

Prevalence of Anxiety and Depression among College Students in Kathmandu, Nepal

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ABSTRACT

Introduction: Anxiety and depression are among the most common mental health problems, and they are highly comorbid with each other. Many college students experience several mental health issues because of academic pressure, family expectations, difficult environment, and controlling people. Hence, the objective of the current study was to investigate the prevalence of anxiety and depression in college students of Kathmandu, Nepal, as very limited studies have been conducted in this area.

Methods: This was a cross-sectional study conducted in 504 students (317 male & 187 female, age range = 15 to 21 years, mean age = 17.12±0.90 years) of grade 11 and 12 studying in nine randomly selected colleges of Kathmandu valley, Nepal. Participants with chronic medical illness and severe mental disorders were excluded from the study. A semi-structured questionnaire was used to obtain the information related to socio-demography, and the Hospital Anxiety and Depression Scale (HADS) to assess the status of anxiety and depression in college students. Data were entered and analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Results were presented in frequency and percentage.

Results: The prevalence of anxiety in college students was 53.97%. Where, 28.57% students had mild anxiety, 18.85% had moderate anxiety, and 6.55% had severe anxiety. Similarly, the prevalence of depression in college students was found to be 39.88%. Where, 22.42% students had mild depression, 13.69% had moderate depression, and 3.77% had severe depression.

Conclusion: The prevalence of both anxiety and depression among college students in Kathmandu valley, Nepal, was found to be very high. The Government of Nepal and other concerned bodies should pay attention to this area.

Keywords: *Anxiety; College Students; Depression; Nepal.*

INTRODUCTION

Anxiety and depression are among the most common mental health problems.¹ Anxiety is roughly defined as a feeling of tension accompanied by fear, worry, and nervousness, frequently associated with one or more potential threats. Incidences of anxiety are normal in human behaviour, but the excessive or inappropriate anxiety can be considered as a psychiatric disorder.²

Similarly, depression is a mood disorder that causes a persistent feeling of sadness and loss of interest in all the activities. Depression is confirmed by observing other symptoms such as loss of appetite, fatigue, restlessness, feelings of worthlessness, and suicidal thoughts.³

Many college students experience several mental health issues such as anxiety and depression because of academic pressure, family expectations, and challenging environment.^{4,5,6} The objective of current study was to

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investigate the prevalence of anxiety and depression in college students of Kathmandu valley, Nepal, as very limited studies have been conducted in this area.

METHODS

Current study was a cross-sectional study conducted in 504 students (317 male & 187 female, age range = 15 to 21 years, mean age = 17.12±0.90 years) of grade 11 and 12 studying in nine randomly selected colleges of Kathmandu valley, Nepal. Ethical clearance was taken from Nepal Health Research Council before starting the data collection. Permission for the data collection was taken from respective colleges. Informed consent was taken from every student before their participation. Parental consent was taken for every student who was under the age of 18 years.

504 students were selected conveniently from nine randomly selected colleges of Kathmandu valley, Nepal. Sample size was calculated based on the below formula.

$$n = \frac{Z^2 \times p \times q}{e^2}$$

$$n = \frac{(1.96)^2 \times (0.5) \times (1-0.5)}{(0.05)^2} = 384.16 = 385 \text{ (Approx.)}$$

Where,

n = sample size

p = (50%) 0.5

q = 1-p

Z = 1.96 for Confidence Interval of 95%

e = margin of error; 5%

The calculated sample size was 385. Considering the non-response & error rate of 30%, the total sample size was set in 500. However, the actual sample collected was 504. Both male and female college students of grade 11 and grade 12 of any faculties having a knowledge of English language were included in the study. Students with chronic medical illness and severe mental disorders were excluded from the study.

The assessment tools used for the study were a semi structured questionnaire for obtaining socio-demographic details, and the Hospital Anxiety and Depression Scale (HADS) to assess the status of anxiety and depression in college students. The HADS is a world standard medical tool to measure anxiety and depression in both general and medical population.⁷ The HADS comprises seven questions for anxiety and seven questions for depression, and it takes only 2 to 5 minutes to complete. The total anxiety score of 8 and more indicates the medical condition of anxiety

disorder, similarly, a total depression score of 8 and more indicates the medical condition of depression disorder (8 to 10 - mild, 11 to 14 - moderate, and 15 to 21 - severe). Cronbach's alpha for HADS - Anxiety varied from 0.68 to 0.93 and for HADS - Depression, from 0.67 to 0.90. Correlations between HADS and other commonly used questionnaires were in the range 0.49 to 0.83.⁸ Data were entered and analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Results were presented in frequency and percentage.

RESULTS

Out of 504 students, 21.6% were with the age ranging from 15 to 16 years. 73.2% were with the age ranging from 17 to 18 years. Whereas, 5.2% were with the age '19 years and above'. Similarly, the percentage of male students was found to be 62.9%, whereas the percentage of female students was found to be 37.1%. The total percentage of population studying in science and management discipline was found to be 46.6% and 53.4% respectively. Similarly, 62.1% of the total population were from grade 11 while 37.9% of the total population were from grade 12. *Table 1* shows the socio demographic details of the students.

Table 1. Socio-demographic details of students (n=504)

SN	Socio-demographic variables	n (%)
1	Age (Years)	
	15-16	109 (21.6%)
	17-18	369 (73.2%)
	19 and above	26 (5.2%)
2	Gender	
	Male	317 (62.9%)
	Female	187 (37.1%)
3	Discipline	
	Science	235 (46.6%)
	Management	269 (53.4%)
4	Level	
	Grade 11	313 (62.1%)
	Grade 12	191 (37.9%)

Results of the present study demonstrated that the prevalence of anxiety in college students was 53.97% as 272 students out of 504 had anxiety. Where, 28.57% students had mild anxiety, 18.85% had moderate anxiety, and 6.55% had severe anxiety. Similarly, the prevalence of depression in college students was found to be 39.88% as 201 students out of 504 had depression. Where, 22.42% students had mild depression, 13.69% had moderate depression, and 3.77% had severe depression. *Table 2* shows the prevalence of anxiety and depression in college students.

Table 2. Prevalence of anxiety and depression in college students (n=504)

SN	Condition	Absence n (%)	Mild [a] n (%)	Moderate [b] n (%)	Severe [c] n (%)	Presence [a+b+c] n (%)
1	Anxiety	232 (46.03%)	144 (28.57%)	95 (18.85%)	33 (6.55%)	272 (53.97%)
2	Depression	303 (60.12%)	113 (22.42%)	69 (13.69%)	19 (3.77%)	201 (39.88%)

Results of the sub-group analysis of the current study demonstrated that the prevalence of anxiety in the students with the age '15 to 16 years', '17 to 18 years', and '19 years and above' was 53.21%, 54.74%, and 46.15% respectively. Similarly, the prevalence of depression in the students with the age ranging from 15 to 16 years, 17 to 18 years, and above 19 years was 36.70%, 40.38%, and 46.15% respectively. 49.21% of male students and 62.03% of female students had anxiety, whereas 44.79% of male students and 31.55% of female students had depression. 54.04% of science students and 53.90% of management students had anxiety, whereas 36.60% of science students and 42.75% of management students had depression. Similarly, 50.80% of grade 11 students and 59.16% of grade 12 students had anxiety, whereas, 42.49% of grade 11 students and 35.60% of grade 12 students had depression. *Table 3* shows the prevalence of anxiety and depression in different sub-groups of college students.

Table 3. Prevalence of anxiety and depression in different sub-groups (n=504)

SN	Socio-demographic variables	Prevalence of Anxiety n (%)	Prevalence of Depression n (%)
1	Age (Years)		
	15-16 (n=109)	58 (53.21%)	40 (36.70%)
	17-18 (n=369)	202 (54.74%)	149 (40.38%)
	19 and above (n=26)	12 (46.15%)	12 (46.15%)
2	Gender		
	Male (n=317)	156 (49.21%)	142 (44.79%)
	Female (n=187)	116 (62.03%)	59 (31.55%)
3	Discipline		
	Science (n=235)	127 (54.04%)	86 (36.60%)
	Management (n=269)	145 (53.90%)	115 (42.75%)
4	Level		
	Grade 11 (n=313)	159 (50.80%)	133 (42.49%)
	Grade 12 (n=191)	113 (59.16%)	68 (35.60%)

DISCUSSION

In the current study, the prevalence of anxiety was observed to be 53.97%, whereas, the prevalence of depression in college students was found to be 39.88%. Current study also demonstrated that 28.57% of college students had mild anxiety, 18.85% had moderate anxiety, and 6.55% had severe anxiety. Similarly, it is found that 22.42% of college students had mild depression, 13.69% had moderate depression, and 3.77% had severe depression. We found that the prevalence of anxiety was higher in female students, whereas, the prevalence of depression was found to be more in male students as compared to each other. Similarly, the prevalence of anxiety was slightly higher in science students but the prevalence of depression was found to be more in management students. Further, we also observed that the prevalence of anxiety was higher in grade 12 students, whereas, the prevalence of depression was found to be higher in grade 11 students.

A recent similar study conducted in Pokhara, Nepal, reported the overall prevalence of anxiety and depression among 681 undergraduate students (age range: 18 to 29 years) to be 46.9% and 38.2% respectively.⁹ Similarly, another study conducted in both Dhulikhel and Pokhara, Nepal, reported that the overall prevalence of anxiety was 41.1% and the prevalence of depression was 29.9% among 538 medical students (age range: 21 to 25 years) studying from first to fifth year.¹⁰ The results of the current study is in line with the earlier studies.^{9,10} All the studies including current study demonstrated the higher prevalence of anxiety in college students as compared to the depression. Slightly higher prevalence of both anxiety and depression in current study as compared to earlier studies may be because of the different age group (age range: 16 to 21 years) and study environment of the subjects.

CONCLUSIONS

The prevalence of both anxiety and depression among college students in Kathmandu valley, Nepal, was found to be very high. Many Nepalese college students are under the risk of anxiety and depression that is further associated with many lifestyle disorders. The Government of Nepal and other concerned bodies should pay attention to this area.

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CONFLICT OF INTEREST

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REFERENCES

1. Kalin NH. The Critical Relationship between Anxiety and Depression. *Am J Psychiatry*. 2020;177(5):365-7.
2. Gross C, Hen R. The developmental origins of anxiety. *Nat Rev Neurosci*. 2004;5(7):545-52.
3. Candy B, Jones L, Williams R, Tookman A, King M. Psychostimulants for depression. *Cochrane Database Syst Rev*. 2008;2(1):CD006722.
4. Pedrelli P, Nyer M, Yeung A, Zulauf C, Wilens T. College Students: Mental Health Problems and Treatment Considerations. *Acad Psychiatry*. 2015;39(5):503-11.
5. Khadka R, Bista S, Baskota S, Poudel L, Gurung M. Sleep Quality among College Students in Kathmandu Valley, Nepal. *Nepal Med J*. 2019;2(2):1-4.
6. Inam SB. Anxiety and depression among students of a medical college in Saudi Arabia. *Int J Health Sci*. 2007;1(2):295-300.
7. Stern AF. The Hospital Anxiety and Depression Scale. *Occup Med (Chic Ill)*. 2014;64(5):393-4.
8. Bjelland I, Dahl AA, Haug TT, Neckelmann D. The validity of the Hospital Anxiety and Depression Scale: An updated literature review. *J Psychosom Res*. 2002;52(2):69-77.
9. Paudel S, Gautam H, Adhikari C, Yadav DK. Depression, Anxiety and Stress among the Undergraduate Students of Pokhara Metropolitan, Nepal. *J Nepal Health Res Counc*. 2020;18(1):27-34.
10. Kunwar D, Risal A, Koirala S. Study of Depression, Anxiety and Stress among the Medical Students in two Medical Colleges of Nepal. *Kathmandu Univ Med J*. 2016;14(53):22-6.