

Original Research Article

Factors associated with mental health status among the students living in girls' hostel of Baneshwor, Kathmandu

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ABSTRACT

Background: The purpose of this study was to identify factors associated with mental health status among students residing in girls' hostels in Baneshwor, Kathmandu.

Methods: From June 2022 to November 2022, a cross-sectional survey was carried out among 253 students residing in several girls' hostels in the Baneshwor, Kathmandu. Face-to-face survey took place amongst them.

Results: The study found that 67.2% (n=253), 84.6% (n=253), and 69.2% (n=253) of individuals have (mild/moderate/severe/extremely severe) depression, anxiety, and stress, respectively. Factors such as self-blame were linked to feelings of depression, anxiety, and stress. Other characteristics such as roommate disturbance, abuse, lack of assistance from others, homesickness, and a safe and supportive environment were all linked to one or both depression, anxiety, and stress. Other characteristics, such as the death of a family member in the previous two years and meal satisfaction, were not linked to DAS.

Conclusions: Students in female hostels had greater levels of depression, anxiety, and stress. It is vital to assist and offer a necessary environment for female students living in hostels far from home in order to mitigate the severe toll that mental illness impose.

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

INTRODUCTION

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”.¹ 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.² 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.³ 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.⁴ Therefore, students aged eighteen to twenty-five require special care and attention. Most of 18-25 aged females are university students and University is a stressful and dangerous period for the emergence of multiple mental problems, which leads to a variety of ailments and risk behaviors such as violence, poor eating habits, substance misuse, alcoholism, and suicide

ideation, the effects and consequences are doubled when they are living away from their family.⁵⁻⁹ Depression affected an estimated 300 million individuals worldwide, and data suggests that it is a key risk factor for increased premature death among adolescents and the number keeps rising with every passing year.¹⁰ The state of mental health and its care system in developing countries, such as Nepal and other south Asian countries, is worse than in wealthy nations. Similarly, there is a dearth of mental health-related evidence in Nepal; the current evidence from healthcare facilities does not adequately represent the reality.¹¹ Therefore, this study aimed to explore one particular section regarding mental health and investigate the mental health condition of female students living away from home and the factors that are connected with them, as relatively few studies of this type have been undertaken. It would investigate the situation and factors impacting female students living away from home in private hostels.

METHODS

From July 2022 to November 2022, a descriptive cross-sectional survey was done among students residing in girls' hostels in the Baneshwor area of Kathmandu, Nepal. The study sample consisted of female adult student (18 years and above) living away from home in hostels at Baneshwor, Kathmandu. The sample size was obtained using $n = z^2 \times p \times q / d^2$. The maximum acceptable error was set at 0.05, with a 10% nonresponse rate. The 30% reference prevalence was chosen.¹² Ten hostels were chosen at random (lottery method) from a list provided by the girl's hostel association.

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

Demographic characteristics of the respondents

The mean age of respondents was 21.28 ± 2.57 years, almost all of them were Hindu (91.3%), the majority of the respondents were studying for bachelor's (74.7%) and about 15% of them were preparing for their bachelor studies. 68.5% of the respondents had a monthly family income of more than Rs 30,000 and about 76.3% of respondents belonged to the nuclear family and 23.7% of them belonged to the joint family. More than half (51.5%) of respondents' fathers had their own business as can be seen from Table 1.

Status of depression, anxiety and stress among people based on DASS score

The mean DASS score for depression was 10.38 ± 7.86 123 (48.6%) fall into normal range. Similarly, the mean score for anxiety was 13.61 ± 8.33 and only 57 (22.5%) were under the normal range. likewise, the mean score for stress was 13.79 ± 8.54 , 106 (41.9%) fall under the normal range according to the severity scale classification of DASS, as shown in Table 1. DASS score was summed and then recoded into the binomial category for further analysis of data. Degrees of mild, moderate, severe, and extremely severe forms of depression, anxiety, and stress were recoded and changed into binomial form of depression, anxiety, and stress respectively.

Psychosocial variables related with mental health

The study found that more than half of the respondents were not disturbed by their roommate (53.8%). More than three-fourths of the participants reported that no one in their family had died in the past two years (77.1%). More than three-fifth of respondents did not face any sort of abuse in their life (65.2%). More than three fourth felt homesick while living away from home (77.1%). The majority of respondents were supported by others in their time of need (81.8%). Almost all of them were not smokers (90.9%) and about just above three fourth of the respondents did not consume alcohol (76.2%). More than

half of the respondent were not satisfied with the meal provided by hostels (59.3% and lastly more than three fifth of the respondents had safe and supportive environment in their hostels (64.4%) as shown in Table 2.

Table 1: Demographic characteristics of the respondents.

Characteristics	N (%) Mean±SD
Age (years)	21.28±2.57
Religion	
Hindu	231 (91.3)
Buddhist	10 (4.0)
Others	12 (4.7)
Ethnicity	
Dalit (lower caste)	10 (4.0)
Janjati (indigenous caste)	68 (26.9)
Upper caste	17(69.2)
Education level	
Intermediate	7 (2.8)
Bachelor preparation	38 (15.0)
Bachelor	189 (74.7)
Masters	19 (7.5)
Family type	
Nuclear	193 (76.3)
Joint	60 (23.7)
Family income (per month in Rupees)	
30,000 and less	80 (31.6)
More than 30,000	173 (68.4)
DASS (depression)	10.38±7.86
Normal	123 (48.6)
Depression	130 (51.4)
DASS (anxiety)	13.61±8.33
Normal	57 (22.5)
Anxiety	196 (77.5)
DASS (stress)	13.79±8.54
Normal	106 (41.9)
Stress	147 (58.1)

Association between demographic characteristics, psychosocial variables and status of mental health (depression, anxiety and stress)

Demographic variables and status of mental health (DAS)

Chi-square test was employed to test the association between demographic characteristics and status of depression, anxiety and stress. results displayed there is no statistical association between demographic characteristics like religion, ethnicity, level of education, type of family and monthly household income of the study participant.

However, there was statistically significant among ethnicity of the respondents and depression at $p=0.016$ ($p<0.05$), respondents belonging from lower caste (Dalit) were less likely to have depression (Aor=743) than respondents with indigenous caste (Janjati) adding to that they were about twice more likely to have depression

(Aod=2.232) than upper caste participants as shown in Table 3.

Table 2: Psychosocial variables related with mental health.

Characteristics	N (%)
Frequent disturbance of roommate	
Yes	117 (46.2)
No	136 (53.8)
Death of a family member (in 2 years)	
Yes	58 (22.9)
No	195 (77.1)
Experience of abuse	
Yes	88 (34.8)
No	165 (65.2)
Homesickness	
Yes	195 (77.1)
No	58 (22.9)
Support from others	
Yes	207 (81.8)
No	46 (18.2)
Smoking	
Yes	23 (9.1)
No	230 (90.9)
Alcohol consumption	
Yes	59 (23.3)
No	194 (76.7)
Meal satisfaction	
Yes	103 (40.7)
No	150 (59.3)
Safe and supportive environment	
Yes	163 (64.4)
No	90 (35.6)

Psychosocial variables and status of mental health (DAS)

As above chi-square test was conducted to determine the statistically significant among the two variables. from that, we found that there is significant association between disturbance of roommate, blaming oneself, alcohol consumption, abuse, lack of other's support, homesickness, safe and supportive environment with DAS ($p<0.05$). The adjusted odds ratio was calculated by adjusting all the psychosocial variables.

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 (Aor=3.002), twice as likely to be anxious (Aor=2.505), and three times more likely to be stressed (Aor=3.266). Furthermore, having depression was more than twice as likely (Aor=2.698) 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 (Aor=2.525). Those who had experienced abuse were twice as likely to have anxiety (Aor=4.580), and those who had received no assistance from others were twice as likely to have

anxiety (Aor=2.164). Those who were homesick were more than twice as likely to have stressful emotional states (Aor=2.577), whereas being in a safe and supportive setting in hostels was a significantly protective factor against stress. (Aor=0.267). As indicated in Tables

3, 4, and 5, 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.

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

Characteristics	Depression		P value	AOR	95% CI
	Yes N (%)	No N (%)			
Religion					
Hindu	117 (50.6)	114 (49.4)	0.48		
Buddhist	7 (70)	3 (30)			
Others	6 (50)	6 (50)			
Ethnicity					
Dalit (lower caste)	4 (40)	6 (60)	0.016*	1	0.184-2.999
Janjati (indigenous caste)	45 (66.2)	23 (33.8)		0.743	
Upper caste	81 (46.3)	94 (53.7)		2.232	1.220-4.084
Education level					
Intermediate	1 (14.3)	6 (85.7)	0.17		
Bachelor preparation	21 (55.3)	17 (44.7)			
Bachelor	100 (52.9)	89 (47.1)			
Masters	8 (42.1)	11 (57.9)			
Family type					
Nuclear	98 (50.8)	95 (49.2)	0.72		
Joint	32 (53.3)	28 (46.7)			
Family income (per month in Rupees)					
30,000 and less	42 (52.5)	38 (47.5)	0.80		
More than 30,000	88 (50.9)	85 (49.1)			
Frequent disturbance of roommate					
Yes	76 (65)	41 (35)	0.002*	2.525	1.414-4.511
No	54 (39.7)	82 (60.3)			
Death of a family member (in 2 years)					
Yes	31 (53.4)	27 (46.6)	0.879	0.949	0.485-1.857
No	99 (50.8)	96 (49.2)			
Experience of abuse					
Yes	54 (61.4)	34 (38.6)	0.594	1.184	0.636-2.207
No	76 (46.1)	89 (53.9)			
Homesickness					
Yes	106 (54.4)	89 (45.6)	0.119	1.696	0.872-3.296
No	24 (41.4)	34 (58.6)			
Blaming oneself					
Yes	51 (68.9)	23 (31.1)	0.001*	3.002	1.580-5.704
No	79 (44.1)	100 (55.9)			
Lack of other’s support					
Yes	88 (51.2)	84 (48.8)	0.658	1.194	0.650-2.193
No	42 (51.9)	39 (48.1)			
Smoking					
Yes	11 (47.8)	12 (52.2)	0.133	0.479	0.183-1.250
No	119 (51.7)	111 (48.3)			
Alcohol consumption					
Yes	47 (66.2)	24 (33.8)	0.003*	2.698	1.401-5.197
No	83 (45.6)	99 (54.4)			
Meal satisfaction					
Yes	50 (48.5)	53 (51.5)	0.625	1.161	0.638-2.112
No	80 (53.3)	70 (46.7)			
Safe and supportive environment					
Yes	75 (46)	88 (54)	0.081	0.580	0.315-1.068
No	55 (61.1)	35 (38.9)			

*indicates chi-square relationship between the two variables (p<0.05).

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

Characteristics	Anxiety		P value	AOR	95% CI
	Yes N (%)	No N (%)			
Religion					
Hindu	177 (76.6)	54 (23.4)	0.468		
Buddhist	08 (80)	02 (20)			
Others	11 (91.7)	01 (8.3)			
Ethnicity					
Dalit (lower caste)	08 (80)	02 (20)	0.501		
Janjati (indigenous caste)	56 (82.4)	12 (17.6)			
Upper caste	132 (75.4)	43 (24.6)			
Education level					
Intermediate	05 (71.4)	02 (28.6)	0.879		
Bachelor preparation	31 (81.6)	07 (18,4)			
Bachelor	146 (77.2)	42 (22.8)			
Masters	14 (73.7)	05 (26.3)			
Family type					
Nuclear	147 (76.2)	46 (23.8)	0.373		
Joint	49 (81.7)	11 (18.3)			
Family income (per month in Rupees)					
30,000 and less	63 (78.8)	17 (21.3)	0.740		
More than 30,000	133 (76.9)	40 (23.1)			
Frequent disturbance of roommate					
Yes	99 (84.6)	18 (15.4)	0.244	1.547	0.743-3.221
No	97 (71.3)	39 (28.7)			
Death of a family member (in 2 years)					
Yes	45 (77.6)	13 (22.4)	0.290	0.647	0.289-1.450
No	151 (77.4)	44 (22.6)			
Experience of abuse					
Yes	81 (92)	07 (8)	0.002*	4.580	1.776-11.814
No	115 (69.7)	50 (30.3)			
Homesickness					
Yes	157 (80.5)	38 (19.5)	0.119	1.804	0.859-3.786
No	39 (67.2)	19 (32.8)			
Blaming oneself					
Yes	66 (89.2)	08 (10.8)	0.039*	2.505	1.047-5.993
No	130 (72.6)	49 (27.4)			
Lack of other’s support					
Yes	136 (79.1)	36 (20.9)	0.040*	2.164	1.036-4.521
No	60 (74.1)	21 (25.9)			
Smoking					
Yes	19 (82.6)	04 (17.4)	0.733	0.804	0.229-2.817
No	177 (77)	53 (23)			
Alcohol consumption					
Yes	63 (88.7)	08 (11.3)	0.018*	2.895	1.201-6.980
No	133 (73.1)	49 (26.9)			
Meal satisfaction					
Yes	81 (78.6)	22 (21.4)	0.125	1.737	0.858-3.518
No	115 (76.7)	35 (23.3)			
Safe and supportive environment					
Yes	123 (75.5)	40 (24.5)	0.266	0.647	0.300-1.394
No	73 (81.1)	17 (18.9)			

*indicates chi-square relationship between the two variables (p<0.05).

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

Characteristics	Stress		P value	AOR	95% CI
	Yes N (%)	No N (%)			
Religion					
Hindu	138 (59.7)	93 (40.3)	0.170		
Buddhist	05 (50)	05 (50)			
Others	04 (33.3)	08 (66.6)			
Ethnicity					
Dalit (lower caste)	05 (50)	05 (50)	0.272		
Janjati (indigenous caste)	45 (66.2)	23 (33.8)			
Upper caste	97 (55.4)	78 (44.6)			
Education level					
Intermediate	03 (42.9)	04 (57.1)	0.317		
Bachelor preparation	18 (47.4)	20 (52.6)			
Bachelor	116 (61.4)	73 (38.6)			
Masters	10 (52.6)	09 (47.4)			
Family type					
Nuclear	109 (56.5)	84 (43.5)	0.347		
Joint	38 (63.3)	22 (36.7)			
Family income (per month in Rupees)					
30,000 and less	48 (60)	32 (40)	0.677		
More than 30,000	99 (57.2)	74 (42.8)			
Frequent disturbance of roommate					
Yes	79 (67.5)	38 (32.5)	0.404	1.288	0.711-2.330
No	68 (50)	68 (50)			
Death of a family member (in 2 years)					
Yes	32 (55.2)	26 (44.8)	0.128	0.585	0.294-1.167
No	115 (59)	80 (41)			
Experience of abuse					
Yes	61 (69.3)	27 (30.7)	0.131	1.648	0.861-3.153
No	86 (52.1)	79 (47.9)			
Homesickness					
Yes	123 (63.1)	72 (36.9)	0.005*	2.577	1.328-4.999
No	24 (41.4)	34 (58.6)			
Blaming oneself					
Yes	55 (74.3)	19 (25.7)	0.001*	3.266	1.642-6.469
No	92 (51.4)	87 (48.6)			
Lack of other's support					
Yes	97 (56.4)	75 (43.6)	0.965	1.014	0.539-1.908
No	50 (61.7)	31 (38.3)			
Smoking					
Yes	14 (60.9)	09 (39.1)	0.415	0.668	0.253-1.763
No	133 (57.8)	97 (42.2)			
Alcohol consumption					
Yes	47 (66.2)	24 (33.8)	0.206	1.525	0.793-2.934
No	100 (54.9)	82 (45.1)			
Meal satisfaction					
Yes	53 (51.5)	50 (48.5)	0.662	0.875	0.482-1.590
No	94 (62.7)	56 (37.3)			
Safe and supportive environment					
Yes	79 (48.5)	84 (51.5)	0.000*	0.267	0.137-0.520
No	68 (75.6)	22 (24.4)			

*indicates chi-square relationship between the two variables (p<0.05)

DISCUSSION

This is a one-of-a-kind study that looked at the prevalence of stress, anxiety, and depression symptoms in students residing in a girl's dormitory. The DASS-21 questionnaire was used for identifying the prevalence of depressive, anxious, and stress symptoms, with the results indicating a high level of anxiety (77.5%), depression (51.4%), and high level of stress (58.1%). This is higher than one study done among Malaysian university students whereby the percentages are 37.2%, 63.0%, and 23.7% for depression, anxiety and stress.¹⁴ 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.¹⁵

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.¹⁶ The reason could be that they have very similar lifestyles, cultures, and challenges that had to face by students. Lower caste ethnicity has shown to be significantly more likely to develop depression than upper caste respondent however, this is in contradiction to an earlier study on medical students in a Malaysian university, which reported no difference in emotional distress among Malays, Chinese, Indians and students from other ethnicity.¹⁷ This could be due to caste stigma and discrimination in our country. we hypothesize that lower caste pupils are more vulnerable to depression as a result of societal discrimination. 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.^{18,19} 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.

To highlight some of our study's limitations, we used an analytical cross-sectional study, which has the disadvantage of not being able to determine the incidence rate of students' mental health state. We can only find out how common emotional suffering is among them. Furthermore, the lack of baseline information on the mental health of students living in dorms has become a weakness of our study. since our study only included students from private hostels and living away from home, who are more likely to experience high levels of distress, selection bias may have occurred. This study only included students aged 18 and up, the associations among all of these may not be indicative of the broader population.

CONCLUSION

To summarize, 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.

Recommendations

Taking about recommendation, high level of emotional distress and prevalence of depression, anxiety and stress can be observed in students that needs to be address through intervention. students are encouraged to spend adequate time on their social and personal lives and emphasize the importance of health promoting coping strategies which might be helpful in overcoming stress throughout their medical condition.² Students should be encouraged to seek counseling and manage their mental problems. Private hostels should be willing to give students with psychosocial counseling. Many issues are exposed as a result of this. Developing self-esteem in students is another thing to teach so that they do not frequently condemn themselves in life.

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