

SHORT ARTICLE

Prevalence of Depression and its associated factors among undergraduate students of a private university, Gurugram, Haryana

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ARTICLE CYCLE

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ABSTRACT

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. It is an important health issue among college students. Students are exposed to multiple factors like large workloads, time deadlines, assessments and different learning environments during their academics that have been shown to contribute to high levels of depression, anxiety, and stress. A cross-sectional study was carried out in a private university among 381 undergraduate students. A self-administered questionnaire and PHQ-9 were used to collect the information on socio-demographic profile, risk factors and level of depression among the enrolled students respectively. The mean age of the study participants was 21.79±1.69 years, and the majority (73%) were females. The overall prevalence of depression was 64% among participants. The high rate of depression among university students is a serious problem, and efforts should be made to raise awareness of it among both students and college administrators.

KEYWORDS

Depression, Mental Health, University Students, Risk Factors

INTRODUCTION

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. Also called major depressive disorder or clinical depression, it affects how one feels, thinks and behaves and can lead to a variety of emotional and physical problems. One may have trouble doing normal day-to-day activities, and sometimes one may feel as if life isn't worth living.(1)

University students are a group of people who live in dorms away from the loving and protecting surroundings of their families. In addition, students have to get used to a new peer group, deal with bullying from seniors, and adjust to a new setting where their academic standards change greatly from those of schools. Each of these elements has a different impact on people's mental health, which some people cannot handle. Failure to do so could cause them to experience anxiety or depression.(2)

Students are exposed to multiple factors like large workloads, time deadlines, assessments and different learning environments during their academics that have been shown to contribute to high levels of depression, anxiety, and stress. Depression among college students is an important health issue at the global level. Students in medical field face distinct psychological and academic challenges while progressing towards their goal of becoming physician, nurse dentist etc. Even though there is growing interest in medical student misery during training, little is known about the factors that contribute to medical student distress, especially depression. Therefore, the present study was planned to assess the prevalence of depression and its risk factors among the undergraduate students of private university.

Aims and objectives:

- To assess the prevalence of depression among undergraduate students

- To explore the various factors associated with depression among undergraduate students.

MATERIAL & METHODS

This cross-sectional study was conducted among final year undergraduate students of SGT University, Gurugram, Haryana from January 2025 to April 2025. Considering the prevalence of depression 67.1%(3) in undergraduate students, taking 5% absolute precision at 95% confidence interval, using the formula- $n = Z^2 * p (1-p) / d^2$ the sample size calculated was 339.

SGT University has 19 faculties including both non medical and medical. A multi-stage random sampling technique was used. First, 5 out of 8 medical faculties (Faculty of Medicine and Health Sciences, Faculty of Dental Sciences, Faculty of Nursing, Faculty of Physiotherapy and Faculty of Indian Medical system) were selected using simple random sampling (chit method). Then, within each selected faculty, simple random sampling was again used to enroll final-year undergraduate students. They were explained in detail regarding the nature and purpose of the study. Although the minimum sample size calculated was 339, a total of 381 participants were included in the study. This was done to enhance the precision of prevalence estimates. Since the data collection process involved selected faculties and more eligible and consenting students were available and willing to participate, all of them were included.

The data for establishing depression trends among medical students was collected using the well-known high-sensitivity depression scale, PHQ-9.(4) It is a depression module, which scores each of the nine DSM-IV criteria as "0" (not at all) to "3" (nearly every day). It is validated for use in primary care.

Ethical clearance: Prior ethical approval was taken from an institutional review board (IRB) for the study. Before data collection permission was taken from respective Deans of each Faculty.

Data analysis: Data was first entered into MS Excel and after cleaning it was imported to SPSS version 26 for further analysis. Proportions were calculated for descriptive variables.

RESULTS

The students from five faculties were included in the study. The participant's age ranged from 20 to 25 years with mean age as 21.79 ± 1.69 years. All the participants were final year undergraduate students of the SGT University. The majority (73%) of the study participants were females, lived in a nuclear family (74%), belonged to Hindu religion (92%), had schooling from private school and belonged to the upper class of socio economic status as per BG Prasad scale. The overall prevalence of depression was 64%, with severity ranging from mild (28%), moderate (20%), moderately severe (8%) and severe (8%) as per PHQ 9.

Table1: Socio-demographic characteristics of study participants (n=381)

		Frequency	Percent(%)
Type of Family	Joint Family	99	26
	Nuclear Family	282	74
Religion	Christian	8	2
	Hindu	353	92
	Muslim	7	2
	Other	3	1
	Sikh	10	3
Type of Schooling	Government	14	3
	Private	365	96
	Homeschool	2	1
Place of Living	Home	227	59
	Hostel (Hosteller)	114	30
	Living with relative	3	1
	PG (outside campus)	37	10
Living Arrangement	At home/PG, separate room	171	45
	At home/PG, shared room	83	22
	At hostel, sharing room	124	32
	At hostel, single room	3	1
Personality	Ambivert (depends on people)	286	75
	Extrovert	25	7
	Introvert	70	18
Relationship Status	No response	38	10
	In a relationship	44	12

Social Class	It's complicated	36	9
	Single	255	67
	Situationship	8	2
	Upper Class	329	86
	Upper Middle Class	44	12
Depression Present (PHQ9 Score)	Middle Class	8	2
	Minimal (0-4)	137	36
	Mild (5-9)	106	28
	Moderate (10-14)	78	20
	Moderately severe (15-19)	31	8
	Severe (20-27)	29	8

Table 2: Table showing risk factors among undergraduate students associated with Depression (n=381)

		Depressed (n=244)	Non- depressed (n=137)	Total (n=381)	p- value
Age groups	20-21	121 (68%)	58 (32%)	179 (47%)	0.381
	22-23	100 (61%)	63 (39%)	163 (43%)	
	>=24	23 (59%)	16 (41%)	39 (10%)	
Gender	Male	59 (57%)	45 (43%)	104 (27%)	0.068
	Female	185 (67%)	92 (33%)	277 (73%)	
	Upper	206 (63%)	123 (37%)	329 (86%)	
Social Class	Upper Middle	34 (77%)	10 (23%)	44 (11%)	0.115
	Middle	4 (50%)	4 (50%)	8 (3%)	
	Joint	63 (64%)	36 (36%)	99 (26%)	
Type of Family	Nuclear	181 (64%)	101 (36%)	282 (74%)	0.922
	Government	9 (64%)	5 (36%)	14 (4%)	
	Homeschool	2 (100%)	0	2 (1%)	
Type of schooling	Private	233 (64%)	132 (36%)	365 (95%)	0.568
	English	236 (64%)	133 (36%)	369 (97%)	
	Hindi	6 (60%)	4 (40%)	10 (2%)	
Language medium of school	other	2 (100%)	0	2 (1%)	0.55
	Home	151 (66%)	76 (34%)	227 (60%)	
	Hostel	63 (55%)	51 (45%)	114 (30%)	
Place of living during course	Living with relative	3 (100%)	0	3 (1%)	0.061
	PG	27 (73%)	10 (27%)	37 (9%)	
	At home/PG, separate room	111 (65%)	60 (35%)	171 (45%)	
	At home/PG, shared room	63 (76%)	20 (24%)	83 (22%)	
	At hostel, sharing room	67 (54%)	57 (46%)	124 (32%)	
Living arrangement during course	At hostel, single room	3 (100%)	0	3 (1%)	0.007

	Ambivert	178 (62%)	108 (38%)	286 (75%)	
Personality type	Extrovert	13 (52%)	12 (48%)	25 (6%)	0.047
	Introvert	53 (76%)	17 (24%)	70 (19%)	
	Forced to take this field	10 (83%)	2 (17%)	12 (3%)	
	Mutual agreement	87 (60%)	57 (40%)	144 (38%)	
Decision for the your choice of field of career	Parents	48 (83%)	10 (17%)	58 (15%)	0.004
	self	99 (59%)	68 (41%)	167 (44%)	
Screen time spend on mobile phone and/or laptop/tablets in a day	1-3 hours	69 (52%)	64 (48%)	133 (35%)	
	4-6 hours	106 (67%)	52 (33%)	158 (41%)	
Time spend on a phone call in a day	Less than 1 hour	8 (50%)	8 (50%)	16 (4%)	0
	More than 6 hours	61 (82%)	13 (18%)	74 (20%)	
	1-3 hours	64 (70%)	28 (30%)	92 (24%)	
	4-6 hours	15 (68%)	7 (32%)	22 (6%)	0.579
	Less than 1 hour	157 (62%)	97 (38%)	254 (67%)	
	More than 6 hours	8 (61%)	5 (39%)	13 (3%)	
Close friends you have	01-Feb	130 (68%)	60 (32%)	190 (50%)	0
	03-May	79 (61%)	50 (39%)	129 (34%)	
	More than 5	10 (31%)	22 (69%)	32 (8%)	
	None	25 (83%)	5 (17%)	30 (8%)	
Substances uses	Yes	42 (79%)	11 (21%)	53 (14%)	0.309
	No	202 (62%)	126 (38%)	328 (86%)	
Relation with your friends or classmates	Frequent arguments or fights	16 (80%)	4 (20%)	20 (5%)	0.191
	I don't interact with people much	44 (71%)	18 (29%)	62 (16%)	
	Never had fight with anybody, it's very good	62 (59%)	43 (41%)	105 (27%)	
	Occasional arguments but overall good	122 (63%)	72 (37%)	194 (52%)	
	Frequent arguments with family members (parents or siblings)	22 (96%)	1 (4%)	23 (%)	
	I don't interact with my family members that much	18 (90%)	2 (10%)	20 (%)	
Relation with your family members	No problem with family, all members are supportive & caring	152 (57%)	116 (43%)	268 (%)	0.007
	Occasional arguments with one of the family members	52 (74%)	18 (26%)	70 (%)	
	No responses	21 (55%)	17 (45%)	38 (10%)	
	In a relationship	33 (75%)	11 (25%)	44 (12%)	
	It's complicated	29 (81%)	7 (19%)	36 (9%)	
	Single	153 (60%)	102 (40%)	255 (67%)	
Current relationship status	Situationship	8 (100%)	0	8 (2%)	

	1-3 days a week, 30 mins exercise	24 (67%)	12 (33%)	36 (9%)	
	30 mins exercise (gym/walk/jogging etc) daily	83 (53%)	72 (47%)	155 (41%)	
	4-7 days a week, 30 mins exercise	18 (56%)	14 (44%)	32 (8%)	
	Less that 30 mins exercise but daily	39 (68%)	18 (32%)	57 (15%)	
Physical activity in 24 hours	No physical activity, I stay at my room most of the time	80 (79%)	21 (21%)	101 (27%)	0.001
	Both father and mother	3 (75%)	1 (25%)	4 (1%)	
	Father	8 (80%)	2 (20%)	10 (3%)	
	Mother	11 (92%)	1 (8%)	12 (3%)	
Family history of mental disorders	None	216 (62%)	133 (38%)	349 (92%)	0.053
	Sibling	6 (100%)	0	6 (1%)	
	Dental Sciences	33 (77%)	10 (23%)	43 (11%)	
	Indian Medical System	22 (76%)	7 (24%)	29 (8%)	
	Medicine and Health Sciences	106 (55%)	85 (45%)	191 (50%)	
Name of Faculty	Nursing	64 (79%)	17 (21%)	81 (21%)	0
	Physiotherapy	19 (51%)	18 (49%)	37 (10%)	

DISCUSSION

This study identified a notably high prevalence of depression (64%) (Table 1) among final-year undergraduate students at a private university in Gurugram, Haryana. This finding is consistent with the results from similar studies such as those by Pattnaik et al. (67.1%) (3) and Shaikh et al. (67%) (5) which reflect the growing concern about student mental health in high-stress academic environments.

A substantial portion of the students exhibited mild (28%), moderate (20%), and moderately severe to severe (16%) depression. These figures closely parallel those observed in other Indian academic contexts, such as Kumar et al.'s findings from Karnataka (7), where the majority of people had mild to moderate symptoms and the overall prevalence was 71.25%.

Table 2 shows that, our study did not find a statistically significant association between age or gender and depression, though females showed a higher prevalence (67%) compared to males (57%), which is consistent with previous research that suggests gender-based vulnerability as a result of emotional and societal roles. Living arrangements showed a significant link with depression, with students in shared hostels more likely to report symptoms, as also observed by Ahad et al. (8), linking hostel life to stress. Introverted students (76%) showed higher depression levels than others, supporting Sonthalia et al. (9) finding that personality influences stress management and

mental health. Students who had little influence in their academic subject, showed significantly higher levels of depression (83%), reaffirming that lack of autonomy is a major psychological burden. This is consistent with the findings of Pattnaik et al. (3), who identified parental pressure and imposed academic pathways as major depression triggers. Poor family relationships and frequent arguments were linked to depression, highlighting the importance of a supportive and nurturing home environment. Prolonged screen time (over 6 hours) was linked to depression, supporting Jain et al. (6) findings on isolation and sleep issues. Students with no close friends were the most depressed (83%), reinforcing the protective role of peer support systems, as also highlighted by Debnath et al. (10) Depression rates varied across faculties, with Nursing and Dental students most affected, likely due to clinical stress and workload, similar to Ahad et al. (8) findings on dental students' psychological distress. Lack of physical activity was linked to depression, confirming Shaikh et al. (5) and Sonthalia et al. (9) findings on exercise's protective role. Students in "situationships" showed the highest depression (81–100%), followed by those in relationships (75%), while singles had lower rates, supporting Pattnaik et al. (3) findings on relationship stress.

CONCLUSION

The high depression rate among urban university students in India impacts their academics and social

behavior, highlighting the need for targeted screening and effective treatment for high-risk individuals.

RECOMMENDATION

Based on the findings, it is essential to support students' mental health. Teachers should promote open communication and encourage healthy lifestyle habits like regular sleep, a balanced diet, exercise, meditation, and participation in mentor-mentee programs.

LIMITATION OF THE STUDY

- The data in this study was collected online, so a lack of supervision may have influenced responses.
- The data was collected through self-reported questionnaires, which may be subject to recall bias and social desirability bias.
- The sample was drawn from a single academic institution, limiting the generalizability of the findings to other settings.

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

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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