

Prevalence of Social Anxiety and Body Image Dissatisfaction and Its Impact on Quality of Life of Medical Students- A Cross-Sectional Observational Study

Dr. Dharani. E¹, Dr. Chitra. S^{*2}, Dr. Shreenithy. RS³

¹MD Psychiatry, Assistant Professor, Department of Psychiatry, VMKVMCH, Salem, India

²Post Graduate, Department of Psychiatry, VMKVMCH, Salem, India

Orchid ID: <https://orcid.org/0009-0002-6100-9239>

³Post Graduate, Department of Psychiatry, VMKVMCH, Salem, India

*Corresponding Author:

Dr Chitra S,

Post Graduate, Department of Psychiatry, Vinayaka Mission's, Kirupananda Variyar Medical College & Hospital, Salem, India

Email ID: chitraselva98@gmail.com

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ABSTRACT

Background: Medical students face significant psychological stress due to academic pressure, limited leisure time, and adaptation to the medical environment. Social Anxiety Disorder (SAD) and Body Image Dissatisfaction (BID) are common in this population and may impact their mental health and overall quality of life.

Aim: To estimate the prevalence of social anxiety and body image dissatisfaction and assess their impact on the quality of life of medical students.

Materials and Methods: A cross-sectional study was conducted among MBBS students at Vinayaka Mission's Kirupananda Variyar Medical College, Salem, over five months from February 2024 to September 2024. A total of 365 students aged 18-25 years were recruited through random sampling. Participants completed validated tools, including the Liebowitz Social Anxiety Scale (LSAS), Body Self-Image Questionnaire (BSQ), and Mental Health Quality of Life Scale (MHQoLS-7D). Data analysis was performed using SPSS 26.0, with descriptive statistics, independent t-tests, and chi-square tests applied, the significance level of $p < 0.05$.

Results: The study found that 79.5% of students reported no social anxiety, 15.1% had mild social discomfort, 3.3% had moderate social phobia, and 2.2% had marked social phobia. Regarding BID, 63.8% of participants reported no concern, while 18.1% had mild concern, 9.6% moderate, and 8.5% marked concern. There was a statistically significant negative correlation between social anxiety and mental health quality of life ($R = -0.440$, $p = 0.001$), as well as between body image dissatisfaction and quality of life ($R = -0.486$, $p = 0.001$), indicating that higher levels of social anxiety and body dissatisfaction were associated with lower quality of life.

Conclusion: A significant proportion of medical students experience social anxiety and body image dissatisfaction, which negatively impact their quality of life. Targeted psychological support and mental health interventions are necessary to improve well-being and academic performance in this population.

Keywords: Social Anxiety, Body Image Dissatisfaction, Medical Students, Quality of Life, Psychological Well-being, Mental Health

1. INTRODUCTION

Medical students often experience high levels of psychological distress, burnout, and mental health issues (1,2,3). These challenges can be attributed to difficulties in adapting to the demanding medical school environment, which includes exposure to illness and death, increased academic responsibilities, heavy workloads, limited leisure time, and separation from family and friends. Additionally, ethical dilemmas, such as depersonalized patient care modeled by senior professionals and instances of student mistreatment, further contribute to their stress. Financial constraints and personal life events can also impact their mental well-being. Despite these concerns, most research on the mental health of medical students has primarily focused on common psychiatric disorders, particularly depression and anxiety (1,4).

Social anxiety disorder (SAD) and body image dissatisfaction (BID) are prevalent among university students, leading to psychological distress, depressive symptoms, and difficulties in social and academic life. SAD is characterized by intense fear in social or performance settings, where individuals worry about being judged or embarrassed (5,6). Among college students, SAD has been associated with low self-esteem, distorted body image, avoidance behaviors, and an overall decline in quality of life (8).

Similarly, BID, which involves dissatisfaction with one's physical appearance, is commonly linked to female gender and a higher body mass index (5,9). Although research on BID among college students is extensive, only a few studies have explored its prevalence among medical students. The co-occurrence of SAD and BID and their combined impact on student well-being remain largely unexplored. While some studies have examined BID in the context of eating disorders, body dysmorphia, and obsessive-compulsive tendencies, research specifically addressing its relationship with social anxiety in medical students is limited (5,10,11,12). This study aims to assess the prevalence of social anxiety and body image dissatisfaction among medical students and analyze their impact on various quality of life domains, including psychological well-being, academic performance, and social functioning.

2. MATERIALS AND METHOD:

A cross-sectional study was conducted among undergraduate MBBS students at Vinayaka Mission's Kirupananda Variyar Medical College, Salem. The objective of this study was to estimate the prevalence of social anxiety and body image dissatisfaction and assess their impact on the quality of life of medical students. The duration of study was conducted for a period of five months from February 2024 to September 2024 until the desired samples of subjects were obtained for the study. Ethical permission was obtained with ethical approval number VMKVMC&H/IEC/23/121 from the institutional review board of Vinayaka Mission's Kirupananda Variyar Medical College and hospitals. The aim and methodology of the study were explained to the patients, and the written consent form was obtained from the subjects who participated in the study. A total of 365 students meeting the inclusion criteria will be recruited after obtaining informed consent. The inclusion criteria include students aged 18-25 years who provide reliable data, while those with a history of psychiatric illness or those unwilling to participate will be excluded. The samples were recruited based on a random sampling method.

A structured validated questionnaire was used to record socio-demographic proforma like Age, Sex, Marital status, Education, Occupation, Family income, Types of residence, type of family, medical comorbidities, H/O substance use, family history of psychiatric illnesses and current symptoms and duration. The psychological assessment tools were used using Liebowitz Social Anxiety Scale (LSAS), the Body Self-Image Questionnaire the Mental Health Quality of Life Scale scores were obtained from the study participants. The Liebowitz Social Anxiety Scale (LSAS) is a 24-item tool assessing fear and avoidance in social and performance situations over the past week. Each item is rated from 0-4, with higher scores indicating greater anxiety. It provides six sub-scores: total fear, total avoidance, fear and avoidance of social situations, and fear and avoidance of performance situations. A total score is derived by summing the fear and avoidance subscales. The Body Self-Image Questionnaire consists of 39 items under the nine factors related to body image construct and a Likert type five point response scale for each item to assess body image perception. Mental Health Quality of Life Scale (MHQoLS-7D) comprises 7 items which includes self-image, independence, mood, relationships, daily activities, physical health and future. An overall index score can be calculated by summing the scores of the seven questions. The MHQoL-7D index score can vary from 0 to 21, with higher scores indicating better quality of life to evaluate overall well-being, and the Rosenberg Self-Esteem Scale to measure self-worth.

Statistical Analysis:

To analyze the data SPSS (IBM SPSS Statistics for Windows, Version 26.0, Armonk, NY: IBM Corp. Released 2019) and Excel Sheet were used to enter the data. The Normality tests, Kolmogorov-Smirnov, and Shapiro-Wilks tests results revealed that the data follows a normal distribution. Therefore, to analyze the data, a parametric test was applied. Descriptive statistics determined the frequency, percentage, mean, and standard deviation for the variables. An Independent t-test was applied to find the statistical significance for the mean of body image dissatisfaction and mental health and also between social anxiety and mental health. Chi square test is used to assess the prevalence of social anxiety scale. The significance level is fixed at 5% ($\alpha = 0.05$). P-value <0.05 is considered to be statistically significant.

3. RESULTS:

TABLE 1: Frequency and Percentage Distribution of Sociodemographic Characteristics among Study Participants

	Frequency	Percentage
Age in years	20.78 years (mean)	1.403 (SD)

Gender		
Male	146	40.0
Female	219	60.0
Residential Background		
Rural	117	32.1
Urban	248	67.9
Types of Family		
Joint	77	21.1
Nuclear	288	78.9
Substance Use		
Yes	16	4.4
No	349	95.6
Socio economic status		
Upper	37	10.1
Upper middle	231	63.3
Lower middle	73	20.0
Upper Lower	10	2.7
Lower	14	3.8
Have you sought psychiatric help before?		
Yes	27	7.4
No	338	92.6
Currently on Psychotropic drugs?		
Yes	5	1.4
No	360	98.6

Table 1 depicts the Frequency and Percentage distribution of Sociodemographic Characteristics. The study sample consists of 365 participants with an average mean age of 20.78 years (SD = 1.403). The gender distribution shows a higher proportion of females (60%) compared to males (40%). The majority of participants come from urban areas (67.9%), while 32.1% are from rural backgrounds. Regarding family types, more participants were 78.9% live in nuclear families, and 21.1% in joint families. Substance use is reported by a small fraction of participants (4.4%), with the vast majority (95.6%) indicating no substance use. Socioeconomic status varies, with the largest group being the upper middle class (63.3%), followed by lower middle (20%), upper (10.1%), lower (3.8%), and upper lower class (2.7%) in this current study.

TABLE 2: Frequency and Percentage distribution of Mental Health Quality of life (MHQoL) among Study participants

	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
Self-Image	13 (3.6)	44 (12.1)	210 (57.5)	98 (26.8)

Independence	20 (5.5)	60 (16.4)	196 (53.7)	89 (24.4)
Mood	27 (7.4)	62 (17.0)	185 (50.7)	91 (24.9)
Relationships	25 (6.8)	51 (14.0)	166 (45.5)	123 (33.7)
Daily Activities	21 (5.8)	109 (29.9)	176 (48.2)	59 (16.2)
Physical Health	8 (2.2)	25 (6.8)	157 (43.0)	175 (47.9)
Future	14 (3.8)	60 (16.4)	189 (51.8)	102 (27.9)

Table 2 depicts the Frequency and Percentage distribution of Mental Health Quality of life (MHQol). The mental health quality of life (MHQol) among study participants reveals varied levels of satisfaction across different dimensions. For self-image, a majority of participants (57.5%) are satisfied, with 26.8% very satisfied, while a smaller portion are dissatisfied (12.1%) or very dissatisfied (3.6%). Independence shows similar trends, with 53.7% satisfied and 24.4% very satisfied, contrasted by 16.4% dissatisfied and 5.5% very dissatisfied. Mood satisfaction is somewhat lower, with 50.7% satisfied and 24.9% very satisfied, but 17.0% are dissatisfied and 7.4% very dissatisfied. Relationships fare well, with 45.5% satisfied and 33.7% very satisfied, although 14.0% are dissatisfied and 6.8% very dissatisfied. Daily activities have a lower satisfaction rate, with 48.2% satisfied and 16.2% very satisfied, while a notable 29.9% are dissatisfied and 5.8% very dissatisfied. Physical health is highly rated, with 47.9% very satisfied and 43.0% satisfied, and only 6.8% dissatisfied and 2.2% very dissatisfied. Regarding future outlook, 51.8% are satisfied and 27.9% very satisfied, with 16.4% dissatisfied and 3.8% very dissatisfied. Overall, in this current study the majority of participants report satisfaction or higher in various aspects of their mental health quality of life, though there are notable areas of dissatisfaction, particularly in daily activities and mood.

TABLE 3: Frequency and percentage distribution according to the classification of BSQ scores

BSQ Scores	Frequency	Percentage
No concern with the shape	233	63.8
Mild concern with the shape	66	18.1
Moderate concern with the shape	35	9.6
Marked concern with the shape	31	8.5

Table 3 depicts the frequency and percentage distribution of individuals according to their Body Shape Questionnaire (BSQ) scores, which reflect varying levels of concern with body shape. The majority of respondents, 233 individuals or 63.8%, showed no concern with their body shape. Mild concern was reported by 66 individuals, accounting for 18.1% of the sample. Moderate concern was noted in 35 individuals, representing 9.6%, while 31 individuals, or 8.5%, experienced a marked concern with their body shape in this current study.

TABLE 4: Frequency and percentage of Liebowitz Social Anxiety scale among study participants

LSAS scale	Frequency	Percentage
No discomfort	290	79.5
Mild social discomfort	55	15.1
Moderate social phobia	12	3.3

Marked social phobia	8	2.2
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TABLE 5: Association between Mean and Standard deviation of Social Anxiety scale and MHQol among study participants

	Mean	Standard deviation	Standard error mean	R value	P value
Social Anxiety scale	25.53	15.935	0.834	-0.440	0.001*
MHQol	14.19	3.845	0.200		

TABLE 6: Association between Mean and Standard deviation of BSQ and MHQol among study participants

	Mean	Standard deviation	Standard error mean	R value	P value
BSQ	75.48	38.725	2.027	-0.486	0.001*
MHQol	14.19	3.845	0.200		

Table 6 depicts the association between the Body Shape Questionnaire (BSQ) scores and the Mental Health Quality of Life (MHQol) scores among study participants. The BSQ has a mean score of 75.48 with a standard deviation of 38.725. For MHQol, the mean score is 14.19 with a standard deviation of 3.845. There is a statistically significant association found between BSQ and MHQol scores 0.001*. This suggests that variations in body shape perception as measured by the BSQ are significantly related to the participants mental health quality of life.

4. DISCUSSION:

The present study highlights the prevalence of social anxiety and body image dissatisfaction among MBBS students and assesses their impact on quality of life. The findings provide valuable insights into the mental health status of medical students, emphasizing the need for targeted interventions to support their psychological well-being. Several demographic and psychosocial factors influence these concerns, including gender, residential background, family structure, substance use, socioeconomic status, psychiatric help-seeking behaviour, and various aspects of quality of life such as self-image, independence, mood, relationships, daily activities, and physical health.

In this study, the majority of participants were female (60%) compared to males (40%). This gender distribution is consistent with previous studies assessing social anxiety and body image dissatisfaction among medical students. The similar study conducted by Vannucci et al in the year 2018 and Quittkat et al in the year 2019 demonstrated that females are generally more prone to body image dissatisfaction than males, primarily due to heightened societal pressures and increased body surveillance (13,14). Similarly, another study by Asher et al. in the year 2017 has reported that social anxiety disorder more frequently in female students, possibly due to gender-based social expectations and increased self-consciousness in social situations (15). The study conducted by Schry and White in the year 2013, has contrast findings that while women experience greater body image dissatisfaction, social anxiety symptoms can be equally prevalent in both genders, particularly when adjusted for self-esteem variables (16).

The present study observed that a larger proportion of participants (67.9%) were from urban areas, whereas 32.1% belonged to rural backgrounds. The study by Griffiths et al in the year 2018 suggests that urban students often report higher body image dissatisfaction due to greater exposure to societal beauty standards through media and social interactions (17). Another study by McLean et al. in the year 2011 indicates that urban students exhibit greater social anxiety symptoms, possibly due to increased social comparisons and performance-related pressures (18). These findings indicate that while urban students may struggle more with social anxiety and body dissatisfaction, rural students may experience mental health challenges stemming from different socioeconomic and environmental factors.

In the present study, the majority of participants (78.9%) belonged to nuclear families, whereas only 21.1% were from joint

families. A study by Hu et al. in the year 2021 indicated that students from nuclear families report higher social anxiety and body image dissatisfaction due to reduced social support and increased autonomy, leading to a stronger emphasis on self-presentation (19). Conversely, the study by Lin et al. in the year 2024 reported that students from joint families often benefit from emotional support, which serves as a protective factor against anxiety-related disorders (20). These findings highlight the complex role of family structure in shaping students' mental health and suggest that while joint families may provide emotional support, they may also impose additional stress on some individuals.

Only 4.4% of students in this study reported substance use, which is lower than the prevalence observed in similar studies conducted among medical students globally. A study conducted by Gupta et al. in the year 2022 found that around 15-20% of medical students use substances, particularly alcohol and nicotine, as a coping mechanism for academic stress, social anxiety, and body dissatisfaction (21). The lower prevalence in this study might be attributed to social norms and cultural influences, discouraging substance use among medical students in India. Additionally, medical students' awareness of the harmful effects of substance use may play a role in reducing its prevalence.

A majority of participants belonged to the upper-middle class (63.3%), followed by the lower-middle class (20%). Studies have consistently shown a significant correlation between socioeconomic status (SES) and mental health outcomes. The study by Patel et al. in the year 2018 indicates that individuals from higher SES backgrounds often have better access to mental health resources, reducing the impact of social anxiety and body dissatisfaction (22). However, those from lower SES backgrounds may experience financial stressors contributing to negative self-perception and reduced mental well-being, as reported by Kirkbride et al. in the year 2024 (23). These findings underscore the role of economic stability in influencing mental health outcomes among medical students.

Only 7.4% of students in this study had sought psychiatric help, and just 1.4% were on psychotropic medications. The study by Chew-Graham et al. in the year 2003 aligns with other studies indicating low mental health help-seeking behavior among medical students due to stigma, fear of judgment, and concerns about professional implications (24). However, in contrast, the Western populations study conducted by Eisenberg et al. in the year 2009 Western populations reports a higher percentage of medical students seeking psychological support, possibly due to increased mental health awareness and institutional support structures (25). These findings highlight the need for increased awareness and mental health support systems within medical institutions to encourage help-seeking behavior among students.

The Mental Health Quality of Life (MHQoL) scores suggest that while a majority of students report being satisfied with their self-image, independence, and relationships, there are considerable proportions who are dissatisfied, particularly in aspects related to mood and daily activities. Notably, 17% of students reported dissatisfaction with their mood, and nearly 30% expressed dissatisfaction with their ability to perform daily activities. This highlights the impact of psychological distress on both emotional and functional well-being.

The analysis of the association between the Social Anxiety Scale and Mental Health Quality of Life (MHQoL) revealed a significant negative correlation ($R = -0.440$, $p = 0.001$), indicating that higher social anxiety levels were associated with lower mental health quality of life. These findings align with existing literature demonstrating that increased social anxiety is strongly linked to poorer mental health outcomes, lower self-esteem, and impaired social functioning (26,27). The mean score for the Social Anxiety Scale (25.53, $SD = 15.935$) suggests a moderate level of social anxiety among participants, while the mean MHQoL score (14.19, $SD = 3.845$) reflects moderate perceived mental well-being (28). The significant correlation between these variables emphasizes the detrimental impact of social anxiety on overall mental health, highlighting the importance of early intervention strategies to mitigate its effects.

The results indicate that a significant proportion of medical students experience social anxiety and body image dissatisfaction. The prevalence of social anxiety, as measured by the Liebowitz Social Anxiety Scale (LSAS), was notable among the study participants. Body image dissatisfaction was also widely reported, with many students expressing concerns about their body shape, size, and perceived flaws. These findings align with the study by Bergmann et al in the year 2019 that medical students face high levels of psychological distress, partly due to academic pressure and social expectations (29).

5. CONCLUSION:

This study highlights the high prevalence of social anxiety and body image dissatisfaction among third-year MBBS students and their impact on mental health and quality of life. The present study concludes that Females students in urban areas reported higher levels of distress, while nuclear family backgrounds and lower socioeconomic status further contributed to these concerns. A significant negative correlation between social anxiety and mental health quality of life underscores the need for early interventions. Low psychiatric help-seeking behavior indicates the necessity for institutional support to reduce stigma and promote mental well-being. Addressing these issues through counseling and awareness programs can foster a healthier academic environment for medical students.

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