

Original Research Article

SOCIAL ANXIETY AND ITS ASSOCIATION WITH QUALITY OF LIFE AND ACADEMIC PERFORMANCE AMONG MEDICAL STUDENTS OF TAMIL NADU

Sangeethapriya Sivaprakasam¹, Murugan Venkatesan², Madhumalar Anbalagan³

¹Assistant Professor, Department of Community Medicine, Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research (MAPIMS), Melmaruvathur, Chengalpattu, Tamil Nadu, India.

²Professor and Head, Department of Community Medicine, Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research (MAPIMS), Melmaruvathur, Chengalpattu, Tamil Nadu, India.

³Assistant Professor, Department of Radiology, Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research (MAPIMS), Melmaruvathur, Chengalpattu, Tamil Nadu, India.

Received : 12/06/2026
Received in revised form : 11/07/2026
Accepted : 24/07/2026

Corresponding Author:

Dr. Sangeetha Priya AS,
Assistant Professor, Department of
Community Medicine, Melmaruvathur
Adhiparasakthi Institute of Medical
Sciences and Research (MAPIMS),
Melmaruvathur, Chengalpattu, Tamil
Nadu, India.
Email: siba.sanz@gmail.com

DOI: 10.70034/ijmedph.2026.3.787

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

Int J Med Pub Health
2026; 16 (3); 5103-5108

ABSTRACT

Background: Social Anxiety Disorder (SAD) is a common mental health condition among medical students which can cause disruption of personal, social life and limit work efficiency. The Objective is to determine the prevalence of social anxiety among undergraduate medical students and assess its association with quality of life and academic performance.

Materials and Methods: A cross-sectional study was conducted among 276 undergraduate medical students using stratified proportionate random sampling. Social anxiety was assessed using Social Phobia Inventory (SPIN) and quality of life was assessed using WHOQOL-BREF questionnaire. Descriptive statistics, chi-square test, Mann-Whitney test were performed. $P < 0.05$ was considered statistically significant.

Results: Among 276 participants, 136 (49.3%) had social anxiety ($SPIN \geq 25$). Students who experienced frequent rejection, humiliation and had history of family conflict in past 28 days had significantly higher social anxiety. Students with social anxiety has significantly lower median scores in all physical, psychological, social relationship and environment domains of WHOQOL-BREF ($P < 0.05$). No significant difference was observed in internal assessment scores between students with and without social anxiety ($P = 0.903$).

Conclusion: Nearly half of the students screened positive for social anxiety. Though academic performance did not differ significantly, students with social anxiety demonstrated poorer quality of life across all domains. Routine mental health screening and early interventions within institutions may help improve student's psychological well-being and quality of life.

Keywords: Social anxiety, Mental health, social phobia inventory, SPIN tool, WHOQOL-BREF, medical students.

INTRODUCTION

Social Anxiety Disorder (SAD) which was initially named social phobia, is defined according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as an extreme fear or anxiety about one or more social situations in which the individual is exposed to scrutiny by others, for instance, social interactions (e.g., meeting and talking to new people), being observed (e.g., eating

or drinking), and performing in front of others (e.g., public speaking).^[1]

SAD is the second most common type of anxiety disorder and the third most common mental disorder following depression and alcohol use disorder.^[2,3]

SAD is a chronic disorder significantly affecting the lifestyle of the individuals, often prevents the individual from available opportunities and makes the person disable at work and social life. Children and adolescent having SAD experience significant distress and impairment in study and poor social

relationships, whereas adults with SAD are more likely to experience lower education attainment, lower wages or unemployment, and poor quality of life and relationships with family and partner.^[4-7]

The global prevalence of social anxiety was found to be significantly higher than previously reported, with more than 1 in 3 (36%) respondents meeting the threshold criteria for having Social Anxiety Disorder (SAD).^[8,9] Though different factors may increase the probability of having a social anxiety disorder among medical students, poor social support, a field of study and academic stress were the other contributing factors to social anxiety disorder.^[10-13]

Although several studies have estimated social anxiety among medical students, most studies have been conducted in urban institutions or outside India. Data from rural medical colleges, particularly in Tamil Nadu, remain limited. Furthermore, very few studies have examined the association of social anxiety with both qualities of life and academic outcomes.

Therefore, the present study was conducted to determine the prevalence of social anxiety among medical students in rural medical college of Tamil Nadu and to assess its association with their quality of life and academic performance.

MATERIALS AND METHODS

This cross-sectional study was conducted among medical undergraduate students studying in a medical college in rural area of Tamil Nadu, India. This study was approved by Institution Ethics Committee (Serial Number: IEC/322(8)2023). An informed written consent was obtained from the participants before enrolment in the study. The study was conducted during February-November 2024.

The undergraduate students who were enrolled in the institution at the time of study period, 18 years and above and willing to provide informed consent were included in the study. The students who were previously diagnosed with major psychiatric illness receiving active psychiatric treatment and were not available during the time of data collection were excluded from the study.

Sample size

According to the study conducted among medical students by Roshan et al,^[14] 14.3% was found to have social anxiety disorder. Sample size was calculated based on single proportion formula as given below.

$$n_1 = (z_{1-\alpha/2})^2 \times \frac{pq}{d^2} \quad \text{Where,}$$

$$z_{1-\alpha/2} = 1.96 \text{ at } 95\% \text{ of confidence } \alpha = 0.05$$

$$p = 14.3\% \text{ of the participants were having social anxiety} = 0.143$$

$$q = 1 - p = 0.857$$

$$d = \text{Absolute precision} = 5\% = 0.05$$

$$n_1 = 188$$

$$\text{with design effect for stratified sampling } 1.2, n = 226$$

Considering 10% non-response rate, the sample size estimated for this study was 251.

Sampling method

The sample was selected by using stratified proportionate random sampling method. The strata considered in this study was gender- male and female. The proportion of boys and girls for each batch of 1st, 2nd, 3rd and final year was calculated and samples were selected randomly using lottery method. The selected students were seated with adequate privacy and data was collected using self-administered structured questionnaire after ensuring confidentiality of the data to the participant. A total of 295 eligible medical students were approached for participation in the study. Of these, 276 students provided complete response with response rate of 93.6%.

Data collection tool

The data tool consisted of demographic details, personal and family characteristics in the first section, followed by Social Phobia Inventory, WHOQOL-BREF tool. Academic performance was assessed based on the most recent internal assessment score available for each academic year.

SPIN is a 17-item self-rating validated instrument, to be rated in 0 (not at all) to 4 (extremity) Likert scale, assessing fear and avoidance in variety of social situations^[15]. The scale has good ability to distinguish adults with or without social phobia, and has three subscale for avoidant behaviour (of talking to strangers, of speaking to people for fear of embarrassment, of going to parties, of being the centre of attention, of making speeches, of being criticized, of speaking to authority), physical symptoms (blushing, sweating, palpitations, or shaking and trembling in the front of other people), and social fear (of people in authority, of parties and social events, of being criticized, of talking to strangers, of doing things when people are watching, and of being embarrassed)^[16]. The SPIN score of 25 and above was considered indicative of clinically significant social anxiety and 19 for subclinical SAD. Hence for estimating the prevalence of probable social anxiety, SPIN score of >25 was considered screening cut-off. The severity of SAD is graded based on the total score obtained viz: Less than 20-None; 21-30-Mild; 31-40-Moderate; 41-50-Severe; 51 or more-very Severe^[16].

Quality of life was assessed using WHOQOL-BREF. It is a 26 item validated self-rating instrument which includes four domains such as physical health, psychological, social relationship, and environmental domains^[17]. Each item rated in 0-5 Likert scale. The higher scores indicate higher quality of life.^[18]

Confidentiality and anonymity of study participants were strictly maintained throughout the study. Participants identified with severe social anxiety symptoms were counselled and advised to seek psychiatric services available in the institute.

Statistical Analysis

Data was entered in Microsoft excel and analysed using SPSS Version 29 (SPSS Inc, Chicago IL, USA). Data of WHOQOL-BREF were transformed using WHOQOL-BREF syntax sheet. Data was analysed using the transformed scores. Chi-square test for categorical variables and Mann-Whitney test for independent samples were used as a test of significance. $P < 0.05$ was considered as statistical significance.

RESULTS

A total of 276 undergraduate medical students participated in the study. The demographic and academic details of the study participants were described in [Table 1]. The prevalence of social anxiety (SPIN > 24) among medical students was

49.3%. The mean $\pm$ SD scores for fear, avoidant and physical symptoms component of SPIN were 9.41 ± 5.18 , 12.09 ± 6.24 and 4.59 ± 3.56 respectively. [Table 2] indicates grading of social anxiety among medical students.

Bivariate analysis demonstrated significant association between social anxiety and several psychosocial factors. [Table 3] presents association between social anxiety and demographic and psychosocial factors.

Students with social anxiety had significantly poorer quality of life across physical health, psychological health, social relationship and environmental domains of the WHOQOL-BREF compared with those without social anxiety. However, internal assessment scores were found to be not significantly associated with social anxiety. [Table 4]

Table 1: Demographic and academic characteristics of the study participants:

Variable		Frequency (n)	Percentage (%)
Age	17-20	125	45.3
	21-24	151	54.7
Sex	Male	117	42.4
	Female	159	57.6
Current residence	Hostel	209	75.7
	Day scholar	67	24.3
Nativity	Rural	119	43.1
	Urban	157	56.9
Medium of 12 th	English	270	97.8
	Tamil	6	2.2
Percentage scored in 12 th examination	Less than 85%	94	34.1
	85 and above	182	65.9
Batch and year of study	2019 – Final part – II	54	19.6
	2020 – Final part – I	55	19.9
	2021 – second year	57	20.7
	2022 – second year	56	20.3
	2023 – first year	54	19.6

Table 2: Prevalence and severity of social anxiety among undergraduate medical students

Variable	Frequency (n)	Percentage (%)
Social anxiety present – SA ≥ 25	136	49.3
Social anxiety absent – SA ≤ 24	140	50.7
None (0-20)	107	38.8
Mild (21-30)	80	29.0
Moderate (31-40)	49	17.8
Severe (41-50)	26	9.4
Very severe (>50)	14	5.1

*- Severity categories are based on SPIN score and prevalence of probable social anxiety was estimated using cut-off score of SPIN ≥ 25 .

Table 3: Association of sociodemographic and psychosocial factors with social anxiety

Variable	Social anxiety present n (%) N=136	Social anxiety absent n (%) N=140	Total N (%) 276	P value
Age				
17-20	66 (52.8)	59 (47.2)	125 (45.3)	0.287
21-24	70 (46.4)	81 (53.6)	151 (54.7)	
Gender				
Male	52 (44.4)	65 (55.6)	117 (42.4)	0.168
Female	84 (52.8)	75 (47.2)	159 (57.6)	
Nativity				
Rural	63 (52.9)	56 (47.1)	119 (43.1)	0.289
Urban	73 (46.5)	84 (53.5)	157 (56.9)	
Experienced frequent rejection				
Yes	61 (59.8)	41 (40.2)	102 (37)	0.007*
No	75 (43.1)	99 (56.9)	174 (63)	
Experienced frequent humiliation				

Yes	65 (61.9)	40 (38.1)	105 (38)	0.001*
No	71 (41.5)	100 (58.5)	171 (62)	
Family conflict in last 28 days				
Yes	52 (59.8)	35 (40.2)	87 (31.5)	0.018*
No	84 (44.4)	105 (55.6)	189 (68.5)	
Previous psychiatric consultation				
Yes	15 (51.7)	14 (48.3)	29 (10.5)	0.780
No	121 (49)	126 (51)	247 (89.5)	
First born child				
Yes	89 (51.1)	85 (48.9)	174 (63)	0.416
No	47 (46.1)	55 (53.9)	102 (37)	

*- P<0.05 considered statistical significance

Table 4: Comparison of WHOQOL-BREF domain scores and IA scores among students with and without social anxiety

Variable	Social anxiety present (N= 136) Median (IQR)	Social anxiety absent (N= 140) Median (IQR)	Mann-Whitney U statistic	P value
Physical health	53.57 (50.0-64.28)	64.28 (57.14-75.0)	6286	<0.001*
Psychological	45.83 (33.33-58.33)	58.33 (46.87-70.83)	5617	<0.001*
Social relationship	58.33 (41.66-66.66)	58.33 (50.0-75.0)	7892.5	0.013*
Environmental	56.25 (50.0-65.62)	59.37 (50.0-71.09)	8172	0.041*
Internal assessment scores	60 (51-68)	60 (52.25-67.75)	9439.5	0.903

*-P<0.05 considered statistical significance

DISCUSSION

The present study found out that nearly one-half of the students (49.3%) were experiencing social anxiety to some degree. Frequent humiliation and family conflict during the preceding 28 days were identified as independent factors associated with social anxiety. Students with social anxiety reported poorer quality of life across all domains, specifically greater impact on psychological and physical well-being. The present study showed no significant association between social anxiety and academic performance.

The prevalence of social anxiety observed in the present study is comparable with reports from central India (53.1%),^[13] Tamil Nadu, (41.1%),^[19] Maharashtra (46%),^[20] and Uttar Pradesh (43%),^[21] indicating that social anxiety represent a substantial mental health concern among medical students in India. Similar prevalence estimates have also been reported among medical students from universities across world like Saudi Arabia (50.95% and 51.9%),^[22,23] and Iran (40.6%).^[24] This is substantially higher than general population estimates (lifetime SAD ~ 8–15 %).^[25] Some studies had lower prevalence of social anxiety like in Karnataka (30.5%),^[2] and higher prevalence as in studies conducted at Tamil Nadu, Ahmedabad and Saudi Arabia (60.9% - 94%).^[3,26,27] Such differences might be attributable to differences in assessment instruments, diagnostic cut-off scores, socio-cultural factors, high-performance expectations, early childhood schooling environment, family dynamics and varying level of academic stress. The finding of significant associations between social anxiety and psychosocial stressors – frequent teasing (39.5%, P=0.005), humiliation (38.0%, P=0.001), rejection (37.0%, P=0.007), and recent family conflict (31.5%. P=0.018) is consistent with existing literature as Humiliation (AOR:2.40) and conflict at

home (AOR:2.60) were identified as independent correlates.^[21] These associations suggest that interpersonal and familial environment has influence on development of social anxiety among medical students.

A study conducted in Gujarat reported those with social anxiety had poor quality of life in social relationship domain of WHOQOL-BREF,^[16] whereas in the present study poor quality of life in all domains were reported by those with social anxiety. Another study conducted in Saudi Arabia,^[28] reported significantly lower quality of life among those with SAD which is consistent with our findings. This underscores the need for intervention as substantial poor quality of life may translate into depression, burnout, attrition or impaired professional functioning. In consistent with our study findings, no significant correlation (P-value=0.3) between students of different grades and social phobia grades was found in a study conducted in Saudi Arabia and Iran.^[24,26] This shows that high-performing medical students may compensate for distress through effort and over-preparation to avoid visible impairments. Contrast to the present finding, some studies like in Saudi Arabia reported higher mean score of SAD among the participants who had low GPA (32.38 ± 6.47) compared to those who had higher GPA (22.21 ± 7.19), (22.24 ± 7.01), (P = 0.002).^[23] These differences shows that other influencing factors such as depression, academic stress, self-esteem play a role in their academic achievements.

The present study has several strengths. The study has used validated tools, SPIN and WHOQOL-BREF ensuring reliability and comparability. The sampling method- stratified proportionate random sampling, reduced selection bias and adequate sample size calculated with design effect and non-response strengthens the precision. The limitations include the cross-sectional study design which could

not establish causal relationships between the social anxiety and associated factor. Since the study was conducted in a single rural medical college, the findings may not be generalizable to all medical students across different sociocultural and educational settings. The potential confounding factors such as depression, generalized anxiety and stress were not assessed.

CONCLUSION

Social anxiety was highly prevalent among undergraduate medical students and was significantly associated with poorer quality of life across multiple domains. Psychosocial factors such as humiliation, frequent rejections and family conflict showed significant association with social anxiety. Early identification and mental-health interventions may help improve psychological well-being and quality of life among medical students.

Acknowledgements

The authors sincerely express our gratitude to the developers and copyright holders of the Social Phobia Inventory (SPIN) and the World Health Organization Quality of Life – BREF (WHOQOL-BREF) instruments for granting permission to use these standardized tools in our study. we also extend our appreciation to all the students for their participation.

Ethical clearance status

The study received ethical approval from the Research & Institutional Human Ethics Committee at Melmaruvathur Adhiparasakthi Institute of Medical sciences and research on August 29 2023 (Serial Number: MAPIMS/IEC/322(8)2023). Confidentiality of the collected data was ensured.

REFERENCES

1. Substance Abuse and Mental Health Services Administration. DSM-5 Changes: Implications for Child Serious Emotional Disturbance [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2016 [cited 2025 Nov 12]. (CBHSQ Methodology Report). Available from: <http://www.ncbi.nlm.nih.gov/books/NBK519708/> PubMed PMID: 30199184.
2. D'souza MJ, J AD, G MM. Social anxiety disorder among medical students in a tertiary care hospital in Davangere, Karnataka. *Int J Community Med Public Health*. 2019;6(4):1434–6. doi:10.18203/2394-6040.ijcmph20191048
3. Solanki SR, Patel P, Kariya P, Amin N, Chaudhary C, Jain KG. A Cross-Sectional Study on Social Phobia Among Medical Undergraduates of Ahmedabad City. *Cureus*. 2025 Apr 17;17(4):e82474
4. Preeti, Das P. Prevalence of social anxiety disorder and its determinants among undergraduate medical students of East Delhi. *Int J Community Med Public Health*. 2019;6(3):1335–9. doi:10.18203/2394-6040.ijcmph20190636
5. Dave U, Sinha DN, Dave DD, Dave DN. Correlation of Family Environment with The Self-Esteem and Social Anxiety of Medical Students. *Int J Indian Psychol*. 2025;13(1). doi:10.25215/1301.141
6. Reta Y, Ayalew M, Yeneabat T, Bedaso A. <p>Social Anxiety Disorder Among Undergraduate Students of Hawassa University, College of Medicine and Health

Sciences, Ethiopia</p>. *Neuropsychiatr Dis Treat*. 2020;16:571–7. doi:10.2147/NDT.S235416

7. E DED, S CSC, RS S. Prevalence of Social Anxiety and Body Image Dissatisfaction and Its Impact on Quality of Life of Medical Students- A Cross-Sectional Observational Study. *J Neonatal Surg*. 2025;14(19S):828–35.
8. Jefferies P, Ungar M. Social anxiety in young people: A prevalence study in seven countries. *PLoS ONE*. 2020;15(9):e0239133. doi:10.1371/journal.pone.0239133 PubMed PMID: 32941482; PubMed Central PMCID: PMC7498107.
9. Suleiman HA, Elamin SA, Alobeid AA, Altaib WE. Prevalence of Social Anxiety Disorder among Medical Students from Six Medical Schools in Khartoum State. *Sudan J Med Sci*. 2021;223–32. doi:10.18502/sjms.v16i2.9290
10. Stein DJ, Lim CCW, Roest AM, de Jonge P, Aguilar-Gaxiola S, Al-Hamzawi A, et al. The cross-national epidemiology of social anxiety disorder: Data from the World Mental Health Survey Initiative. *BMC Med*. 2017;15(1):143. doi:10.1186/s12916-017-0889-2
11. Regis JMO, Ramos-Cerqueira ATA, Lima MCP, Torres AR. Social anxiety symptoms and body image dissatisfaction in medical students: prevalence and correlates. *J Bras Psiquiatr*. 2018;67:65–73. doi:https://doi.org/10.1590/0047-2085000000187
12. Abudasser AM, Alshehri ISM, Alasiri RYS, Wakidah RY, Alqahtani RY. Effect of Social Anxiety Disorder on Specialty Choice Among Residents and Interns in Saudi Arabia: A Multi-Center Cross-Sectional Study. *Adv Med Educ Pract*. 2025;16:1187–96. doi:10.2147/AMEP.S522512
13. George A, Jadhao AR, Agrawal S, Mathew E, M K. A cross-sectional study on social anxiety disorder and self- esteem among undergraduate medical students of a tertiary health care centre in central India. *Int J Community Med Public Health*. 2024;11(12):4844–8. doi:10.18203/2394-6040.ijcmph20243653
14. Roshan S, Varkey RG, Philip GA, Babu AS. Association of social anxiety disorder and self-esteem among young adults– a single centre study. *Int J Curr Sci Res Rev*. 2022;5(03):737-41.
15. Connor KM, Davidson JR, Churchill LE, Sherwood A, Foa E, Weisler RH. Psychometric properties of the Social Phobia Inventory (SPIN). New self-rating scale. *Br J Psychiatry J Ment Sci*. 2000;176:379–86. doi:10.1192/bjp.176.4.379 PubMed PMID: 10827888.
16. Ratnani IJ, Vala AU, Panchal BN, Tiwari DS, Karambelkar SS, Sojitra MG, et al. Association of social anxiety disorder with depression and quality of life among medical undergraduate students. *J Fam Med Prim Care*. 2017;6(2):243–8. doi:10.4103/2249-4863.219992 PubMed PMID: 29302525; PubMed Central PMCID: PMC5749064.
17. WHOQOL - Measuring Quality of Life [The World Health Organization [Internet]. [cited 2023 Jul 31]. Available from: <https://www.who.int/tools/whoqol>
18. Development of the World Health Organization WHOQOL-BREF quality of life assessment. *The WHOQOL Group. Psychol Med*. 1998;28(3):551–8. doi:10.1017/s0033291798006667 PubMed PMID: 9626712.
19. Sundaram R, Srinivasan V, Malik SRA, Mahalingam G, Saradham HRT, Kalidossani HRS, et al. Prevalence of Social Phobia and its Determinants among Undergraduate Medical Students of Tamil Nadu, India: A Cross-sectional Study. *J Clin Diagn Res* 2023;17(2):LC24-LC28.
20. Jogdande AJ, Gupta A. Social anxiety disorder in medical students: socio-demographic correlates. *Int J Community Med Public Health*. 2017;4(9):3293–6. doi:10.18203/2394-6040.ijcmph20173831
21. Utkarsh K, Baliyan R. Social Phobia among Undergraduate Medical Students: A Study of its Prevalence and Correlating Factors.
22. Al- Johani WM, AlShamlan NA, AlAmer NA, Shawkhan RA, Almayyad AH, Alghamdi LM, et al. Social anxiety disorder and its associated factors: a cross-sectional study among medical students, Saudi Arabia. *BMC Psychiatry*. 2022;22(1):505. doi:10.1186/s12888-022-04147-z

23. Al-Hazmi BH, Sabur SS, Al-Hazmi RH. Social anxiety disorder in medical students at Taibah University, Saudi Arabia. *J Fam Med Prim Care*. 2020;9(8):4329–32. doi:10.4103/jfmprc.jfmprc_915_20 PubMed PMID: 33110854; PubMed Central PMCID: PMC7586509.
24. Mazhari S, Ekhlaspour M, Banazadeh N. Social Phobia and its Association with Academic Performance among Student of Kerman University of Medical Sciences Iran. *Strides Dev Med Educ*. 2014;11(2):227–35.
25. Quek TTC, Tam WWS, Tran BX, Zhang M, Zhang Z, Ho CSH, et al. The Global Prevalence of Anxiety Among Medical Students: A Meta-Analysis. *Int J Environ Res Public Health*. 2019;16(15):2735. doi:10.3390/ijerph16152735 PubMed PMID: 31370266; PubMed Central PMCID: PMC6696211.
26. Alkhalifah AK, Alsalamah NS, Alhomaidehy MA. Prevalence of Social Phobia among Medical Students in Saudi Arabia. *Egypt J Hosp Med*. 2017;69(5):2412–6. doi:10.12816/0041685
27. Elavarasan K, Dhandapani T, Norman P, C VD, Mani G. The association between internet addiction, social phobia and depression in medical college students. *Int J Community Med Public Health*. 2018;5(10):4351–6. doi:10.18203/2394-6040.ijcmph20183973
28. Mawgod MMAE, Alenezy A, Alanazi RAA, Alanazi YFF, Alenezi JTF, Alanazi SSZ. Social Anxiety Disorder among Medical Students at Northern Border University, Saudi Arabia. *J Pioneer Med Sci*. 2025;14:20–4. doi:10.47310/jpms2025140705.