Original Research Article

A Descriptive Cross-Sectional Study Identifying the Factors Associated with Mental Health Status among Students

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Abstract

Aim: The aim of the present study was to identify factors associated with mental health status among students residing in girls' hostels of Bihar region.

Methods: A descriptive cross- sectional survey was done among students residing in girls' hostels of Bihar region for the period of 2 years. Five hostels were chosen at random (lottery method) from a list provided by the girl's hostel association. 200 students were included in the study.

Results: The mean age of respondents was 20.24±2.58 years, almost all of them were Hindu (90%), the majority of the respondents were studying for bachelor's (75%) and about 15% of them were preparing for their bachelor studies. The mean DASS score for depression was 10.38±7.86. 96 (48%) fall into normal range. Similarly, the mean score for anxiety was 13.61±8.33 and only 44 (22%) were under the normal range. likewise, the mean score for stress was 13.79±8.54, 84 (42%) fall under the normal range according to the severity scale classification of DASS. The study found that more than half of the respondents were not disturbed by their roommate (55%). More than three-fourths of the participants reported that no one in their family had died in the past two years (78%). More than three-fifth of respondents did not face any sort of abuse in their life (65%). More than three fourth felt homesick while living away from home (78%). The majority of respondents were supported by others in their time of need (80%).

Conclusion: The depression, anxiety, and stress are all harmful to individuals and society. Suicidal thoughts, personality changes, relationship and marriage troubles, dropping out of college, and other negative outcomes are some of the effects. Our findings revealed an alarming level of depression, anxiety, and stress among female dormitory students.

Keywords: Anxiety, Depression, Girls, Hostels, Stress, Students

Introduction

Adolescence (10 to 19 years) is a crucial period of human life as adolescent students are pressured to learn and develop themselves physically, emotionally, socially, and educationally. [1] Mental health problems can significantly impact students' academic performance, career, health, and future if not identified and managed in time. [2-5] Stress and depression in adolescence were found to be associated with somatic ailments such as metabolic disorders and cardiovascular diseases, as well as greater welfare dependence, unemployment, and academic failure. [3,6,7] Furthermore, inappropriate handling or the inability to cope with stress can lead to depression, anxiety, suicide attempts, substance abuse, self-injury, and antisocial behaviour among adolescents. [7]

Globally, the adolescent group represents one-sixth of the total population, and 14%are estimated to experience mental health disorders. [8] More than half of mental disorders are expected to start at adolescent age. [9] However, the majority of mental disorders, including children, lack proper care and management. [10,11] Analgously, a contemporary investigation conducted in the United Kingdom in 2022 substantiated the exigency for mental health assistance for an additional 500,000 adolescents compared to the data from 2017. [12]

Depression in children and adolescents, like many anxiety disorders, may manifest as irritability rather than low mood. Depression manifests itself as hopelessness, despair and anger by adulthood. Individuals suffering from low energy levels are

frequently overwhelmed by the day-to-day tasks and personal relationships that are essential to life. Physiotherapy approaches have beneficial effects in various emotional states, among which anxiety disorders are highlighted. Physiotherapy treatment plant's important role in management of depression anxiety stress reducing tension in muscles and improve sleep, mood and self-esteem. [13,14] The remarkable changes observed in patients who are doing aerobics activities, respiratory exercises, rhythmic exercise programs and who use large muscle groups, from low to moderate intensity. [15]

The aim of the present study was to identify factors associated with mental health status among students residing in girls' hostels of Bihar region.

Materials and Methods

A descriptive cross- sectional survey was done among students residing in girls' hostels of Bihar region for the period of 2 years. Five hostels were chosen at random (lottery method) from a list provided by the girl's hostel association. 200 students were included in the study.

Girls over the age of 18 staying in private hostels were included in the study, however, girls with disabilities, living in college or school hostels, and under the age of 18 were excluded. The questionnaire consisted of three sections: demographic, psychosocial variables related to mental health status, and the DASS21, shorter version of DASS scale.13 Data were collected on these three variables. Written consent was taken prior to the survey and face to face questionnaire interview was conducted.in order to assess the factors pertaining to mental health, binomial

category of questions (yes/no) was constructed through extensive literature review and previous studies moreover, to assess depression, anxiety, and stress, standard questionnaire (DASS) was taken and the score was recorded. Frequency was measured as did not apply to me at all, applied to me to some degree, apply to me to considerable degree, apply to me very much with an assigned value of 0, 1, 2 and 3 respectively. the score was summed and then multiplied by 2 for final score since DAS21 was used. sum score was interpreted based on the classification of the severity table. Pretesting of the questionnaire was skipped since questionnaire was standard however, in order to reduce information bias respondents were informed about the research topic and its content.

Statistical Analysis

- Data was collected and entered in Epidata and then analyzed in SPSS25. It was double-checked and verified. Categorical data was summarized as proportion/percentage and numerical data was summarized as mean and standard deviation. Chi-square test was employed for establishing relationship for the status of mental health among participants based on demographic characteristics and psychosocial variables pertaining to mental health. Binomial logistic regression was used to further analyze the associated factors ($p<0.05$) with DAS (depression, anxiety and stress). Odds ratios (AOR) and 95% confidence intervals (95% CI) of independent variables were calculated. $P<0.05$ was considered statistically significant.

Results

Table 1: Demographic characteristics of the respondents

Characteristics	N (%) Mean±SD
Age (years)	20.24±2.48
Religion	
Hindu	180 (90)
Buddhist	10 (5)
Others	10 (5)
Education level	
Intermediate	6 (3)
Bachelor preparation	30 (15)
Bachelor	150 (75)
Masters	14 (7)
Family type	
Nuclear	150 (75)
Joint	50 (25)
Family income (per month in Rupees)	
30,000 and less	60 (30)
More than 30,000	140 (70)
DASS (depression)	10.32±7.83
Normal	96 (48)
Depression	104 (52)

DASS (anxiety)	13.61±8.33
Normal	44 (22)
Anxiety	156 (778)
DASS (stress)	13.79±8.54
Normal	84 (42)
Stress	116 (58)

The mean age of respondents was 20.24±2.58 years, almost all of them were Hindu (90%), the majority of the respondents were studying for bachelor's (75%) and about 15% of them were preparing for their bachelor studies. 70% of the respondents had a monthly family income of more than Rs 30,000 and about 75% of respondents belonged to the nuclear family and 25% of them belonged to the joint family.

The mean DASS score for depression was 10.38±7.86. 96 (48%) fall into normal range. Similarly, the mean score for anxiety was 13.61±8.33 and only 44 (22%) were under the normal range. likewise, the mean score for stress was 13.79±8.54, 84 (42%) fall under the normal range according to the severity scale classification of DASS.

Table 2: Psychosocial variables related with mental health

Characteristics	N (%)
Frequent disturbance of roommate	
Yes	90 (45)
No	110 (55)
Death of a family member (in 2 years)	
Yes	44 (22)
No	156 (78)
Experience of abuse	
Yes	70 (35)
No	130 (65)
Homesickness	
Yes	156 (78)
No	44 (22)
Support from others	
Yes	160 (80)
No	40 (20)
Smoking	
Yes	20 (10)
No	180 (90)
Alcohol consumption	
Yes	50 (25)
No	150 (75)
Meal satisfaction	
Yes	80 (40)
No	120 (60)
Safe and supportive environment	
Yes	130 (65)
No	70 (35)

The study found that more than half of the respondents were not disturbed by their roommate (55%). More than three-fourths of the participants reported that no one in their family had died in the past two years (78%). More than three-fifth of respondents did not face any sort of abuse in their life (65%). More than three fourth felt homesick while living away from home (78%). The majority of respondents were supported by others in their time of need (80%).

Table 3: Association of socio-demographic and psychosocial variables with depression

Characteristics	Depression		P value
	Yes N	**No N**	
Religion			
Hindu	90	90	0.48
Buddhist	8	2	
Others	6	4	
Education level			
Intermediate	1	5	0.17
Bachelor preparation	16	14	
Bachelor	82	68	
Masters	5	9	
Family type			
Nuclear	80	70	0.72
Joint	24	26	
Family income (per month in Rupees)			
30,000 and less	34	26	0.80
More than 30,000	70	70	
Frequent disturbance of roommate			
Yes	55	35	0.002*
No	49	61	
Death of a family member (in 2 years)			
Yes	30	14	0.879
No	74	82	
Experience of abuse			
Yes	45	25	0.594
No	59	71	
Homesickness			
Yes	90	66	0.119
No	14	30	
Lack of other's support			
Yes	76	80	0.658
No	28	16	
Smoking			
Yes	9	11	0.133
No	94	85	
Alcohol consumption			
Yes	35	15	0.003*
No	69	81	
Meal satisfaction			
Yes	38	42	0.625
No	68	54	
Safe and supportive environment			
Yes	60	70	0.081
No	44	26	

Table 4: Association of socio-demographic and psychosocial variables with anxiety

Characteristics	Anxiety		P value
	Yes N	**No N**	
Religion			
Hindu	120	40	0.468
Buddhist	8	2	
Others	8	2	
Education level			
Intermediate	4	2	0.879
Bachelor preparation	25	5	
Bachelor	116	34	
Masters	11	3	

Family type			
Nuclear	114	36	0.373
Joint	42	8	
Family income (per month in Rupees)			
30,000 and less	48	12	0.740
More than 30,000	108	32	
Frequent disturbance of roommate			
Yes	80	10	0.244
No	76	34	
Death of a family member (in 2 years)			
Yes	34	10	0.290
No	122	34	
Experience of abuse			
Yes	66	4	0.002*
No	90	40	
Homesickness			
Yes	126	30	0.119
No	30	14	
Lack of other's support			
Yes	130	30	0.040*
No	26	14	
Smoking			
Yes	18	2	0.733
No	138	42	
Alcohol consumption			
Yes	44	6	0.018*
No	112	38	
Meal satisfaction			
Yes	60	20	0.125
No	96	24	
Safe and supportive environment			
Yes	100	30	0.266
No	56	14	

Table 5: Association of socio-demographic and psychosocial variables with stress

Characteristics	Stress		P value
	Yes N	No N	
Religion			
Hindu	104	75	
Buddhist	6	4	0.170
Others	5	5	
Education level			
Intermediate	4	2	
Bachelor preparation	15	15	0.317
Bachelor	88	62	
Masters	9	5	
Family type			
Nuclear	80	70	0.347
Joint	36	14	
Family income (per month in Rupees)			
30,000 and less	40	20	0.677
More than 30,000	96	74	
Frequent disturbance of roommate			
Yes	60	30	0.404
No	56	54	
Death of a family member (in 2 years)			
Yes	24	20	0.128
No	92	74	

Experience of abuse			
Yes	46	24	0.131
No	70	60	
Homesickness			
Yes	96	60	0.005*
No	60	24	
Lack of other's support			
Yes	90	70	0.965
No	26	14	
Smoking			
Yes	12	8	0.415
No	104	76	
Alcohol consumption			
Yes	35	15	0.206
No	81	69	
Meal satisfaction			
Yes	45	35	0.662
No	71	51	
Safe and supportive environment			
Yes	70	80	0.000*
No	46	4	

Respondents who blamed themselves for any adverse occurrences in their lives were linked to depression, anxiety, and stress (DAS). They were three times more likely to be depressed, twice as likely to be anxious and three times more likely to be stressed. Furthermore, having depression was more than twice as likely among those who consumed alcohol, and having anxiety was 2.895 times as likely among those who consumed alcohol. Respondents who were upset by their roommate were more than twice as likely to be depressed. Those who had experienced abuse were twice as likely to have anxiety and those who had received no assistance from others were twice as likely to have anxiety. Those who were homesick were more than twice as likely to have stressful emotional states, whereas being in a safe and supportive setting in hostels was a significantly protective factor against stress. The other variables such as death of a family member within the last two years, smoking, and satisfaction with the food served by the hostel were not significantly associated with DAS.

Discussion

The World Health Organization (WHO) defines mental health as "a state of well-being in which the individual recognizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to his or her community". [16] Many people associate health with being physically well and free of sickness, and as a result, they have overlooked the significance of mental health. As a result, mental health is an essential component of overall health. [17] Therefore, it is very essential to focus on mental health in every phase of life. Students are a specific category of people who are transitioning out of the most stressful phase of their lives. [18] Students who are about to attend or are already enrolled in undergraduate programs are among the most vulnerable groups of students in terms of DAS. Depression, anxiety, and stress levels in the community are viewed as crucial indices of mental health. Failure to recognize and treat these emotional problems will unfortunately result in increasing psychological morbidity, with negative consequences throughout their careers and lifetimes. [19]

The mean age of respondents was 20.24±2.58 years, almost all of them were Hindu (90%), the majority of the respondents were studying for bachelor's (75%) and about 15% of them were preparing for their bachelor studies. 70% of the respondents had a monthly family income of more than Rs 30,000 and about 75% of respondents belonged to the nuclear family and 25% of them belonged to the joint family. The mean DASS score for depression was 10.38±7.86. 96 (48%) fall into normal range. Similarly, the mean score for anxiety was 13.61±8.33 and only 44 (22%) were under the normal range. likewise, the mean score for stress was 13.79±8.54, 84 (42%) fall under the normal range according to the severity scale classification of DASS. The fact that students had to live away from home in dorms and deal with the great burden of studies as well as other things in life without any assistance could be related to a higher prevalence of depression, anxiety, and stress. Furthermore, social stressors such as roommate disruption, abuse, low self-esteem, blaming oneself, a lack of support, and drunkenness can all have a significant psychological impact on students. We discovered no links between student household monthly income and depression, anxiety, or stress in our study. However, this finding

is not consistent with other studies that demonstrate lower socioeconomic position is substantially related with major depressive illness and depressive symptomatology. [20] In terms of other demographic characteristics, we found no statistically significant associations with any of the variables (religion, education, family type, and monthly household income) except for ethnicity, which was found to be statistically significant with depression at p=0.01 but not with anxiety or stress. There was also no significant association between socio-demographic characteristics and depression or anxiety in a study of Bangladesh medical students. [21]

The study found that more than half of the respondents were not disturbed by their roommate (55%). More than three-fourths of the participants reported that no one in their family had died in the past two years (78%). More than three-fifth of respondents did not face any sort of abuse in their life (65%). More than three fourth felt homesick while living away from home (78%). The majority of respondents were supported by others in their time of need (80%). Respondents who blamed themselves for any adverse occurrences in their lives were linked to depression, anxiety, and stress (DAS). They were three times more likely to be depressed, twice as likely to be anxious and three times more likely to be stressed. Furthermore, having depression was more than twice as likely among those who consumed alcohol, and having anxiety was 2.895 times as likely among those who consumed alcohol. Respondents who were upset by their roommate were more than twice as likely to be depressed. Those who had experienced abuse were twice as likely to have anxiety and those who had received no assistance from others were twice as likely to have anxiety. Those who were homesick were more than twice as likely to have stressful emotional states, whereas being in a safe and supportive setting in hostels was a significantly protective factor against stress. The other variables such as death of a family member within the last two years, smoking, and satisfaction with the food served by the hostel were not significantly associated with DAS. Another study conducted in Nepal Medical College found that the overall prevalence of depression, anxiety, and stress among first-year medical students was 44%, 59.3%, and 45.1%, respectively, which supports our study evidence of DAS being more prevalent among adult student. likewise, study in Germany found comparable results as prevalence of depression, anxiety, and stress was found to be substantially higher among persons aged 18-30 years than among adults aged 30-59 years. [22,23] We postulate that this could be because of several challenges apart from academic pressure and social factor that people have to face in this particular phase of their life. Our study also found association between several psychosocial factors

(disturbance by roommate, abuse, lack of support, blaming oneself, alcohol consumption, homesickness and safe and supportive living environment) with depression, anxiety and stress on the other hand, smoking and death of a family member had no relationship with DAS.

Conclusion

The depression, anxiety, and stress are all harmful to individuals and society. Suicidal thoughts, personality changes, relationship and marriage troubles, dropping out of college, and other negative outcomes are some of the effects. Our findings revealed an alarming level of depression, anxiety, and stress among female dormitory students. Failure to confront the issue may result in tragic circumstances and a lengthy life of struggle and discontent signalling that suitable actions and therapies should be implemented in the near future by the concerned authorities to mitigate the difficulties.

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