

**Psychosocial Determinants of Depression, Anxiety, and Stress among Hostel-Residing Medical Students:
A Cross-Sectional Study from Western Uttar Pradesh, India**

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Abstract

Background: Medical students are widely recognized as a high-risk population for psychological distress; however, existing research has predominantly emphasized academic stressors, often overlooking the combined influence of residential and familial psychosocial environments. Moreover, region-specific evidence from North India remains limited. **Objective:** This study aimed to evaluate the psychological environment and mental well-being of hostel-residing MBBS students and to examine the relative contribution of hostel- and home-related psychosocial factors to depression, anxiety, and stress. **Material & Methods:** An institution-based analytical cross-sectional study was conducted among 140 second-year MBBS students residing in hostels of a tertiary care teaching medical college in Western Uttar Pradesh. Mental well-being was assessed using the validated Depression Anxiety Stress Scale-21 (DASS-21). Psychosocial variables related to hostel and home environments were analyzed using multivariate logistic regression to identify independent associations. **Results:** The prevalence of depression, anxiety, and stress was 59.29%, 66.43%, and 35.00%, respectively. Moderate depression and extremely severe anxiety were most frequently observed. Hostel-related interpersonal conflicts and communication avoidance were significantly associated with depression and anxiety, while feelings of uneasiness within the hostel environment were linked to stress. **Conclusion:** By integrating hostel and home psychosocial domains within a single analytical framework, this study provides context-specific evidence highlighting non-academic determinants of medical student mental health.

Keywords: Medical students; Depression; Anxiety; Stress; Hostel environment; Psychosocial factors; Mental well-being; DASS-21

Introduction

Mental health is a state of overall well-being that allows people to manage life's stresses, reach their full potential, work and learn effectively, and give back to their communities. It is a vital part of general health, representing much more than just the absence of a mental illness [1]. Medical students are particularly vulnerable to psychological distress due to the intense demands of medical school, which include a significant academic workload, regular evaluations, prolonged training durations, and intense competition [2]. Prior research has repeatedly shown a higher prevalence of depression and anxiety among medical students compared to their non-medical counterparts, adversely affecting academic performance, interpersonal relationships, and general quality of life. Continuous psychological stress throughout medical school may provide lasting effects on professional efficacy and patient care [3].

The psychosocial milieu of the residential setting is a critical element influencing the mental health of students living in hostels. While hostel living may promote autonomy and social interaction, it is often associated with challenges such as

homesickness, loneliness, inadequate privacy, interpersonal conflicts, and limited emotional support, all of which may increase vulnerability to psychological distress [4].

Despite living away from home, the familial environment significantly influences students' mental health. Adverse home-related psychosocial factors, including parental conflict, insufficient family communication, erratic routines, and financial instability, have been shown to negatively affect levels of depression, anxiety, and stress [5].

While existing literature has extensively examined academic stressors as contributors to psychological morbidity among medical students, the simultaneous influence of hostel-related and home-related psychosocial environments has received comparatively little attention. Most prior studies from India have been conducted in South or East India, leaving a significant evidence gap from North Indian institutions. Furthermore, no study to date has examined both residential (hostel) and familial (home) psychosocial domains within a single analytical framework among hostel-residing MBBS students. The present study was therefore designed to address this dual gap - both regional and conceptual - by

simultaneously evaluating hostel and home psychosocial determinants of depression, anxiety, and stress in this vulnerable population.

Material and Methods:

Study Type and Study Design:An analytical cross-sectional study was conducted at Subharti Medical College, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, India.

Study Setting:The study was carried out over a two-month period focusing on second-year MBBS students residing in on-campus housing. Participants had resided in hostel for at least one academic year.

Study Population and Eligibility Criteria: The study population included second-year undergraduate medical students enrolled in the MBBS program and residing in college hostels throughout the research period. Second-year MBBS students represent a uniquely vulnerable subgroup within medical education. Having recently transitioned from first year, they face the dual challenge of adapting to an increasingly demanding academic curriculum while simultaneously navigating the psychosocial adjustments of hostel life - including separation from family, new peer dynamics, and reduced parental supervision. This transitional phase, combining academic escalation with residential adaptation, makes them particularly susceptible to psychological distress, justifying their selection as the study population.

Inclusion criteria:

In the second year of MBBS, they signed up.

Lived at the college dormitory throughout the whole time the data was being collected, and

Gave informed consent to take part.

Exclusion criteria:

Whether they are day students or reside with family or guardians,

Whether they are living in private rooms outside of the hostel, or Refused to take part or just gave incomplete answers.

Students who submitted incomplete responses.

Study Duration:Sample Size and Sampling Technique

Two hundred eligible students living in hostels were invited to participate. Out of these, 140 students sent in complete answers, which gave a response rate of 70%. These students were included in the final analysis. Because the eligible population within one academic cohort is small and limited, purposive selection was utilized to make sure that all willing and able people were included. The study was exploratory and sought to provide institution-specific data.

Strategy for Data Collection:

Data were collected using a two-part, self-administered questionnaire:

Survey on Sociodemographic and Psychosocial Factors

A structured questionnaire was developed to collect data regarding age, gender, family composition, parental education, sibling status, and psychosocial factors related to hostel and home environments, including interpersonal relationships, privacy concerns, communication patterns, financial stress, and perceived social support.

The Depression Anxiety Stress Scale - 21 (DASS-21)

The DASS-21, a validated screening instrument including 21 items equally allocated over three subscales, was used to assess mental well-being concerning depression, anxiety, and stress. We used a four-point Likert scale to record responses, and then we calculated scores and categorized them into normal, mild, moderate, severe, and extremely severe categories based on established rules.

Data Collection Procedure: The inquiry was carried out online using Google Forms to ensure accessibility and anonymity. Students were told what the research was about, promised anonymity, and told that they didn't have to take part. Before submitting the data, all participants gave their electronic informed consent. Measures were taken to prevent duplicate responses by restricting one response per participant and Google Forms was configured to restrict submissions to one response per Google account. The survey link was distributed only through a closed institutional group, and the research team monitored submissions to ensure no individual was represented more than once in the final dataset.

Data Management and Statistical Analysis: We took data from Google Forms and put it into Microsoft Excel for initial cleaning and coding. Statistical analysis was conducted using appropriate analytical techniques. Descriptive statistics were used to include sociodemographic data and the prevalence and severity of depression, anxiety, and stress.

We utilized separate multivariate logistic regression models for depression, anxiety, and stress to look at how these were related to psychosocial factors in both hostel and home settings. Variables that showed conceptual importance were included into the models, and the results were shown as odds ratios (ORs) with 95% confidence intervals (Cis). A p-value below 0.05 was considered statistically significant.

Ethical Considerations: Before gathering data, the Institutional Ethics Committee of Subharti Medical College gave approval for the study to be done. We made sure that the information about the participants was kept private and that no personally identifiable information was collected. Students may choose whether or not to take part in the study, and they might leave at any time without any academic or personal consequences. Institutional Ethics Committee approval was obtained (Approval No.: SMC/UECM/2025/1072)

Results:

Sociodemographic Profile of the Study Population

Table 1 summarizes the sociodemographic characteristics of the 140 second-year MBBS students residing in hostels who were included in the final analysis. The majority of participants

were aged between 20 and 22 years (78.57%), reflecting the typical age distribution of students in the second year of medical training. A smaller proportion belonged to the 17-19 year (13.57%) and 23-25 year (7.86%) age groups.

Female students constituted a higher proportion of the study population (67.14%) compared to males (32.86%). With regard to family structure, most students belonged to nuclear families (65.71%), while 34.29% reported living in joint families. A large majority of participants (91.43%) had siblings.

Parental educational status indicated a relatively well-educated background. More than half of the fathers were graduates (51.43%), followed by postgraduates (40.00%), while a similar pattern was observed for mothers, with 41.43% having

graduate and 41.43% postgraduate education. Overall, the study population was predominantly female, within the 20-22 year age group, largely from nuclear families, and with parents having higher educational attainment.

TABLE 1: Distribution of study population according to socio demographic characteristics.

SOCIO-DEMOGRAPHY	N(%)
AGE	
17-19	19 (13.57%)
20-22	110(78.57%)
23-25	11(7.86%)
GENDER	
Female	94(67.14%)
Male	46(32.86%)
TYPEOFFAMILY	
Joint	48(34.29%)
Nuclear	92(65.71%)
NUMBEROFSIBLINGS	
No	12(8.57%)
Yes	128(91.43%)
FATHER'S EDUCATION	
10thpass	3 (2.14%)
12thpass	9 (6.43%)
Graduate	72(51.43%)
Postgraduate	56(40.00%)
MOTHER'S EDUCATION	
10thpass	6 (4.29%)
12thpass	18(12.86%)
Graduate	58(41.43%)
Postgraduate	58(41.43%)

Prevalence and Severity of Depression, Anxiety, and Stress

Table 2 presents the prevalence and severity of depression, anxiety, and stress among the study participants as assessed using the DASS-21 scale.

Depressive symptoms were observed in **59.29%** of students, with **moderate depression (27.14%)** being the most frequently reported category, followed by severe (12.14%) and extremely severe depression (9.29%). Anxiety was the most prevalent

psychological condition, affecting **66.43%** of students, with a notably high proportion reporting **extremely severe anxiety (27.86%)**, followed by moderate anxiety (25.71%). Stress was comparatively less prevalent, with **35.00%** of students reporting stress symptoms; among them, moderate stress (13.57%) was the most common category.

Overall, anxiety emerged as the most prevalent psychological morbidity among hostel-residing medical students, followed by depression and stress.

TABLE 2: Frequency of depression, anxiety and stress among the study population.

DEPRESSION GRADING	N (%)
Absent	57(40.72%)
Mild	15(10.71%)
Moderate	38(27.14%)
Severe	17(12.14%)
Extremely Severe	13(9.29%)
ANXIETY GRADING	N (%)
Absent	47(33.57%)
Mild	7 (5.00%)
Moderate	36(25.71%)
Severe	11(7.86%)
Extremely Severe	39(27.86%)
STRESS GRADING	N (%)
Absent	91(65.00%)
Mild	12(8.57%)
Moderate	19(13.57%)
Severe	13(9.29%)
Extremely Severe	5 (3.57%)
Grand Total	140(100.00%)

Association of Hostel Psychosocial Factors with Depression

Table 3 depicts the multivariate logistic regression analysis examining associations between hostel-related psychosocial factors and depression.

Most variables did not demonstrate statistically significant associations with depression. However, two hostel-related factors showed significant relationships. Students who reported being affected by fights between roommates had a higher prevalence of depression (**60.26%**) compared to those not affected (**33.87%**), and this association was statistically

significant ($p = 0.03$). Similarly, students who frequently avoided or delayed conversations with roommates showed significantly higher levels of depression (**56.57%**) compared to those who did not (**29.27%**, $p = 0.017$).

Other factors, including frequency of communication, arguments with roommates, concerns about privacy, perceived lack of support, sharing of personal issues, feelings of uneasiness, financial stress, and feelings of guilt or misunderstanding, were not significantly associated with depression in the adjusted analysis.

TABLE3: Association of psychosocial factors at hostel with depression among study population using multivariate logistic regression.

Variables	N=140(%)	Depression N=68 (%)	OR	95%CI	p-value
How often do you communicate with roommates/hostel mates?					
No (Ref)	11 (7.86%)	5 (45.45%)	1.00	Ref	0.63
Yes	129 (92.14%)	63 (48.84%)	1.441	(0.326-6.372)	
Frequent arguments with roommates/hostel mates?					
No (Ref)	49 (35%)	20 (40.82%)	1.00	Ref	0.185
Yes	91 (65%)	48 (52.75%)	2.082	(0.704-6.157)	

Worry about their privacy when at hostel?					
No (Ref)	35 (25%)	13 (37.14%)	1.00	Ref	0.794
Yes	105 (75%)	55 (52.38%)	1.145	(0.415-3.159)	
Fight between roommates which affects you?					
No (Ref)	62 (44.29)	21 (33.87%)	1.00	Ref	0.03
Yes	78 (55.71%)	47 (60.26%)	0.322	(0.115-0.896)	
You find your roommates/friends to be unsupportive?					
No (Ref)	41 (29.29%)	17 (41.46%)	1.00	Ref	0.451
Yes	99 (70.71%)	51 (51.52%)	1.457	(0.548-3.87)	
How often do you share personal issues with roommates/hostel mates?					
No (Ref)	39 (27.86%)	14 (35.90%)	1.00	Ref	0.688
Yes	101 (72.14%)	54 (53.47%)	0.826	(0.326-2.094)	
Is there someone in the hostel whose presence makes you uneasy?					
No (Ref)	50 (35.71%)	17 (34.00%)	1.00	Ref	0.092
Yes	90 (64.29%)	51 (56.67%)	0.445	(0.173-1.142)	
Does your financial situation in the hostel cause you stress or anxiety ?					
No (Ref)	51 (36.43%)	18 (35.29%)	1.00	Ref	0.296
Yes	89 (63.57%)	50 (56.18%)	0.632	(0.268-1.494)	
How frequently do you avoid or delay talking to your roommates?					
No (Ref)	41 (29.29%)	12 (29.27%)	1.00	Ref	0.017
Yes	99 (70.71%)	56 (56.57%)	0.31	(0.118-0.813)	
Have you ever felt guilty or misunderstood after a conversation?					
No (Ref)	42 (30%)	16 (38.10%)	1.00	Ref	0.584
Yes	98 (70%)	52 (53.06%)	1.325	(0.484-3.629)	

Association of Hostel Psychosocial Factors with Anxiety

Table 4 presents the multivariate logistic regression analysis assessing the association between hostel-related psychosocial factors and anxiety. Overall, **61.4%** of students reported anxiety symptoms.

Most hostel-related psychosocial variables showed higher proportions of anxiety but did not reach statistical significance. These included frequent arguments with roommates, concerns

regarding privacy, interpersonal conflicts, lack of perceived support, financial stress, and feelings of uneasiness within the hostel environment.

A statistically significant association was observed for avoidance or delay in conversations with roommates. Students reporting such avoidance exhibited a markedly higher prevalence of anxiety (**70.71%**) compared to those who did not (**39.02%**), with this factor emerging as the strongest predictor of anxiety in the hostel setting ($p = 0.006$).

TABLE 4: Association of psychosocial factors at hostel with anxiety among study population using multivariate logistic regression

Variables	N=140(%)	Anxiety N=86 (%)	OR	95% CI	p-value
How often do you communicate with roommates/hostel mates?					
No	11 (7.86%)	4 (36.36%)	1.00	Ref	0.444
Yes	129 (92.14%)	82 (63.57%)	0.561	(0.128-2.461)	
Frequent arguments with roommates/hostel mates?					
No	49 (35.00%)	27 (55.10%)	1.00	Ref	0.223
Yes	91 (65%)	59 (64.84%)	1.968	(0.663-5.84)	
Worry about their privacy when at hostel?					
No	35 (25%)	15 (42.86%)	1.00	Ref	0.495
Yes	105 (75%)	71 (67.62%)	0.708	(0.263-1.907)	
Fight between roommates which affects you?					
No	62 (44.29)	32 (51.61%)	1.00	Ref	0.421
Yes	78 (55.71%)	54 (69.23%)	0.66	(0.239-1.818)	
You find your roommates/friends to be unsupportive?					
No	41 (29.29%)	21 (51.22%)	1.00	Ref	0.814
Yes	99 (70.71%)	65 (65.66%)	1.123	(0.427-2.957)	
How often do you share personal issues with roommates/hostel mates?					
No	39 (27.86%)	18 (46.15%)	1.00	Ref	0.427
Yes	101 (72.14%)	68 (67.33%)	0.684	(0.268-1.747)	
Is there someone in the hostel whose presence makes you uneasy?					
No	50 (35.71%)	24 (48.00%)	1.00	Ref	0.452
Yes	90 (64.29%)	62 (68.89%)	0.694	(0.268-1.796)	
Does your financial situation in the hostel cause you stress or anxiety?					
No	51 (36.43%)	24 (47.06%)	1.00	Ref	0.225
Yes	89 (63.57%)	62 (69.66%)	0.587	(0.248-1.388)	

How frequently do you avoid or delay talking to your roommates?					
No	41 (29.29%)	16 (39.02%)	1.00	Ref	0.006
Yes	99 (70.71%)	70 (70.71%)	0.267	(0.104-0.686)	
Have you ever felt guilty or misunderstood after a conversation?					
No	42 (30%)	20 (47.62%)	1.00	Ref	0.71
Yes	98 (70%)	66 (67.35%)	1.215	(0.436-3.387)	

Association of Hostel Psychosocial Factors with Stress

Table 5 shows the multivariate logistic regression analysis evaluating associations between hostel psychosocial factors and stress.

The presence of an individual in the hostel whose company made students feel uneasy was the most significant predictor of stress. Students reporting such uneasiness had a significantly higher prevalence of stress (**34.44%**) compared to those without this concern (**12.00%**, $p = 0.012$).

Frequent arguments with roommates demonstrated a statistically significant association, showing a protective

relationship with stress ($p = 0.039$). Other factors, including communication patterns, privacy concerns, financial stress, sharing personal issues, avoidance of conversations, and perceived lack of support, did not show statistically significant associations, although several demonstrated higher stress proportions.

Overall, stress among hostel-residing students appeared to be most strongly associated with feelings of discomfort or uneasiness within the hostel environment, while interpersonal conflicts and avoidance behaviors showed borderline associations.

TABLE 5 : Association of psycho social factors at hostel with stress among study population using multivariate logistic regression.

Variables	N=140 (%)	Stress N=37 (%)	OR	95% CI	p-value
How often do you communicate with roommates/hostel mates?					
No	11 (7.86%)	3 (27.27%)	1.00	Ref	0.66
Yes	129 (92.14%)	34 (26.36%)	0.688	(0.1303-3.635)	
Frequent arguments with roommates/hostel mates?					
No	49 (35.00%)	13 (26.53%)	1.00	Ref	0.039
Yes	91 (65%)	24 (26.37%)	0.267	(0.0763-0.933)	
Worry about their privacy when at hostel?					
No	35 (25%)	8 (22.86%)	1.00	Ref	0.392
Yes	105 (75%)	29 (27.62%)	0.609	(0.1956-1.897)	

Fight between roommates which affects you?					
No	62 (44.29)	12 (19.35%)	1.00	Ref	0.074
Yes	78 (55.71%)	25 (32.05%)	3.085	(0.8964-10.616)	
You find your roommates/friends to be unsupportive?					
No	41 (29.29%)	7 (17.07%)	1.00	Ref	0.856
Yes	99 (70.71%)	30 (30.30%)	1.115	(0.3444-3.609)	
How often do you share personal issues with roommates/hostel mates?					
No	39 (27.86%)	8 (20.51%)	1.00	Ref	0.699
Yes	101 (72.14%)	29 (28.71%)	0.807	(0.2734-2.385)	
Is there someone in the hostel whose presence makes you uneasy?					
No	50 (35.71%)	6 (12.00%)	1.00	Ref	0.012
Yes	90 (64.29%)	31 (34.44%)	4.851	(1.4201-16.573)	
Does your financial situation in the hostel cause you stress or anxiety?					
No	51 (36.43%)	11 (21.57%)	1.00	Ref	0.885
Yes	89 (63.57%)	26 (29.21%)	0.929	(0.345-2.503)	
How frequently do you avoid or delay talking to your roommates?					
No	41 (29.29%)	6 (14.63%)	1.00	Ref	0.095
Yes	99 (70.71%)	31 (31.31%)	2.723	(0.8389-8.839)	
Have you ever felt guilty or misunderstood after a conversation?					
No	42 (30%)	8 (19.05%)	1.00	Ref	0.989
Yes	98 (70%)	29 (29.59%)	1.008	(0.3218-3.158)	

Discussion:

Sociodemographic Profile of the Study Population

A total of 140 second-year MBBS students residing in college hostels were included in the final analysis (Table 1). The majority of participants fell within the 20-22 year age group (78.57%), consistent with the expected demographic profile of second-year medical students, while smaller proportions belonged to the 17-19 year (13.57%) and 23-25 year (7.86%) age groups. Female students constituted a substantially larger share of the cohort (67.14%) compared to males (32.86%), a distribution similarly observed by Hydrie et al., where female students formed a majority (67.3%) among hostel-residing medical students (6), and by Chakraborty et al. in their Kolkata-based cross-sectional study of medical undergraduates (16). Most participants came from nuclear families (65.71%), and nearly all had at least one sibling (91.43%). Parental educational attainment was generally high, with the majority of fathers (51.43%) and mothers (41.43%) being graduates or postgraduates.

Prevalence and Severity of Depression, Anxiety, and Stress

The burden of psychological morbidity in this study was considerable (Table 2). Depressive symptoms were identified in 59.29% of participants, with moderate depression being the most common category (27.14%), followed by severe (12.14%) and extremely severe depression (9.29%). Anxiety was the most prevalent condition overall, affecting 66.43% of students, with an alarmingly high proportion reporting extremely severe anxiety (27.86%). Stress was comparatively less prevalent, affecting 35.00% of students, with moderate stress (13.57%) being the most frequent category.

These findings are broadly consistent with, and in some cases exceed, figures reported from comparable populations. Sharma et al., using the DASS-21 among medical students in Rajasthan, reported depression, anxiety, and stress prevalence of 46.5%, 59.6%, and 35.5% respectively - with anxiety consistently ranking highest (17). Kadam and Dobhal, specifically studying hostel-residing girl students aged 18-26 years, reported depression in 63%, anxiety in 68%, and stress in 39% - figures strikingly close to our study - reinforcing that hostel residence is an independent vulnerability factor for psychological morbidity (15). Chakraborty et al. similarly found depression in 57%, anxiety in 63%, and stress in 32% of students from a Kolkata medical college (16). When viewed against international evidence, Kunwar et al. reported depression in 29.9%, anxiety in 41.1%, and stress in 25.7% of medical students across two Nepali medical colleges - lower than Indian figures yet still substantially higher than the general population (11). Hossain et al., studying Bangladeshi medical students, documented depression in 37.2%, anxiety in 44.7%, and stress in 28.5% of their sample (12). Ahad et al. found comparatively lower rates of 35.7%, 41.2%, and 26.4% among Indian dental undergraduates, suggesting that the specific demands of medical training may impose an additional

psychological burden beyond healthcare education in general [10]. Patel et al. documented depression in nearly 40% of higher secondary science stream students in urban western India, illustrating that psychological vulnerability precedes medical school entry and is likely amplified by residential separation from family [13]. Across all these populations, anxiety consistently emerged as the most prevalent morbidity, followed by depression and then stress - a pattern precisely replicated in the present study.

Association of Hostel Psychosocial Factors with Depression
Multivariate logistic regression examining hostel-related variables revealed two statistically significant predictors of depression (Table 3). Students affected by fights between roommates had a significantly higher prevalence of depression (60.26%) compared to those who were not (33.87%, $p = 0.03$, OR: 0.322, 95% CI: 0.115-0.896). Similarly, students who frequently avoided or delayed conversations with their roommates showed markedly higher depression rates (56.57%) than those who did not exhibit this pattern (29.27%, $p = 0.017$, OR: 0.310, 95% CI: 0.118-0.813). These findings are consistent with those of Adhikari et al., who reported that frequent arguments with parents were 1.97 times more likely to be associated with depression (AOR: 1.97, 95% CI: 1.29-3.01, $p = 0.002$) - highlighting how interpersonal conflict and communication avoidance, whether within the hostel or at home, function as robust pathways to depressive morbidity in young adults (8). Other variables, including communication frequency, privacy concerns, perceived lack of peer support, financial stress, and guilt after conversations, did not achieve statistical significance in the adjusted model.

Association of Hostel Psychosocial Factors with Anxiety
Among all hostel-related psychosocial variables, avoidance or delay in communicating with roommates emerged as the sole statistically significant independent predictor of anxiety (Table 4). Students reporting this avoidance pattern had a substantially higher prevalence of anxiety (70.71%) compared to those who communicated regularly with their roommates (39.02%), making it the strongest contextual predictor of anxiety in the hostel setting ($p = 0.006$, OR: 0.267, 95% CI: 0.104-0.686). This suggests that social withdrawal in the hostel environment not only reflects underlying anxiety but may actively perpetuate and intensify it over time. Adhikari et al. similarly found that unsupportive parenting and financial worries were the strongest psychosocial predictors of anxiety among adolescents (AOR: 2.95, $p = 0.001$), drawing a parallel between home and hostel interpersonal dynamics as shared mechanisms of anxiety (8). Chaudhry et al., in a large-sample study from Pakistani universities, found that hostel residents - particularly female students - bore a disproportionately higher burden of anxiety, with poor interpersonal communication in residential settings identified as a key correlate (14). All other hostel-related variables showed directional trends toward higher anxiety without achieving statistical significance in the adjusted model.

Association of Hostel Psychosocial Factors with Stress The presence of an individual in the hostel whose company made a student feel uneasy was the most significant independent predictor of stress (Table 5). Students reporting this experience had a prevalence of stress nearly three times higher (34.44%) than those who did not (12.00%, $p = 0.012$, OR: 4.851, 95% CI: 1.420-16.573). Frequent arguments with roommates also reached statistical significance in the adjusted model ($p = 0.039$, OR: 0.267, 95% CI: 0.076-0.933), though the direction of this association may reflect stress-release through open conflict expression rather than accumulation. Avoidance of conversations with roommates showed a borderline trend toward stress ($p = 0.095$) without reaching significance. Din et al., in their study of Pakistani medical students, similarly reported a moderate positive correlation between psychosocial stressors and overall psychological distress ($r = 0.489$, $p < 0.001$), affirming that the interpersonal environment - including day-to-day social discomfort - is a meaningful contributor to stress in residential student populations (9). Other variables, including financial stress, privacy concerns, and perceived lack of peer support, did not show statistically significant associations with stress in the adjusted analysis.

Conclusion:

The study demonstrates a high prevalence of depression, anxiety, and stress among hostel-residing MBBS students, with anxiety being the most common psychological morbidity. Beyond academic stressors, psychosocial factors related to hostel life and family background appear to play a meaningful role in shaping students' mental well-being. These findings underscore the need for a holistic approach to student mental health that incorporates both academic and psychosocial dimensions within medical training environments.

Recommendation:

Based upon the findings of this study, we recommend a more engaged role of student counselors in medical colleges across India to address the rising burden of depression, anxiety, and stress among hostel-residing medical students. Since interpersonal conflict and feelings of unease within the hostel were identified as the most significant predictors of stress and anxiety, institutional mechanisms for conflict resolution among roommates should be formally established.

Medical schools should prioritize creating supportive hostel environments, promoting self-care, stress management strategies, and providing adequate mental health resources, especially for students residing away from home. Routine skill development workshops on time management, interpersonal communication, and stress management should be conducted, with particular attention should be given to vulnerable student groups who may experience greater psychological distress.

The National Medical Commission (NMC) of India should incorporate mental health awareness and counselling services as mandatory components in official policies of all

medical colleges. Healthy activities such as yoga, sports, and peer support groups should be actively promoted within hostel premises to serve as protective factors against depression, anxiety, and stress.

Limitations of the Study:

The findings of this study must be interpreted in light of certain limitations. The cross-sectional design limits the ability to establish causal relationships between psychosocial factors and mental health outcomes. The study was conducted at a single institution with a relatively short data collection period, which may limit the generalizability of the results. Additionally, non-participation by 30% of eligible students may have introduced non-response bias. The reliance on self-reported data may also be subject to reporting or social desirability bias.

Relevance of the Study:

The present study highlights the significant burden of depression, anxiety, and stress among hostel-residing medical students in India, an area with limited focused research. By identifying specific psychosocial predictors within the hostel environment, the findings provide actionable evidence for institutional policy reform. The study emphasizes the urgent need for targeted mental health interventions within Indian medical colleges, ultimately contributing to the well-being of future healthcare professionals.

Authors Contribution

All authors have contributed equally.

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Nil

Conflict Of Interest

There are no conflicts of interest.

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Declaration Of Generative AI and AI Assisted Technologies in the Writing Process.

During the process of work, the authors have not used any AI tools.

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