Section: Community Medicine

Original Research Article

STRESS AND ITS PERCEIVED REASONS AMONG MBBS STUDENTS IN SOUTH INDIA : A MIXED METHODOLOGY STUDY

Madhav Vadhyan Sankaran[1], Jaya K V[2], Mahsooma T A[3], Meghana Murugan K[1], Mereena Mary Jaison[1], Lilly Maria P.A.[1]

[1]*MBBS Student, Department of Community Medicine, Govt Medical College, Thrissur, Kerala, India*
[2]*Associate Professor (CAP), Department of Community Medicine, Govt Medical College, Thrissur, Kerala, India*
[3]*Junior Resident, Department of Community Medicine, Govt Medical College, Thrissur, Kerala, India*

Received *: 05/07/2025*
Received in revised form *: 22/08/2025*
Accepted *: 10/09/2025*

Corresponding Author:
Dr. Jaya K V,
Associate Professor (CAP), Department of Community Medicine, Govt Medical College, Thrissur, Kerala, India.
Email: jayakviswam@gmail.com

DOI: 10.70034/ijmedph.2025.4.65

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (4); 359-365

ABSTRACT

Background: Medical students are experiencing high levels of stress due to their course length and academic demands which in turn leads to physical and mental health issues, anxiety, depression, and burnout. The objective is to determine the levels of stress among the medical students from 1st to Final Year in GMC, Thrissur in 2024, and to explore the perceived reasons for their stress.

Materials and Methods: A mixed methodology study with initial quantitative phase conducted among 644 students from all years using a structured questionnaire and PSS scale and the next qualitative phase as Focus Group Discussion (FGD) conducted among selected 8 students from initial phase having moderate or high stress.

Results: Among the 644 study participants, 514 (79.8%) experienced moderate stress, while 73 (11.3%) experienced low stress and 57 (8.9%) experienced high levels of stress. From the FGD, the themes related to perceived reasons for stress generated were “Academic-related reasons”, “Adaptation issues related to transition from school to college”, “Communication issues”, “Time management issues”, “Societal pressures”.

Conclusion: This study showed that the vast majority of medical students face moderate to high levels of stress in their academic life. Hence, there is a need to identify possible ways to reduce their stress levels in order to ensure better physical and mental health.

Keywords: Stress, Medical students, Mixed methodology.

INTRODUCTION

Stress is a natural human response to challenges, but persistent stress can negatively impact overall health and well-being. The World Health Organization (WHO) emphasizes that mental health is not merely the absence of illness but a state of well-being in which individuals can cope with normal life stresses, work productively, and contribute to their communities.[1] Globally, the prevalence of stress is estimated at 36.5%, with Indian studies reporting much higher rates, up to 84% among adults.[2,3] In Kerala, stress among college students has been reported at 60%.[4] Medical students, in particular, are vulnerable, with studies from Thrissur showing 73% experiencing moderate and 20% experiencing high stress levels.[5] Stress in this population has also been linked to rising substance use and severe consequences such as depression, insomnia, anxiety, and suicidal ideation.[6,7] These findings highlight stress among medical students as a significant public health concern warranting further investigation. Hence the present study was undertaken to find out the level of stress and explore perceived reasons for stress among MBBS students in Govt. Medical College in central Kerala in India. Institutional Ethical Committee clearance was obtained before the start of the study. Informed consent was obtained from the participants.

MATERIALS AND METHODS

Study Design: In this study a sequential explanatory mixed method study was used in which quantitative phase was followed by qualitative phase. In this study, assessing stress levels statistically (quantitative phase) and exploring underlying reasons through discussion (qualitative phase) align well with this pragmatic paradigm. It accepts that multiple perspectives of reality coexist and are valid depending on context [Figure 1].

Study setting: Study was conducted during the year 2024 among MBBS students of Government medical college, Thrissur in Kerala which is one of the southern states in India.

Phase I: Quantitative Phase

Study subjects: Phase I part of the study was conducted among all the MBBS students from 1st year to Final year in Govt. Medical College, Thrissur using Cross-sectional study design. Sample size: In Phase I part of the study, we took all the MBBS students from 1st year to Final year with a strength of 175 students per batch studying in Govt. Medical College, Thrissur during the year 2024. Students unwilling to give consent were not included in the study.

Data collection method: Data was collected from all MBBS students using a self-administered questionnaire for assessing Level of stress among students. It had two sections: the first section for collecting sociodemographic details and the second section for assessing stress using the Perceived Stress Scale. Data was coded and entered into Microsoft Excel sheets and analyzed using SPSS software. The level of stress was calculated as low, moderate, and high perceived stress based on the PSS score and was expressed in terms of proportion and mean.[The participants can be classified and divided into three groups according to their scores: 27 – 40 points refer to high perceived stress, 14 – 26 points refer to moderate stress, and 0 – 13 points refer to low stress.]

Phase II: Qualitative Phase

Study population: MBBS students who have high and moderate stress according to their PSS score obtained from Phase I (Quantitative study).

Sample size: In Phase II part of the study, we conducted Focus Group Discussion with 8 people, two students from each batch (2020, 2021, 2022, 2023 admission) who were having either high or moderate level of stress as per Perceived stress scale using purposive sampling.

Data collection method: After obtaining consent, data regarding the perceived reasons for stress among these selected students were explored by conducting Focus Group Discussion (FGD) with the aid of an interview guide. FGD was done on a day, time and place convenient to the participants. An interview guide with broad open-ended questions was prepared and used for FGD. Audio recording (after consent) and notes were taken. The dynamics of the discussion were plotted in a sociogram. Audio recordings of focus group discussion were transcribed as verbatim by the researcher who had undergone training in qualitative data analysis. All personal identifiers were removed. The transcript was translated from Malayalam to English and thematic analysis was performed. The transcript was coded manually and grouped in to different categories following which themes were identified. Analysis was concluded when the coding overlapped sufficiently and it was realized that the themes had captured key issues.

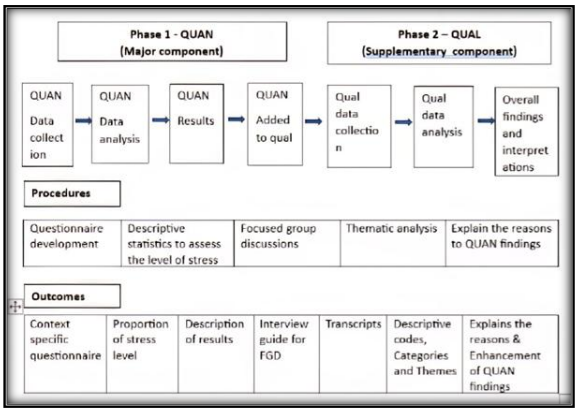

Figure 1: Visual diagram showing the sequential mixed methodology design

RESULTS

Phase 1-Quantitative Study

A cross-sectional study was conducted among MBBS students from first year to final year in Govt. Medical College Thrissur to assess the level of stress. Out of total 700 MBBS students of four batches, only 644 students gave consent to participate in the study. Among the study participants majority (66%) were females Among the study participants 5.3 % were from outside Kerala and 87.8% of participants were hostellers [Table 1].

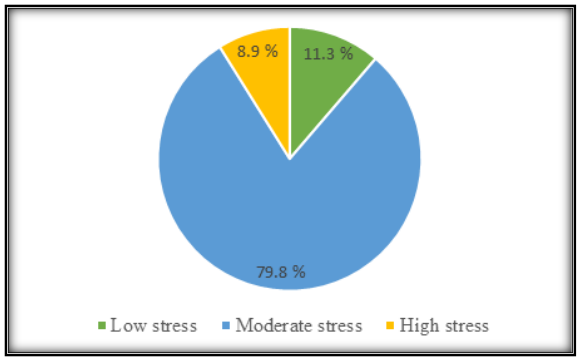

Figure 2: Distribution based on stress levels

Among the study participants, 73 (11.3%) showed low stress (PSS score 0-13), 514 (79.8%) experienced moderate stress (PSS score 14-26) and 57 (8.9%) experienced high stress (PSS score 27-40) . Majority of the students (79.8%) were seen to have

moderate levels of stress [Figure 2].The mean stress score among the 644 participants was 19.3 ± 5.64 (moderate stress). The minimum stress score was 0 and the maximum stress score was 37.

Table 1: Sociodemographic profile of study participants

Socio demographic features		Frequency (%)
Gender	Male	219 (34 %)
	female	425 (66 %)
Native state	Kerala	609 (94.7 %)
	Outside Kerala	35 (5.3 %)
Stay of student	Hosteller	565 (87.8 %)
	Day scholar	79 (12.2 %)
Type of family	Nuclear	578 (89.8 %)
	Joint	66 (10.2 %)
Having siblings	Yes	587 (91.3 %)
	No	57 (8.7 %)
Marital status	Married	621 (96.4 %)
	Never married	23 (3.6 %)
Economic status	APL	576 (89.4 %)
	BPL	68 (10.6 %)
Parenthood	Both parents	596 (92.5 %)
	No or one parent	48 (7.5 %)

Phase II – Qualitative Study

Among the participants who were found to have moderate and high levels of stress from the phase I - Quantitative Study, we selected 8 students for a Focus Group Discussion (FGD) with 2 from each MBBS batch to explore the perceived reasons for stress among them.. From the audio recording of the FGD, a verbatim transcript was made, and from it codes, categories, and themes were generated. The codes, categories, and themes are shown in Table 2. The themes generated as perceived reasons for stress among MBBS students were Academic-related reasons , Adaptation issues related to transition from school to college , Communication issues, Time management issues and Societal pressures [Table 2].

Table 2: Thematic analysis of perceived reasons for stress among MBBS students

Codes	Categories	Themes
Academic stress	Academic stress	Theme 1: Academic-related reasons
Vast and wide curriculum		
CBME curriculum changes		
Lengthy course duration		
Seminars		
Running behind faculty for logbook signatures		
Guilt due to not studying and portions accumulating		
Lack of average marks	Difficulties with exams, marks, attendance	
Attendance shortage		
Year back		
Facing frequent exams		
One department unaware of exams by another department		
Sessional exams		
Difficulty in getting extension classes for attendance shortage		
University exam registration and preparation		
Not able to remember things studied for exams		
Need for more degrees after MBBS	Worries for future scope after MBBS	
NEET PG preparation		
More number of subjects in final year	Stresses in final year	
Hectic schedule		
Unable to finish portfolio and logbooks on time		
Not knowing anything for clinics	Stresses related to clinics	
More students in each class	Stress due to college life	Theme 2: Adaptation issues related to transition from school to college
Difficulty as introverts		
Adjustment to hostel life		
Non-academic responsibilities		
Differences from school life and tough to adjust	Stress due to adjustment from school	
Not able to perform as well compared to school		
Not able to study like before		
Different study and teaching habits compared to school		
Difficulty in direct interactions with patients	Stresses related to clinics	Theme 3: Communication issues
Difficulty in interacting with faculty in clinics		
Attending clinics for the first time		
Not taught about patient interactions before clinics		
Difficulty as introverts		
Difficulty learning Malayalam	Difficulty as non-Malayali	

No time for spending with family and friends	Interpersonal relationships and social interactions	Theme 4: Time management issues
Lack of interpersonal relationships		
“Only one day off”, “not getting time to take rest”	Insufficient time for rest	
No break after stressful preparation for NEET UG		
Short break between dissection and afternoon practicals		
Too many tasks given to do after classes		
Early timing of classes		
Travelling home and returning is tiring		
Parents’ expectations	Stresses related to expectations from others	Theme 5: Societal pressures
Non-medical parents having higher expectations		
Faculty expectations		
Demotivating words from faculties		
People asking doubts but not having knowledge to answer		

DISCUSSION

Phase I – Quantitative Study

In this study, 644 participants were included. 66% of the participants were female. Hostelers were the majority with 86%. Only 5% of students were from places other than Kerala. The majority of the study participants were from nuclear families (89%). 91% had at least one sibling and 81% were unmarried. About 89% were APL card holders. Nearly 2.5% of the participants had comorbidities. Stress levels were calculated based on the individual’s Perceived Stress Scale (PSS) score, with 0-13 indicating low stress, 14-26 indicating moderate stress, and 27-40 indicating high stress levels. According to a study done by Dr Sathi Devi,[5] on stress levels among students of Govt Medical Colleges of Kerala, it was found that 4.3% of the students had little stressor experience, 60.1% with moderate stressor experience and 35.6% with severe stressor experience. In contrast, from our study 11.2% of students experienced little stress, 79.8% of students experienced moderate stress and 9% of students experienced high stress as per our study. So, the proportion of students facing high stress is lower, but those facing moderate stress is higher in our medical college. In a study named "Stress, its determinants and its association with academic performance among the students of a medical college in Kerala” by Madhusudan et al., it was found that no/mild stress was seen in 29.8%, moderate stress in 53.6% and high stress in 16.7%. In both studies, students with moderate stress levels predominate.[9] Our study shows comparatively lesser values for low and high stress. According to a study done by Dr. Shah Navas P on stress among medical students, it was found that females experience more stress than males.[14] But it was statistically insignificant and was suggested that this is because females are now in majority in the medical field, as compared to the 1950's where it was male dominated. A similar trend was seen in our study wherein females are the majority in our study population. According to study done by Divya et al. of a private medical college in Thrissur, 73% of students experienced moderate stress and 20% of students experienced severe stress while in contrast 79.8% of students experienced moderate stress and 9% of students experienced high stress as per our study.[6] The mothers of most of the students were housewives (37%) and similarly the mothers of most of the students were housewives (61.2%) as per our study. In their study a significant association was found between PSS score and mothers’ education. Likewise, there was an association between schooling and PSS score. A study was conducted by the Departments of Pathology, Biochemistry and Community Medicine of MOSC College, Kolanchery, Kerala titled 'A study on the Emotional status of final year MBBS Students in a private medical college in central Kerala, India.[15] This study, undertaken to determine the prevalence of stress, anxiety and depression among the Final year MBBS students, revealed that stress, anxiety and depression scores of females are more than males. The cause of increased anxiety in females may be due to enthusiasm for academic excellence, competitiveness or may be due to lack of physical exercise. Factors contributing to high levels of depression, anxiety and stress in the current set up of medical college may be due to high expectations of parents, peer pressure and tedious medical curriculum. A similar result was seen in our study.

Phase II– Qualitative Study

From the FGD conducted among 8 participants who were having moderate or high stress levels, with 2 participants from each batch.

Theme 1: Academic-related reasons

One of the main concerns among students is regarding the number of subjects in final year. The rapid change to CBME curriculum made drastic changes in the syllabus which the students find difficult to cope up with. As per the new NMC rules, the final year has 6 subjects which are vast and would be very difficult to cover within a period of 1.5 years. They also spoke about the hectic schedule, because of which they become unable to manage time and study peacefully. Along with that, portfolio and logbook submissions add on to the stress of final year students. As there is so much to write and draw, students become concerned about timely submission which reduces their learning time. In addition, there would be seminar presentations frequently which often requires much time, which won't give time for studying the portions covered daily. This can add on to a 'guilty feeling of not studying' and portions accumulating causing more stress.

Most students struggle to achieve the average marks required for college eligibility. Some of them struggle to meet minimum attendance, which also plays a key role in the progression of stress. Often, students have poor attendance and must take extra classes for various reasons. In some cases, it can be very difficult to get permission to take extension classes in multiple departments. Moreover, these classes are held by the end of the semester, probably a few weeks before registration for university exams. It consumes most of the preparation time, since the extension classes are conducted during the study leave. Sometimes these classes can take up to 12 hours a day. This raises further concerns about how they will be able to register for the exams; even if this is possible, the next concern is whether they will pass the exam. Another fact that contributes to stress is the concept of year back. Seeing how the students in the previous year had performed so poorly, many fear that they themselves will end up in a similar situation. Frequent exams like part completion tests do not give students enough time to prepare and one reason is that some departments don't know about the exams being conducted by other departments- hence they get less time to prepare and are unable to perform their best in the exams.

One of the factors for stress was found to be worries for future scope after MBBS. The participants were stressed due to the need for more degrees after completing MBBS for a better scope. The NEET PG preparation was a source of stress, especially when attending coaching classes along with UG classes, the stress level increases. Dropping out for PG coaching also adds to the stress.

During clinics, students must interact directly with the patients without much prior knowledge or experience. They are expected to practice various clinic skills on the patients. But oftentimes they are not even able to understand why they do a particular test or why they need to ask a particular question. Many have stated that sometimes it is difficult to approach faculties for help in clinics. Hence lack of better knowledge about clinical skills adds to the stress factor. Interactions with senior house surgeons made them understand that the clinical postings are not that easy and have a hectic schedule. So as evidenced from the Focus Group Discussion, clinical postings play a big role in causing stress to MBBS students.

Theme 2: Adaptation issues related to transition from school to college

As a medical student, they face difficulty transitioning to hostel life as they experience homesickness and loneliness, adjusting to unfamiliar surroundings. Some find difficulty in sharing rooms, and others find difficulty in adjusting with roommates. In college, the union members conduct and arrange programs all alone themselves with little support from the faculty whereas in schools there were teachers to lead them for conducting program. They are not getting enough time for studying because of such responsibilities when they are also supposed to run behind faculties for conducting an event. Even though union activities are not related to academics and thus not necessary, the students need such programs in their tight schedule for relaxation.

With more students, teachers often struggle to provide personalized attention, leading to a decrease in student performance and decreased student engagement. Larger classes can lead to disengagement and students tend to feel lost. When students come to college, there is an obvious difference. The way faculties are taking classes is different. Medical students need to take more responsibility for their own learning, whereas in school, teachers often guide students more closely. Medical college requires a significant increase in study time, whereas school study hours were generally shorter. Alon with that, teaching medicine is often case-based, where real-life scenarios are used to teach concepts, while school teaching is often lecture-based. In the FGD, students have said that they are not able to perform and study like before and are worried about remembering things as they did earlier which stresses them out and makes them feel as if they have lost their capacity to learn and do well in such settings. Medical students need to balance study time with clinical responsibilities which becomes harder compared to school.

Theme 3: Communication issues

Among the topics discussed regarding issues of communication, it was seen that introverts are particularly affected in this field. Introverts find it difficult to share their feelings with friends and family and are unable to relieve their stress. They may have financial, family and other issues, which they find difficult to cope with, but they are still not seeking help due to the feeling of what others might think. They have a social inhibition, and such students will be unable to converse with patients, present seminars and talk to a group or in public. These lead to stress building up due to lack of communication with others.

The students feel difficulty in directly interacting with the patients mainly during the initial phase of their clinical posting. Misinterpreting nonverbal clues such as body language and tone also makes the students nervous. They also have difficulty in adapting communication styles to different age groups of patients. As a result, many of the students panic. As MBBS course involves a vast number of students in each class, communication with each one of them is difficult and personal relationships with colleagues is much lesser compared to other fields which in turn makes the students difficult to enjoy the leisure time. This setting is very different from that of the schools where there are only a few students and where they get to know each one of them thoroughly, enjoying the free time together which in turn helps to relieve stress. Lack of interaction with friends and colleagues leads to

another way of generating stress or no way to relieve stress.

Non-Malayalees are another group who face troubles communicating with people. Language is a barrier for them, and they find it difficult to talk with patients. They are required to learn the native language in a very short period to properly learn from clinics. They also tend to feel left out as their colleagues tend to converse in Malayalam. Moreover, they are not able to go home like others whose houses are in Kerala, and they are not able to visit their loved ones frequently. When talking to patients, they always require a translator. They are unable to study and learn how to take cases by themselves. They form groups among themselves and are isolated. Also, when teachers are explaining anything, they often tend to switch to native language which is not understood by non-Malayalees. They often face difficulty in the new food habits and fail to indulge in programs and enjoy their college life to the fullest.

Theme 4: Time-management issues

Interpersonal relationships and social interactions are crucial for medical students, as they significantly impact both their academic journey and future professional practice. The demanding nature of medical school often leaves students with little time for family and friends, impacting their emotional well-being and social life. The heavy workload of lectures, assignments, and exam preparation, combined with long hours during clinical rotations, creates a schedule that rarely allows for social activities or quality time with loved ones. This can strain personal relationships, as family members may not fully understand the pressures of medical school, leading to feelings of guilt or disconnection. Friendships can also suffer, as mismatched schedules and conflicts between social gatherings and academic obligations make it difficult to maintain these connections. Over time, this can lead to weakened bonds or feelings of isolation, as peers outside the medical field might not grasp the extent of these challenges.

Emotionally, the lack of social interaction can contribute to loneliness and exacerbate the stress and anxiety already prevalent in medical school. The risk of burnout becomes significant, as students may find themselves emotionally exhausted, detached, and questioning their career choices due to the constant pressure and insufficient time for personal life. Balancing the rigorous demands of medical education with maintaining healthy relationships is a critical challenge that requires careful management to avoid long-term negative effects on mental health and well-being.

A day off is crucial in professional life for several reasons, as they contribute significantly to overall well-being, productivity and satisfaction. Only a "one day off" on Sunday with much work to complete on that day adds up to the stress level in medical students. Even after university exams there were situations where only a one-day leave was given. This leads to decreased work life balance, decreased productivity and performance and poor mental health.

Also, NEET UG preparations begin from the 11th standard for most medical students and experience an extremely stressful period in the competitive world for a period of 2 years or more. Lack of adequate leisure time and vacations before the commencement of professional life adds up to stress and causes burnout like emotional exhaustion and a sense of detachment from the professional course.

Next factor is lack of adequate breaks between dissection and practical hours in a first-year student. As begin MBBS, standing for long hours around the dissection table is tiring and not getting enough time for breaks before the next practical hour can lead to reduced effectiveness, the ability to retain and recall information can be compromised, which is particularly detrimental in a demanding field like medicine.

As a government medical college, there will be students from every corner of Kerala, and they must travel long distances to get home. As a smaller number of leaves are given, getting home and back to college within 1 or 2 days is very tiring. It leads to decreased interpersonal relationship between family members which leads to emotional exhaustion.

Managing time for various tasks relating to academics becomes strenuous when there are loads of homework, assignments and other academic activities to be done after class hours. This encroaches into the personal and recreational hours of the student, restricting the student from their relaxation time. Inability to complete the given tasks within the stipulated time develops a sense of panic and stress within the student. Class timings, along with the hectic schedule a student must follow drains all their energy even before the end of the day. Early timing of classes is a stress factor for some students as it often interferes with their sleep cycles and study patterns. This forces them to adapt to an altered life pattern from their usual way which often causes difficulties in adjusting, inability to manage time and so on which results in stress, and this only adds to hardship.

Theme 5: Societal pressures

Parents' expectations about their children are often a burden to the students. Students fear whether they will be able to perform as per their parents' expectations. Most of the students who have done extremely well in school are not able to repeat such academic successes in college. It is difficult to remember what the student has learnt over the course of 4 years; hence the student fears what society would think of them if they were not able to clarify the doubts of others. Non-medical parents are not aware of the difficulty of the course and are often disappointed when the child scores less than 90% whereas scoring 70-75 is itself a great achievement. They also fear that they would lag behind their batch mates in attaining PG seat or

completion of higher studies. Each faculty may have a certain expectation from each student based on their ability. The students fear they will disappoint their teachers. Harsh words from teachers tend to have a detrimental effect on the mental health of students. The student fears what they would say to others when they enquire about the current status of their education if they are not able to maintain an above average performance in academics.

Since all participants were coming under the CBME curriculum, the academic-related factors identified in this study may be generalized to MBBS students following CBME across the institutions in Kerala. Other stress-related factors may also be applicable to students in medical colleges within Kerala; however, variations in institutional, social, and cultural contexts may limit the generalizability to colleges outside the state. The tight academic schedule posed time constraints for student participation in the study. As the principal investigators were faculty members, participants might have felt inhibited in disclosing certain reasons for stress. To minimize this, postgraduate students were trained to facilitate the FGDs, thereby creating a relatively non-threatening environment. Nonetheless, some personal factors may not have been expressed in the group setting, which could have been better elicited through one-to-one in-depth interviews. Hence, future studies employing in-depth qualitative approaches are recommended for a more comprehensive exploration of stressors. Within the Kerala context, most of the identified reasons appear generalizable, and evidence-based interventions can be proposed to mitigate these stressors and promote student well-being.

CONCLUSION

This study conducted among the students of GMC Thrissur showed that the vast majority of them (70.9%) face moderate levels of stress in one form or another. As medical education is an extremely demanding professional course, it is imperative that the students are able to study and perform their best while giving due consideration to their mental health to prevent burnout. Therefore, possible measures and solutions for the stressful factors must be considered and put into practice for the betterment of the medical students in the college. Conducting sessions with the medical education unit, parents, and students in order to identify and implement possible solutions can be recommended to reduce stress and bring a healthy change to the students' well-being.

Acknowledgement: We sincerely thank Dr. Amol Dongre, Professor of Community Medicine, SMVMCH, Puducherry, for his valuable guidance and support in clarifying our doubts during this study. Also we sincerely acknowledge the invaluable contribution of the following students Megha K, Nandana R, Minzook M.R, Neeraja Benny, Neeraj Sreenivasan, Nihara Cheruvalappil, Nikhil Francis, Nandana Sunil, Nasla P, Navya M, Malavika Mohan, Mohammed Mazin Thottasseri, Mohammed Sajeer T, Muhammed Hashim M.K, Muhammed Hisham U.K, Muhammed Milshad A.P, Muhammed Waseem Tharayil, Nila Nadarajan, Neha Pradeep in the successful conduct of our research. We extend our heartfelt thanks for their sincere efforts , commitment , dedication and support in various stages of data collection and research work were instrumental in the smooth execution of the study. We would like to thank all the study participants for their cooperation in the conduct of this study

REFERENCES

1. https://www.who.int/news-room/questions-and-answers/item/stress
2. https://www.who.int/data/gho/data/major-themes/health-and-well-being Cited on 4/7/24
3. Nochaiwong S, Ruengorn C, Thavorn K, Hutton B, Awiphan R, Phosuya C, Ruanta Y, Wongpakaran N, Wongpakaran T. Global prevalence of mental health issues among the general population during the coronavirus disease-2019 pandemic: a systematic review and meta-analysis. Sci Rep. 2021 May 13;11(1):10173.
4. Wakode N, Wakode S, Santoshi J. Perceived stress and generalized anxiety in the Indian population due to lockdown during the COVID-19 pandemic: a cross-sectional study. F1000Res. 2020 Oct 14;9:1233.
5. Sathidevi V.K. Prevalence of stress among final year MBBS students in Kerala. International Journal of Contemporary Medical Research 2017;4(10):2157-2160.
6. Divya M, Navya C J, Vidhu M Joshy, Aswathy M G. Prevalence of perceived stress among first year under graduate medical students of a private medical college, Thrissur, Kerala. MedPulse International Journal of Community Medicine. September 2019; 11(3): 54-57.
7. Niranjjan R, Nancy S, Gayathri S, Arulvijayavani S. Mental health status and substance abuse among medical students in Karaikal, Puducherry, India.
8. Rosiek A, Rosiek-Kryszewska A, Leksowski Ł, Leksowski K. Chronic Stress and Suicidal Thinking Among Medical Students. Int J Environ Res Public Health. 2016 Feb 15;13(2):212.
9. Madhusudan M, Puttaswamy SB, Krishna KM, Farsana PK, Angela AS, Muneer I, et al. Stress, its determinants and its association with academic performance among the students of a medical college in Kerala. Indian J Community Fam Med 2020;6:56-60.
10. Jose BA, Sam SR, Shemin N, Thomas SM, Rohit C, Khader J, et al. Depression, Anxiety, Stress and Fear of Failure among Medical Students of a Teaching Medical College in South Kerala. Ann Community Med Public Health. 2021; 1(2): 1006.
11. Raj RR, Rajamohanan RR, V V, Amin AA, M D, M L. Prevalence of Stress among First Year Medical Students and Factors Influencing It: A Single Centre Questionnaire Based Study. Int. J. Heal. Clin. Res. 2021Apr.29;4(8):232-5.
12. Sohail N. Stress and academic performance among medical students. J Coll Physicians Surg Pak. 2013 Jan;23(1):67-71. PMID: 23286627.
13. Azim SR, Baig M. Frequency and perceived causes of depression, anxiety and stress among medical students of a private medical institute in Karachi: a mixed method study. JPMA. The Journal of the Pakistan Medical Association. 2019 Jun;69(6):840-845. PMID: 31189292.
14. Shah Navas P. Stress among Medical Students. Kerala Medical Journal. 2012 Jun 28;5(2):34-37
15. Varghese A, Joseph E, Sunil NP, Celine TM, Raj R. Emotional status of final year MBBS Students in a private medical college in central Kerala, India. Int J Adv Med 2016;3:744-7.