



Exploring Generalized Anxiety Disorder in Third Year Medical Students: A Cross-Sectional Study Investigating Treatment-Seeking Attitudes

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Doi: [10.19044/esipreprint.7.2023.p191](https://doi.org/10.19044/esipreprint.7.2023.p191)

Approved: 05 July 2023

Posted: 08 July 2023

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Cite As:

Mansoor N., Warsi A. & Khan M. (2023). *Exploring Generalized Anxiety Disorder in Third Year Medical Students: A Cross-Sectional Study Investigating Treatment-Seeking Attitudes*. ESI Preprints. <https://doi.org/10.19044/esipreprint.7.2023.p191>

Abstract

Objective: This study analyzes the levels and rates of generalized anxiety among third-year medical students and what prevents them from seeking treatment. Our study was conducted among the students of third-year MBBS studying at Karachi Medical and Dental College. The questionnaire, which consisted of 17 questions, was sent out online among all the 254 students studying in their third year in the college. The response rate was 35%. The responses were collected, evaluated, and analyzed using IBM SPSS 22 software. **Results:** Our study showed that 36% of students were facing mild, 25.1% of students were facing moderate and 36% of the students were facing a severe form of generalized anxiety. When it comes to what prevents them from seeking treatment for their condition, 10(5.2%) have no access to a psychiatrist, 16(8.3%) feel shy sharing their problem with the doctor and 4(2.1%) feel like there is no solution to their condition. 14(7.3%) cannot afford treatment, and 12(6.3%) do not want people, relatives, or parents to know that they seek treatment for anxiety. 38(19.8) feel like they can deal with it on their own, 23(12%) feel like it will get better on its own whereas 16(8.3%) are very busy because of medical college and do not have time to seek treatment. 12(6.3%) do not have the energy, 29(15.1%) feel like it is just a phase and they will get through it and

18(9.4%) feel like they do not need treatment for their condition. Conclusion: Awareness about mental health among medical students is a topic that must be focused on to a greater degree, to protect the future generations of doctors and help each of them individually to overcome their mental health problems.

Keywords: Generalized anxiety disorder, medical students, mental health, mental health stigma, mental wellness

Introduction

A clinically significant disturbance in a person's cognition, emotional control, or behavior is defined as a mental disorder (WHO 2022). A mental health disorder affected an estimated 792 million people in 2017. This represents slightly more than one in every ten people worldwide (10.7%) (Saloni Dattani et al. 2018). Anxiety disorders accounted for the highest percentage of all mental disorders, affecting approximately 284 million people (3.8%) in 2017 (Saloni 2018). Mental disorders were estimated to cause 418 million disability-adjusted life years (DALYs) in 2019 (16% of global DALYs), a more than three-fold increase over conventional estimates (Daniel Arias et al. 2022). High levels of anxiety affect individuals from all domains of life, and medical students are no exception to this.

Generalized anxiety disorder (GAD) is characterized by a continuous feeling of worry or anxiety that interferes with daily activities. It is not the same as worrying or feeling nervous from time to time due to stressful life situations. People who have GAD frequently experience anxiety for months, if not years (NIH 2022). According to a global meta-analysis from 2019, more medical students than the general population (33.8%) experience anxiety. It also revealed that when comparing medical students during their pre-clinical years to those in their clinical years, a slightly higher prevalence of anxiety was observed among the latter group (Travis Tian-Ci Quek 2019).

Medical clerkship encompasses a phase of clinical rotations that medical students undergo during their third year. It serves as a crucial link between theoretical classroom learning and practical clinical experience, providing a fundamental basis for future clinical practice. The abrupt transition into the demanding clinical environment can have psychological implications on the mental well-being of medical students, including the potential emergence of a generalized anxiety disorder (GAD), impacting the mental well-being of medical students (David S Baldwin et al. 2005).

Building strong personal and professional relationships is crucial for preserving one's emotional equilibrium, which benefits overall well-being (Pablo Usán Supervia et al. 2021). Therefore, adopting a healthy lifestyle must be seriously considered by the student, as a chaotic lifestyle can draw

numerous health risks. Although they can still be tolerated in the early stages of youth, problems may deteriorate further as they age (Yan Bo Zhang et al. 2021).

The high levels of stress and constant worrying of medical students about their studies, coupled together with an unhealthy lifestyle, lack of proper care for their diet, and lack of physical activity that most of the medical students have adopted, may be one of the causes of these high levels of anxiety (Hamza M Abdulghani et al. 2011). These students get so occupied that they feel like they barely have time for other things, adding to the problem. A large proportion of people also fear being judged by their relatives, parents, and even friends due to the social stigma attached to it, a phenomenon that is very common in South Asian countries (Sadiq Naveed et al. 2020).

Methodology

This is an observational, prospective, cross-sectional study of medical students in the third-Year studying at Karachi Medical and Dental College. The study is divided into two parts. The first part deals with assessing the levels of generalized anxiety in third-year medical students. The second part deals with the willingness of these students to seek treatment for their condition. The data was collected between December 26th, 2022 to March 20th, 2023. The questionnaire was sent to the online class forum and was accessible throughout the period. It was also distributed through WhatsApp, Facebook, and Instagram social media platforms.

The questionnaire consisted of 17 questions divided into 3 sections. Section 1 dealt with the demographics of the students. Section 2 had questions related to Generalized Anxiety Disorder, the questions being derived from the self-reported version of the Generalized Anxiety Disorder Questionnaire for DSM-IV (GA-DSM-IV). A score ≥ 10 is noted as mild anxiety, ≥ 15 is moderate and a score ≥ 20 is severe anxiety. The students were required to fill this section of the form based on their experience of the mentioned problems/questions over the past 2 weeks. The third section dealt with questions related to their willingness to visit a medical practitioner for their problems. The completed questionnaires were then collected and analyzed using the IBM SPSS 22 software.

Results

Out of the 250 students in the third year, 89 responded, making the response rate 35%. The low response rate can be attributed to the lack of time that the students have due to the start of their clinical rotations in the Third Year. The mean age \pm SD of our sample was 21.3 ± 0.89 . Out of a total of 89 responses, the majority {65(73%)} were females and the rest

24(27%) were males. This can be attributed to a higher number of females being present overall in the respective batch (201 females vs 51 males). The students were asked questions from the self-reported version of the Generalized Anxiety Disorder Questionnaire for DSM-IV (GA-DSM-IV) which are summarized below.

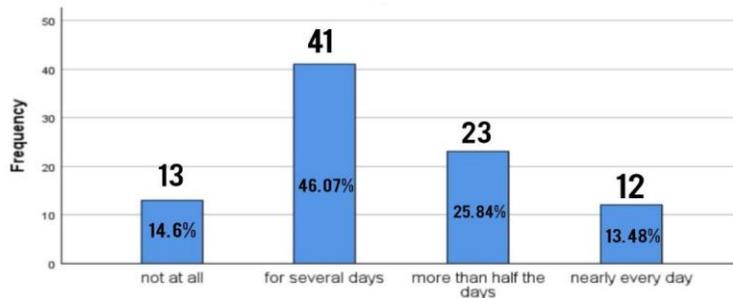
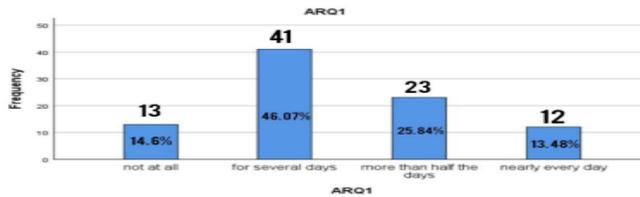


Figure 1. Excessive anxiety or worry about a number of events or activities?

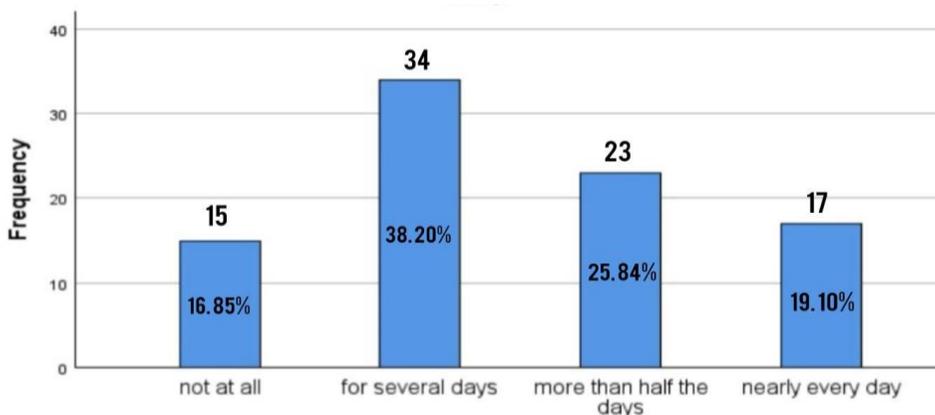


Figure 2. Finding it difficult to control worrying?

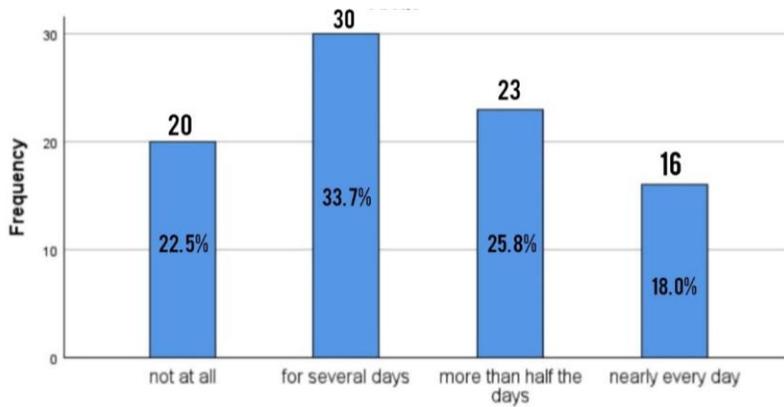


Figure 3. Feeling restless, keyed up or on the edge?

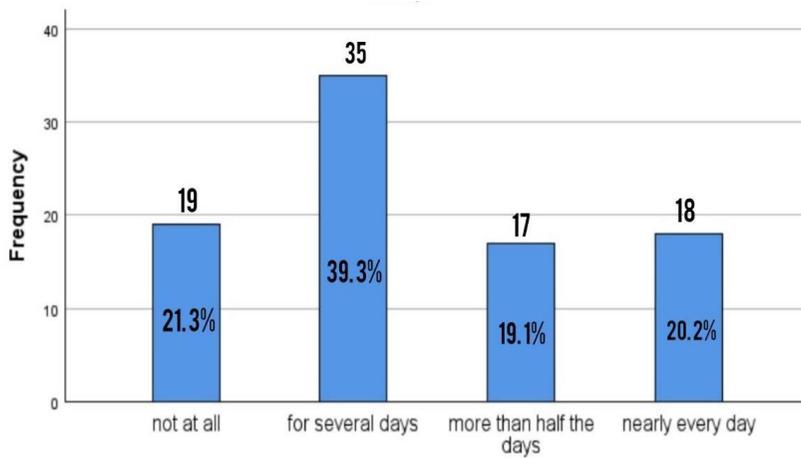


Figure 4. Being easily fatigued?

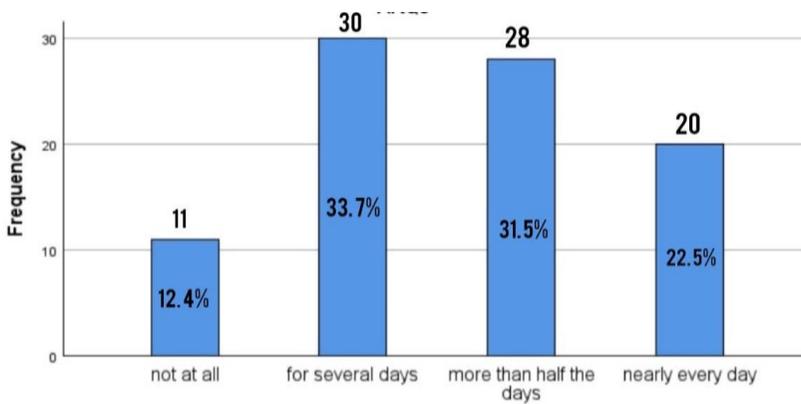


Figure 5. Difficulty concentrating or mind going blank?

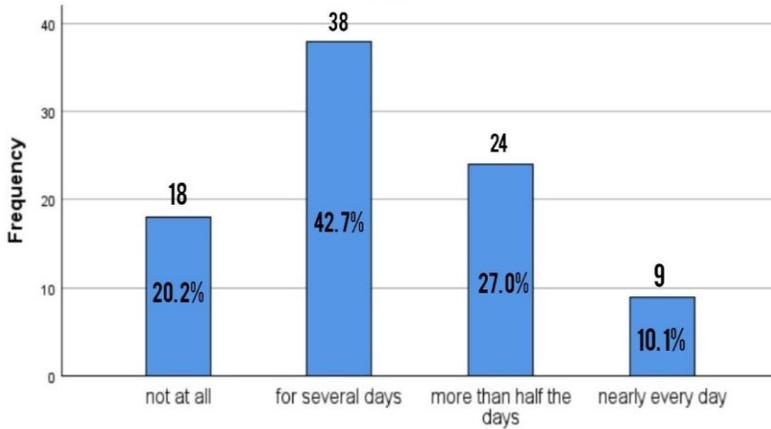


FIGURE 6. Being irritable?

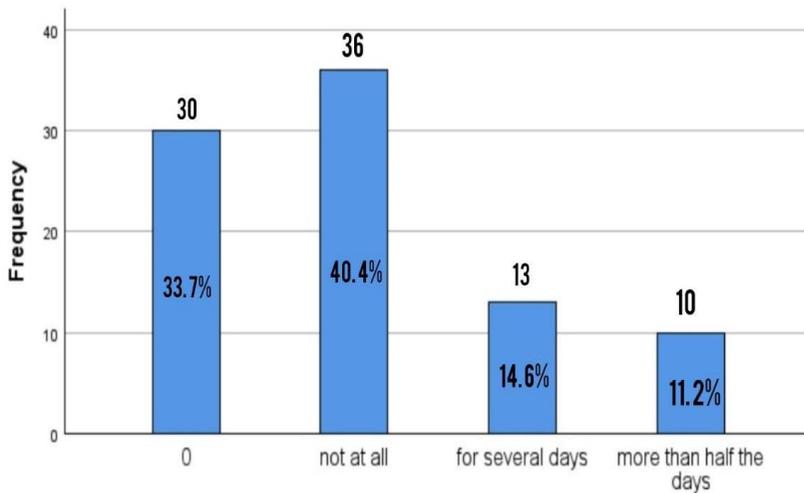


Figure 7. Having muscle tension?

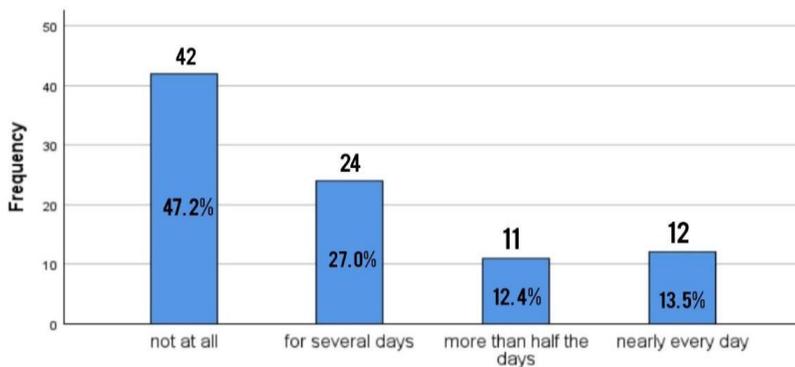


Figure 8. Having disturbed sleep, such as difficulty falling asleep, difficulty staying asleep or restless unsatisfying sleep?

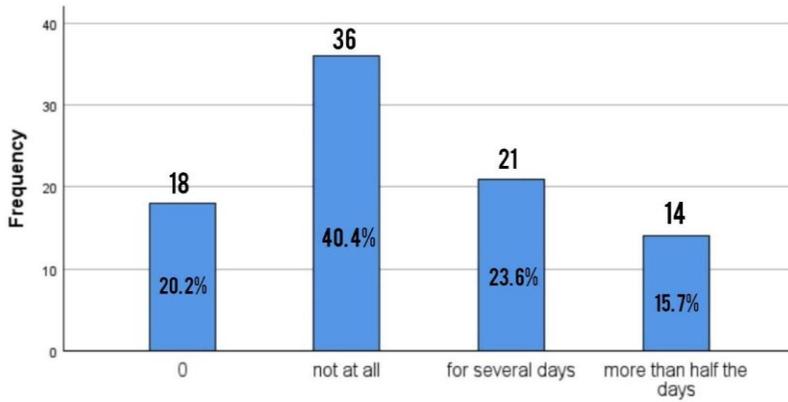


Figure 9. Feeling distressed because of these problems?

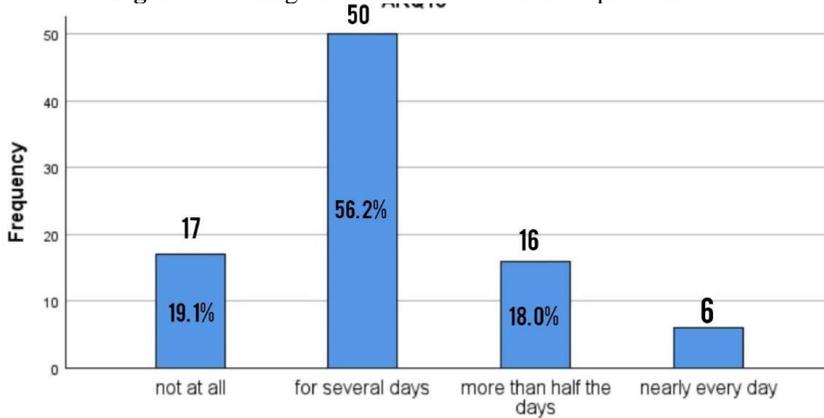


Figure 10. How difficult have these problems made it for you to do work, take care of things at home, or get along with other people?

Given below is a chart that summarizes the levels of anxiety among these studies.

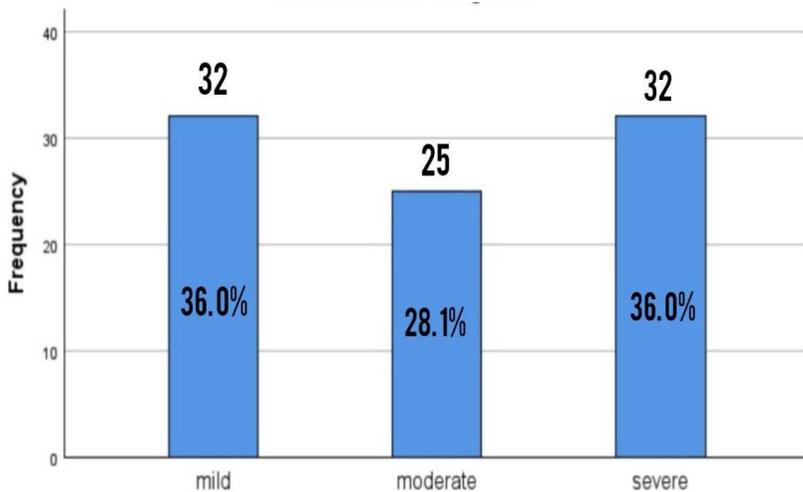


Figure 11. GA-DSM-IV score of participants

Out of 89, 32 participants were dealing with a mild form of anxiety, 25 with a moderate form and 32 with a severe form of anxiety. Next, a comparative analysis was performed between gender, age and GA-DSM-IV score

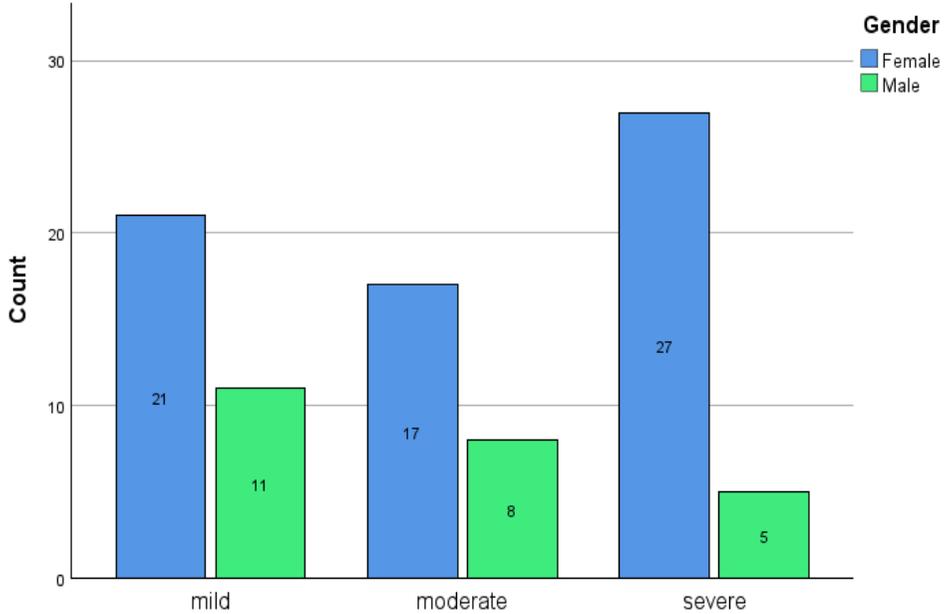


Figure 11. Levels of anxiety in 3rd Year medical students.

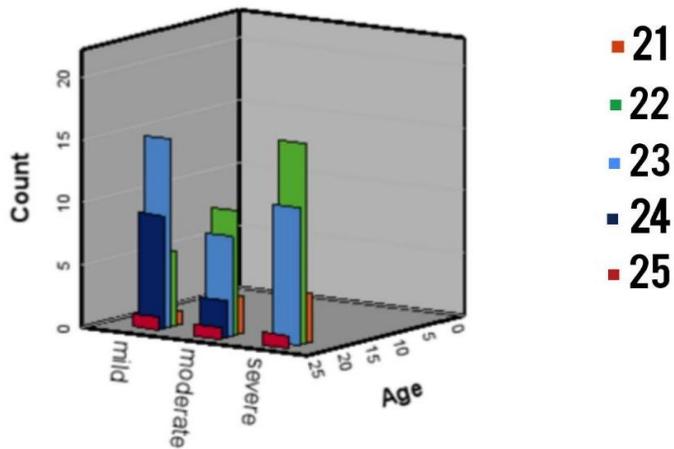


Figure 12. 3-D Bar count of GA-DSM-IV score by age.

After analyzing the data, we can conclude that females had a higher percentage of the level of generalized anxiety, whereas those above this age

had a lower frequency. This can be attributed to females being more prone to anxiety itself, as shown by a study conducted by Fatemeh Bahrami et al., concluding that females had a higher level of thoughts of anxiety. When a comparative analysis on age was performed, it was found that individuals aged 20-23 had a higher level of generalized anxiety than those above this age. This may be due to the person not being fully matured, still experiencing cognitive development, and perceiving things superficially.

Next, we assessed the willingness of the students to seek treatment for their condition. The results showed that 71.9% (64) were not seeking treatment. Only 9% (8) were seeking treatment and 19% (17) did not feel the need to seek treatment for anxiety. When asked about their willingness to seek treatment, 37.1% (33) were not willing to seek treatment, 38.2% (34) were willing to seek treatment and 24.7% (22) felt like they did not need treatment for anxiety. When asked whether the social stigma regarding anxiety affects their decision to seek treatment, 71.9% (64) answered no, 14.6% (13) answered yes and 13.5% (12) did not feel the need to seek treatment for anxiety. When asked what prevents them from seeking treatment for their symptoms, the following chart was derived.

	Responses		Percent of Cases
	N	Percent	
I have no access to a doctor or a psychiatrist	10	5.2%	11.4%
I feel shy sharing my problems with the doctor	16	8.3%	18.2%
I feel there is no solution to my condition	4	2.1%	4.5%
I can't afford treatment	14	7.3%	15.9%
I don't want people, relatives or parents to know that i visit a medical professional to seek treatment	12	6.3%	13.6%
I feel like I can deal with it on my own	38	19.8%	43.2%
I feel like it will get better on it's own	23	12.0%	26.1%
I'm very busy because of medical school, I don't have time to seek treatment	16	8.3%	18.2%
I don't have the energy	12	6.3%	13.6%
I feel like it's just a phase, I'll get through it	29	15.1%	33.0%
I feel like I do not need treatment for anxiety	18	9.4%	20.5%
Total	192	100.0%	218.2%

Chart 1. What prevents you for seeking treatment for anxiety?

After analyzing the data, it was found that only a small proportion (9%) were seeking treatment for anxiety, whereas there is not much of a difference in the willingness to seek treatment (37.1 vs 38.2). Social stigma did not seem to play a major role in this decision, as majority of the population's (71.9%) decision was not affected by it. Majority of the population with anxiety feels that they can deal with it on their own (43.2%) and it is just a phase that they will get through (33%). Another major portion of the population did not feel the need to seek treatment (20.5%).

Discussion

According to our survey medical students are aware of mental health illnesses and most of them are open to seeking help (71.9%). Globally, about one in three medical students have anxiety—a prevalence rate that is higher than the general population (Travis Tian-Ci Quek et al. 2019). It is to be noted that 36% of our student population suffers from a severe form of generalized anxiety, an alarmingly high number. Educational practice demands and stress causes a negative effect on the student's psychological well-being. This condition can precipitate depression and anxiety (American psychological association 2013) The transition from basic science training to clinical training has been identified as a crucial stage of medical education regarding student stress (K F Helmers et al 1997).

This transition, which occurs in the third year in most medical schools in Pakistan, may be one of the causes of the increased and constant levels of anxiety seen in these students. Additionally, many factors are thought to lead to the high levels including academic workload, consequent sleep deprivation, financial burden, exposure to deaths of patients, and student abuse (E A Guthrie et al. 1995).

Our results also demonstrated that the female population had higher rates and levels of generalized anxiety. Since the number of female students in most medical colleges in Pakistan is higher than males (53 males vs 201 females at Karachi Medical and Dental College in third year MBBS), this finding can be ascribed to this factor. The higher rates of anxiety in females are also concomitant with the study conducted by Fatemeh Bahrami et al. which also concludes that females have an overall higher state of anxiety due to their thought control techniques and metacognitive beliefs, which result in emotional and neurotic issues, making them more vulnerable to anxiety than males. In South Asian societies like Pakistan, women are usually married at an earlier age thus putting an additional strain on them. This is also collateral with our results which prove that at a younger age, students especially females are more prone to developing higher levels of anxiety.

In our study, 5.2% of students pointed out that they do not have access to a doctor or a psychiatrist. This can be due to these students living in

remote areas, financial dependency as well as an overall shortage of psychiatrists in healthcare as indicated by Siham Sikander, revealing that only 500 psychiatrists are present for a population of 200 million people in Pakistan. Many individuals first seek help from complementary practitioners or spiritual or faith healers as they have less faith in the therapeutic interventions as currently delivered. Such inadequacies lead individuals to use both traditional as well as alternate healers (Shanaya Rathod 2017).

From our study group, 8.3% of the students felt shy about sharing their problems with doctors. This may be a natural tendency or the result of inconsistent parenting, including being more overprotective, less warm and supportive, and less encouraging of autonomy and independence (Ponti Lucia et al. 2017). Inconsistent parenting can also lead to individuals bearing high levels of anxiety, as is proven by a study by Yose Yaffe, concluding that Parents with non-authoritative parenting styles (such as overprotective, authoritarian, and neglectful ones) who frequently use exaggerated (such as preventing autonomy), harsh, or inconsistent control are more likely to raise children and adolescents with anxiety disorders.

In our sample, 2.1% of the students felt that there was no solution to their condition. The low response rate could be due to medical students' adequate knowledge of medical sciences as well as psychological conditions and the management that they study during their medical school years. 7.3% of the students pointed out the lack of affordability of treatment. Since Pakistan is a low-income country and most of the students in the government sector come from a low-middle income household plus the added scarcity of psychiatrists, availing a treatment option would only be an addition to their financial stress.

According to our study, 6.3% of the students did not want people to know that they seek professional medical help for their mental health. This can be highly related to another question asked in the questionnaire about the social stigma revolving around mental health, where 14.6% of our study populations' decision was altered due to the stigma attached to mental health. These attitudes consequently lead to greater public stigma, negative attitudes, and social rejection (Georg Schomerus et al., 2011). In Asian cultures, being diagnosed with a mental illness is thought to reflect the patient's family weakness and is perceived to be shameful (Roland Littlewood et al. 2007)

In our sample, 19.8% of the students preferred dealing with their condition on their own and 12% of our population sample felt like it will get better on its own. In medical colleges, students get so occupied with their studies, as shown by our data where 8.3% of our study population did not plan to seek treatment because of their busy schedule that they prioritize it rather than their wellbeing. This fact, in addition to the constant state of

stress that these students are in and the lack of energy that medical students have, as shown by our data where 6.3% of the students felt like they did not have the energy to seek treatment, tend to make these students relate this anxiety with their constant state of stress and burnout. Medical students are at a higher risk of developing physical and mental health problems as compared to non-medical students due to academic stress (Hamza M Abdulghani et al. 2011). This can also be partly attributed to the fear of a definitive diagnosis (also known as nosophobia), as demonstrated by a case study by Janet et al.

According to the answers provided, 15.1% of the students feel like it is just a phase and they will get through it, while 9.4% of the study population thought that they do not require treatment for anxiety. This can again be attributed to the lack of time as well as high levels of stress that they think are a part of their routine life or they are so negligent of their health or fear of a definitive diagnosis that they prefer not to seek help.

Conclusion

High rates of constant anxiety seen among medical students should be taken into serious consideration as they can have a negative impact on their health, which in turn can have a deleterious effect on their clinical practice and therefore a significant impact on patients' health. General awareness about the topic of mental health needs to be popularized among the masses, and specific campaigns targeted at medical students about their mental health need to be implemented in medical colleges.

Conflict of interest: The authors declare no conflict of interest regarding the article.

References:

1. World Health Organization: WHO. (2022). Mental disorders. *www.who.int*.
<https://www.who.int/news-room/fact-sheets/detail/mental-disorders#:~:text=A%20mental%20disorder%20is%20characterized,different%20types%20of%20mental%20disorders>
2. Dattani, S. (2021, August 20). *Mental Health*. Our World in Data. <https://ourworldindata.org/mental-health>
3. Arias, D., Saxena, S., & Verguet, S. (2022). Quantifying the global burden of mental disorders and their economic value. *EClinicalMedicine*, 54, 101675. <https://doi.org/10.1016/j.eclinm.2022.101675>
4. *Generalized Anxiety Disorder: When Worry Gets Out of Control*. (n.d.). National Institute of Mental Health (NIMH).

- <https://www.nimh.nih.gov/health/publications/generalized-anxiety-disorder-gad>
5. Quek, Tam, Tran, Zhang, Zhang, Ho, & Ho. (2019). The Global Prevalence of Anxiety Among Medical Students: A Meta-Analysis. *International Journal of Environmental Research and Public Health*, 16(15), 2735. doi:10.3390/ijerph16152735
 6. Baldwin, D. S., Anderson, I. M., Nutt, D. J., Bandelow, B., Bond, A., Davidson, J. R., den Boer, J. A., Fineberg, N. A., Knapp, M., Scott, J., Wittchen, H. U., & British Association for Psychopharmacology (2005). Evidence-based guidelines for the pharmacological treatment of anxiety disorders: recommendations from the British Association for Psychopharmacology. *Journal of psychopharmacology (Oxford, England)*, 19(6), 567–596. <https://doi.org/10.1177/0269881105059253>
 7. Supervia P. U., Robres A. Q. (2021). Emotional Regulation and Academic Performance in the Academic Context: The Mediating Role of Self-Efficacy in Secondary Education Students, *Int J Environ Res Public Health*, 18(11):5715.
 8. Zhang, Y., Chen, C., Pan, X., Guo, J., Li, Y., Franco, O. H., Liu, G., & Pan, A. (2021). Associations of healthy lifestyle and socioeconomic status with mortality and incident cardiovascular disease: two prospective cohort studies. *BMJ*, n604. <https://doi.org/10.1136/bmj.n604>
 9. Abdulghani, H. M., Alkanhal, A., Mahmoud, E., Ponnampereuma, G., & Al-Faris, E. A. (2011). Stress and Its Effects on Medical Students: A Cross-sectional Study at a College of Medicine in Saudi Arabia. *Journal of Health, Population and Nutrition*, 29(5). <https://doi.org/10.3329/jhpn.v29i5.8906>
 10. Naveed, S., Waqas, A., Chaudhary, A. M. D., Kumar, S., Abbas, N., Amin, R., Jamil, N., & Saleem, S. (2020). Prevalence of Common Mental Disorders in South Asia: A Systematic Review and Meta-Regression Analysis. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.573150>
 11. Bahrami, F. (2011, January 1). *Females Are More Anxious Than Males: A Metacognitive Perspective*. PubMed Central (PMC). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3939970/>
 12. College students' mental health is a growing concern, survey finds. (n.d.). <https://www.apa.org>. <https://www.apa.org/monitor/2013/06/college-students>
 13. Helmers KF, Danoff D, Steinert Y, Leyton M, Young SN. "Stress and depressed mood in medical students, law students, and graduate students at McGill University." *Acad Med*. 1997 Aug; 72(8):708-14.

14. Guthrie, E. A., Black, D., Shaw, C. M., Hamilton, J., Creed, F. H., & Tomenson, B. (1995). Embarking upon a medical career: psychological morbidity in first year medical students. *Medical education*, 29(5), 337–341. <https://doi.org/10.1111/j.1365-2923.1995.tb00022.x>
15. Sikander, S. (2020). Pakistan. *The Lancet Psychiatry*, 7(10), 845. [https://doi.org/10.1016/s2215-0366\(20\)30387-4](https://doi.org/10.1016/s2215-0366(20)30387-4)
16. Rathod, S., Pinninti, N., Irfan, M., Gorczynski, P., Rathod, P., Gega, L., & Naeem, F. (2017). Mental Health Service Provision in Low- and Middle-Income Countries. *Health services insights*, 10, 1178632917694350. <https://doi.org/10.1177/1178632917694350>
17. Lucia, P., & Franca, T. (2017). Associations between Shyness and Maternal and Paternal Bonds across Adolescence. *Journal of Psychology & Clinical Psychiatry*. <https://doi.org/10.15406/jpcpy.2017.07.00451>
18. Yaffe, Y. (2021). A narrative review of the relationship between parenting and anxiety disorders in children and adolescents. *International Journal of Adolescence and Youth*, 26(1), 449–459. <https://doi.org/10.1080/02673843.2021.1980067>
19. Schomerus et al. (2011) Schomerus G, Lucht M, Holzinger A, Matschinger H, Carta MG, Angermeyer MC. The stigma of alcohol dependence compared with other mental disorders: a review of population studies. *Alcohol and Alcoholism*. 2011; 46:105–112. doi: 10.1093/alcalc/agq089.
20. Littlewood, R.; Jadhav, S.; Ryder, A.G. A cross-national study of the stigmatization of severe psychiatric illness: Historical review, methodological considerations and development of the questionnaire. *Transcult. Psychiatry* 2007, 44, 171–202. doi:10.1177/1363461507077720.

Questionnaire

Section 1: Demographics.

1. What is your gender?
 - a. Male
 - b. Female

2. What is your age?

Section 2: Generalized Anxiety Related Questions.

3. Excessive anxiety or worry about a number of events or activities?
0= not at all
1= for several days
2= more than half the days
3= almost everyday

4. Finding it difficult to control worrying?
0= not at all
1= for several days
2= more than half the days
3= almost everyday

5. Feeling restless, keyed up or on edge?
0= not at all
1= for several days
2= more than half the days
3= almost everyday

6. Being easily fatigued?
0= not at all
1= for several days
2= more than half the days
3= almost everyday

7. Difficulty concentrating or mind going blank?
0= not at all
1= for several days
2= more than half the days
3= almost everyday

8. Being irritable?

0= not at all

1= for several days

2= more than half the days

3= almost everyday

9. Having muscle tension?

0= not at all

1= for several days

2= more than half the days

3= almost everyday

10. Having disturbed sleep, such as difficulty falling asleep, difficulty staying asleep or restless unsatisfying sleep?

0= not at all

1= for several days

2= more than half the days

3= almost everyday

11. Feeling distressed because of these problems?

0= not at all

1= for several days

2= more than half the days

3= almost everyday

12. How difficult have these problems made it for you to do work, take care of things at home, or get along with other people?

0= not at all

1= for several days

2= more than half the days

3= almost everyday

Section 3: Willingness for treatment of anxiety.

13. Are you seeking treatment for your anxiety symptoms?

- a. Yes
- b. no
- c. Does not apply to me

14. In the above question, if you're not seeking treatment for anxiety, are you willing to seek treatment for anxiety symptoms?

- a. Yes
- b. no
- c. Does not apply to me

15. Does the social stigma regarding anxiety affect your decision of seeking treatment

- a. Yes
- b. no
- c. Does not apply to me

16. What prevents you from seeking treatment for anxiety? Choose the following that may apply to you.

- a. I have no access to a doctor or a psychiatrist.
- b. I feel shy sharing my problems with the doctor.
- c. I feel like there is no solution to my condition.
- d. I can't afford treatment.
- e. I don't want people, relatives or parents to know that I visit a medical professional to seek treatment.
- f. I feel like I can deal with it on my own.
- g. I feel like it will get better on its own.
- h. I'm very busy because of medical school, I don't have time to seek treatment.
- I. I don't have the energy.
- j. I feel like it's just a phase, I'll get through it.
- k. Does not apply to me

17. What other things or conditions prevent you from seeking treatment?

Ans.