

The most common effects of exam stress were fatigue (152, 91.0%), disturbed sleep cycles (135, 80.8%), mood swings (119, 71.3%), and irritability (117, 70.1%). Females reported higher rates of various stress effects, including stomach nervousness, loss of appetite, irritability, mood swings, decreased concentration, sleep disturbances, and headaches ($P<0.05$) (Table 6).

Table 6. Health effects of exam stress (Original)

Effects of exam stress	Total (%)	Male (%)	Female (%)	P Value
Tired/fatigue	152 (91.0)	64(86.5)	88(94.6)	0.068
Increased heart beat at rest/ palpitations	93 (55.7)	39(52.7)	54(58.1)	0.488
Shaky hands	56 (33.5)	19(25.7)	37(39.8)	0.055
Sweaty palms	59 (35.3)	23(31.1)	36(38.7)	0.306
Nervous feeling in the stomach	102 (61.1)	36(48.6)	66(71.0)	0.003*
Erratic eating	63 (37.7)	22(29.7)	41(44.1)	0.057
Loss of appetite	71 (42.5)	23(31.1)	48(51.6)	0.008*
Isolation/loneliness	103 (61.7)	45(60.8)	58(62.4)	0.837
More emotional or irritable	117 (70.1)	36(48.6)	81(87.1)	0.001*
Mood swings	119 (71.3)	38(51.4)	81(87.1)	0.001*
Decreased concentration span	77 (46.1)	27(36.5)	50(53.8)	0.026*
Disturbance in sleep cycle	135 (80.8)	54(73.0)	81(87.1)	0.021*
Increased consumption of caffeine/energy drinks	55 (32.9)	24(32.4)	31(33.3)	0.902
Headaches (Constant/recurrent)	103 (61.7)	36(48.6)	67(72.0)	0.002*
Insomnia/trouble sleeping at night	65 (38.9)	24(32.4)	41(44.1)	0.125
Disturbed menstrual cycle			12(12.9%)	

The predominant coping strategies included praying (145, 86.8%), engaging with social media (142, 85.0%), listening to music (135, 80.8%), and sleeping (134, 80.2%). Prayer was more frequently utilized by females, while males were more likely to engage in physical exercise to relieve stress ($P<0.05$) (Table 7).

Table 7. Mechanisms of coping with stress (Original)

Methods	Total (%)	Male (%)	Female (%)	P Value
Listening to music	135 (80.8)	59(79.7)	76(81.7)	0.745
Dancing	43 (25.7)	16(21.6)	27(29.0)	0.277
Social Media Entertainment	142 (85.0)	59(79.7)	83(89.2)	0.087
Sleeping	134 (80.2)	61(82.4)	73(78.5)	0.526
Contacting family and friends	108 (64.7)	46(62.2)	62(66.7)	0.545
Exercise	36 (21.6)	23(31.1)	13(14.0)	0.008*
Counselling	42 (25.1)	18(24.3)	24(25.8)	0.826
Eating	101 (60.5)	46(62.2)	55(59.1)	0.691
Praying	145 (86.8)	59(79.7)	86(92.5)	0.016*
Taking a walk	99 (59.3)	54(59.5)	45(48.4)	0.154
Alcohol	-	-	-	
Smoking	2 (1.2)	0(0.0)	2(2.2)	0.204

Among respondents, 79 students (47.3%) found these methods occasionally eased their stress, while 54 (32.3%) reported that coping strategies often provided relief (Table 8).

Table 8. Frequency of effective coping to stress (Original)

Do these selected methods help you	Total (%)	Male	Female	P Value
Always	14 (8.4)	7(9.5)	7(7.5)	
Often	54 (32.3)	27(36.5)	27(29.0)	
Sometimes	79 (47.3)	28(37.8)	51(54.8)	0.210
Rarely	16 (9.6)	9(12.2)	7(7.5)	
Never	4 (2.4)	3(4.1)	1(1.1)	

Most participants (104, 62.3%) noted little improvement in daily performance, although 52 (31.1%) experienced marked improvement. Nine students (5.4%) reported no effect on their performance from coping methods, and two (1.2%) noted a slight decline. No significant gender differences were found in the effectiveness of coping strategies ($P>0.05$) (Table 9).

Table 9. Effectiveness of coping mechanisms on daily performance (Original)

After using these methods how do they affect your performance	Total (%)	Male	Female	P Value
Marked improvement	52 (31.1)	24(32.4)	28(30.1)	0.331
Little improvement	104 (62.3)	44(59.5)	60(64.5)	
No effect	9 (5.4)	6(8.1)	3(3.2)	
Little decline	2 (1.2)	-	2(2.2)	
Marked decline	-	-	-	

Table 10 summarizes the prevalence of the different levels of anxiety in various populations.

Table 10. The prevalence of anxiety among medical students in different populations (Original)

Authors	Population	Level of study	N	Degree of Anxiety (%)		
				Low	Moderate	Severe
Daud *et al.*[6]	Pakistan	1st to 5th year	342	29	43	28
Nagpal *et al.*[12]	India	1st year	110	2.72	8.18	89.09
Rehman *et al.*[7]	Pakistan		300	11.3	47	41.7
Memon *et al.*[10]	Saudi	3rd to 6th year	356	36.4	32.5	31.1
Current study	Nigeria	2nd and 3rd year	167	9.0	46.7	44.3

DISCUSSION

The prevalence of different levels of anxiety varied from frequencies reported in different populations (Table 10).[6,7,10,12] Rahman *et al.*[1] reported 78.3% of Malaysian preclinical students facing stress while Rajanayagam *et al.*[2] observed a significant rise in anxiety among Indian students during exams. Competitive medical education, especially the basic sciences like Biochemistry and Anatomy, aggravates stress affecting one's mental health.[11] Improving the relationships between lecturers and students and addressing the causes of stress may alleviate high anxiety levels.[19]

Females scored significantly higher anxiety scores, congruent with Rehman *et al.*[7] In contrast, lack of sex differences in anxiety scores was documented by Farajpour and Mashoufi [9] and Divya *et al.* [8] Severe anxiety was more predominant in females, while moderate and low anxiety levels were prevalent in males, conforming to the findings by Memon *et al.*[10] Patil & Aithala [3] described higher anxiety in males. The metacognitive beliefs, traditional responsibilities and higher academic expectations make females more prone to anxiety.[10] Females have higher adrenocorticotrophic hormone (ACTH) levels and subsequent elevation in estradiol and cortisol levels, which impact their responses to stress.[18] Furthermore, females tend to over-report symptoms and express more concerns about their workload.[19]

Both 200-level and 300-level students showed moderate anxiety, with 200-level students scoring significantly higher. Patil *et al.*[16] found mild to moderate stress in final-year students, while Nagpal *et al.*[12] reported moderate anxiety in first-year students. Stress progressively increases, usually reaching a peak among final-year students [16–20]. Variations in anxiety levels may result from

the exam experience of 300-level students. Although clinical rotations contribute to stress, final-year students often report fewer symptoms but still face anxiety from excess workloads and transitions to no jobs.[10,20]

The age differences among the 200-level and 300 level students were not statistically significant. Younger students experience higher anxiety levels, which decreases with age.[6,10,14,15]Older students have developed better coping strategies for exam stress over time.[13] Students living in private accommodations reported higher anxiety levels than those in university hostels who perhaps were exposed to more support and better social interaction.

The primary stressors in our study included lack of revision time, excessive workload, irrational thoughts about exam results, inability to recall information, and disturbed sleep cycles. Similar issues were recorded in previous research among clinical students at the same university.[15] Other common causes documented by other scholars include lengthy syllabi,[16] poor time management and exam marathon[3] excessive lectures and financial constraints,[1] high parental expectations and sleep disturbances.[12] Females reported higher stress levels from recalling information and inadequate teaching, while males were more stressed by workloads.[3] Additionally, females also reported stress due to distance from parents. Rehman *et al.*[7] found more females experienced pre-exam memory loss, hence requiring more time and effort to comprehend concepts.

Improving time management skills is essential for reducing last-minute cramming, enhancing comprehension, and alleviating exam anxiety[12] To manage course overload, curricula should be structured into "must know," "desirable to know," and "nice to know" categories in an 80:20:10 ratio, with student input and interactive teaching.[12] Reducing teacher-related stress requires clear learning outcomes, effective communication, and adequate resources.[15] Inadequate sleep and poor nutrition due to financial constraints, negatively affect cognitive function and performance. This emphasizes the need for access to healthy and affordable meals.[15,19]

In the current study, pre-exam anxiety resulted in fatigue, disturbed sleep, mood swings, and irritability. Rizvi *et al.*[11] reported comparable issues, particularly among females, with symptoms linked to increased stress hormones which can lower immunity and contribute to weight gain. In our study, 12.9% of female participants reported menstrual disturbances, marginally lower than the 15.19% in Karachi who associated this with hormonal imbalance.[11] Moreover, 32.9% of respondents used energy drinks, lower than the 38.94% reported by Rizvi *et al.*[11] Khalifah *et al*.[17] noted that 84.9% consumed tea and 70.1% coffee. These can boost mood but may also lead to sleep disruption and fatigue.[11]

Students in our study managed stress through prayer, social media, music, and sleep. Prayer and meditation promote calmness and self-esteem.[11,15] Coping strategies by medical students reported in literature include; sports and religious practices,[1] and reliance on familial support.[4] None of our students reported alcohol use, and 1.2% smoked, compared to 2.6% and 13.4% reported by Khalifah *et al.*[17] who inferred that medical student have lower levels of substance use compared to their peers. Females primarily used prayer, while males preferred to exercise. According to Sonali *et al.*[14] females are more open to counselling. Despite the knowledge of coping mechanisms, very few medical students employ these techniques.[19] In our study, 47.3% reported coping mechanisms sometimes alleviated stress, with

31.1% noting marked improvement. These were higher than the findings of Loya and Jiwane[5]. There is therefore a need for effective stress management, and universities should prioritize recreational facilities.[1,12]

There is need for early diagnosis of pre-exam stress and accessible counselling to prevent complications.[2,6,12,15] A structured orientation program can enlighten students about course expectations and support facilities.[5,6,12] Collaboration among parents, educators, and administrators is essential to improve living environments and alleviate stress.[12] To protect medical students' mental well-being, revising the curriculum is essential.[5,14,19] This entails re-evaluating lecture timings and teaching methods.[15] Regular assessments and access to question banks can significantly reduce exam-related anxiety.[5] The current study employed the state anxiety portion of the S-STAI test to specifically assess pre-examination stress. This focused approach shortened the survey and encouraged more accurate and prompt responses from students, thereby enhancing the reliability of the collected data. Conduction of the study in a single university and adoption of the convenience sampling restricted the sample size, thus, findings can't be extrapolated to the larger medical student population. The qualitative data gathered may have been subjective while responses could have been constrained owing to the utilization of structured questions. Additionally, there is potential for reporting bias, as students may have adjusted their answers to align with perceived expectations or social desirability. We recommend a multi-institutional study to increase the sample size and allow comparisons across diverse populations. Including clinical-year students would provide a more comprehensive understanding of stress factors in medical education. Future research should also explore the relationship between stress levels and academic performance.

CONCLUSION

Medical education can adversely affect students' mental health. Universities should design curricula that address students' challenges, foster a supportive learning environment, regularly evaluate students' mental health and make mental health resources accessible and readily available.

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https://dx.doi.org/10.4314/ajtmbr.v8i2.2