

Graduating into a Pandemic: Exploring the Factors Influencing the Anxiety Level of the University Finalists

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Abstract

COVID-19 pandemic is a public health emergency of international agony and poses a significant mental health threat among university students in Bangladesh. This study aims to explore the factors influencing the anxiety level of the students graduating into this pandemic. An online study was conducted and we sampled final year university students from Hamdard University Bangladesh by using convenience sampling. They responded to a questionnaire packet that included the 7-item Generalized Anxiety Disorder Scale (GAD-7) and those inquiring about the respondents' demographic and other relevant information. Results indicated that 13.46% of the students were experiencing severe anxiety. Furthermore, living in urban areas (OR = 3.12, 95% CI = 0.95 – 10.16), being poor (OR = 34.11, 95% CI = 2.52 – 461.67) and having relatives or acquaintances infected with COVID-19 (OR = 3.21, 95% CI = 0.06 – 0.69) were risk factors for anxiety. Conversely, living with parents (OR = 0.12, 95% CI = 0.02 – 0.63) was a protective factor against the anxiety of university finalists. Also, results of correlation analysis indicated that academic delays worry about finding a job, financial condition and influence on daily life were positively related to the level of anxiety symptoms ($P < 0.05$), whereas social support, was negatively correlated with their anxiety ($P > 0.05$). It is recommended that the mental health of students graduating amid this pandemic should be monitored to provide crisis-oriented mental services to alleviate the anxiousness of the university finalists.

Keywords: COVID-19, Pandemic, University students, Anxiety level, Logistic regression, Bangladesh.

Introduction

COVID-19 pandemic has broken out in China and has spread very rapidly in other parts of the world since December 2019 (Cao, et al., 2020). On January 30, 2020, the World Health Organization (WHO) declared it a global public health emergency. It is highly transmittable and no specific treatment is available yet. Moreover, if treatment is delayed, the possibility of death is relatively high. All of these factors have a significant negative impact on both mental and physical health. The pandemic has not only brought the risk of death from the virus but also intolerable psychological pressure (Liu, et al., 2020).

The COVID-19 situation is worsening day by day in Bangladesh. The Government closed all educational institutions and public and private offices on March 18th, 2020 to control the outbreak. There was a lockdown of two months and travel from countries with high transmission risk was suspended. Despite taking all these steps, COVID-19 has reached all 64 administrative districts in Bangladesh by July 1st, 2020, causing over 200,000 cases so far (Banna, et al., 2020). This situation hurts the mental health of the whole population, particularly on the university students who will be graduating amid this pandemic.

The isolation measure due to the continuous spread of the pandemic is delaying in starting schools, colleges, and universities across Bangladesh. Consequently, it is expected to influence the mental health of university students. There are few reports and articles on the psychological impact of the epidemic on the general public, medical staff and older adults (Chen, et al., 2020; Li, et al., 2020). However, no detailed study on the mental health status of university students graduating during this time has been conducted to date. Therefore, it is necessary to fill this gap. The main purpose of the study is to explore the factors influencing the anxiety level of the university finalists. This study also inspects the relationship between COVID-19 stressors and anxiety levels.

Literature Review

A variety of researches about the corona virus have been conducted around the world so far. Different research targets focusing on different population, circumstances and need. The Generalized Anxiety Disorder 7-item Scale (GAD-7) is one of the most commonly used instruments to monitor anxiety symptoms (Budikayanti, et al., 2019). It can also be applied for screening, diagnosis, and the assessment of the severity of anxiety disorders, as well as for social phobia, post-traumatic stress disorders, and panic disorders (Moreno, et al., 2019).

Xiao, et al. (2020) examined the impact of harsh social distancing measures on the lives of medical students due to the COVID-19 pandemic. The analysis showed that prevalence of anxiety disorder was 17.1% and depression was 25.3%. Multivariable logistic regression demonstrated anxiety associated with graduate student status, negative thoughts or actions and feeling depressed. Along this line, Cao et al. (2020) analyzed the psychological impact of the COVID-19 epidemic on college students in China. The findings indicated that living in urban areas, stable family income and living with parents were defending against anxiety.

On the other hand, having relatives or acquaintances infected with COVID-19 increased the anxiety of college students. A similar study was conducted to investigate the mental health status of college students during the epidemic of COVID-19

to identify the factors influencing the mental health of the students. The results of the analysis showed that being a grown-up age was linked with a higher level of awareness of COVID-19 and greater changes in future health behaviors' were related to less anxiety and depression among the students (Chang, et al., 2020).

Other than focusing on students, there are few studies that investigated the impact of this pandemic on staff and general public as well. Odriozola-González, et al. (2020) tried to analyze the psychological effects of the COVID-19 outbreak and lockdown among the students and staff of a Spanish University. The study found out that university staff presented lower scores in all measures than the students during the first week of the lockdown.

Wang, et al., (2020) focused on the general public in China to understand their levels of psychological impact, anxiety, depression, and stress during the initial stage of the COVID-19 outbreak. This study found out that female gender, student status, specific physical symptoms and poor self-rated health status were significantly linked with a greater psychological impact of the outburst and higher levels of stress, anxiety, and depression.

In Bangladesh, with the increased number of COVID-19 cases, the government opted to apply distance learning to continue the teaching-learning process during the temporary closure of educational institutions. Therefore, it can be said that this pandemic has spread its impact on higher education in Bangladesh (Dutta and Susmita, 2020).

Anjum, et al. (2019) intended to inspect the prevalence of depression and factors associated with this psychological health hazard among urban and semi-urban adolescents of the Dhaka region in Bangladesh. The result showed that socio-demographic factors, including being female, residence and grade in school were significantly associated with depression. Also, the use of social media, high screen time and sleep disturbance were significantly linked with depressive symptoms.

Yeasmin, et al. (2020) examined the impact of COVID-19 on the mental health of Bangladeshi children. The study found out that children were suffering from depression, anxiety and sleeping disorder and among them, 19.3% and 7.2%

respectively were suffering from moderate and severe mental disturbances.

Khan, et al. (2020) tried to explore the shock of COVID-19 on mental health and wellbeing among home-quarantined Bangladeshi students. The results revealed that fear of infection, financial uncertainty, inadequate food supply, absence of physical exercise and limited or no recreational activity had a significant association with stress, anxiety, depression and post-traumatic symptoms. Similarly, Islam et al. (2020) investigated the prevalence of depression and anxiety among Bangladeshi university students during the COVID-19 pandemic. The findings disclosed that older students and those who provided private tuition in the pre-pandemic period had depression and anxiety symptoms due to the pandemic.

On the other hand, Banna, et al. (2020) aimed to investigate the impact of the COVID-19 pandemic on the mental health of home-quarantined Bangladeshi adults. The respondents' mental health was assessed by the DASS-21 measure. The pervasiveness of anxiety and depression was 33.7% and 57.9%, respectively, and 59.7% reported mild to extremely severe stress levels. The study also perceived disruption in life events, adverse impact on mental health, jobs and education due to this pandemic. Moreover, the uncertainty of proper health care system capacities was significantly associated with poor mental health outcomes.

Though there is several research papers on COVID-19 associated with educational studies yet, to the best of our knowledge, no literature available in Bangladesh on how the corona virus has affected the mental health of the students graduating into this pandemic. Thus, it becomes important to evaluate empirical data on disruptions created by the COVID-19 on the final year university students in Bangladesh.

Methodology

Study Population and Sampling Technique

The research focus is on the final year undergraduates (second last and last semester students of six departments) of Hamdard University Bangladesh (convenience sampling), a reputed private university of Munshiganj district in the division of Dhaka, Bangladesh. The respondents

participated in an anonymous online survey to ensure the confidentiality and reliability of data.

The Procedure for Collecting Data

The investigation was structured in two stages and was carried out from July to August 2020. The first stage commenced with a pilot study of 10 students to check the reliability and content of the questionnaire. The second stage involved contact with students either by telephone or through social media to brief them on the purpose of the study and to request their participation. Finally, a total of 52 students eventually participated in the study.

Study Instruments

The study instrument comprised a structured questionnaire packet and was anonymous to ensure the privacy of the respondents. The questionnaire about concerns regarding COVID-19 consisted of three sections: The first section inquired demographic information, including gender, educational status, place of residence, family status and other relevant questions. In the second section, the students responded to the 7-item Generalized Anxiety Disorder Scale (GAD-7). The GAD-7 consists of seven items based on seven core symptoms and inquires the frequency with which respondents suffered from these symptoms. The participants' symptoms were measured using a 4-point Likert rating scale ranging from 0 (not at all) to 3 (almost every day), such that the total score ranges from 0 to 19 (Toussaint, et al., 2020). Finally, there were queries regarding COVID-19 related stressors and the availability of social support.

Data Analysis

Data were analyzed using STATA version 14.2. Descriptive statistical tools were used to illustrate the demographic and other sample characteristics. A univariate analysis was used to investigate the significant relationships between selected characteristics and the dependent variable (nonparametric test). Statistically significant variables were included in multivariate logistic regression analyses. Spearman's correlation coefficient r , was applied to assess the association between COVID-19 related stressors & anxiety levels.

Results and Discussion

Demographic Factors of University Students

The demographic and selected characteristics of the study population are shown in Table 1. Of the 52 university students, 59.62% were male and 78.85% were in their very last semester. The participants lived in a rural area, maximum belonged to a middle-class family and 38.46% of the parents of the students did not have a steady income. Most of the respondents (84.62%) lived with their parents and 30 of them had no relatives or acquaintances infected with COVID-19.

Table 1: Demographic and Selected Characteristics of University Students

Variables	Frequency	Percentage
Gender		
Male	31	59.62
Female	21	40.38
Educational Status		
Second last semester	11	21.15
Last semester	41	78.85
Place of residence		
Urban	20	38.46
Rural	32	61.54
Family status		
Poor	3	5.77
Middle class	39	75.00
Upper middle class	10	19.23
Steady family income		
Yes	32	61.54
No	20	38.46
Live with parents		
Yes	44	84.62
No	8	15.38
Relative or acquaintance got COVID-19		
Yes	22	42.31
No	30	57.69

Source: Calculation Based on Online Survey, 2020 (n=52)

Levels of Anxiety among University Students during the Pandemic

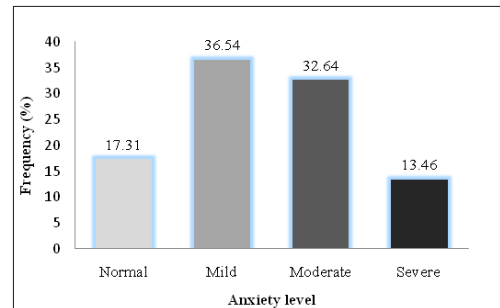


Figure 1: Number of Students with Different Anxiety Levels (n = 52)

Source: Calculation Based on Online Survey, 2020

Figure 1 represents how the psychological well-being of university students was influenced during the outbreak. Among the 52 students, about 36.54% and 32.64% had mild and moderate levels of anxiety, respectively and in comparison with these levels, only 17.31% of the undergraduates had no symptoms of anxiety and 13.46% were severely anxious.

Factors Influencing University Students' Anxiety Level during the Pandemic

Univariate Analysis

Results of the relationship between the demographic variables and selected characteristics of students and anxiety levels are presented in Table 2. Place of residence, family status, living with parents and relative or an acquaintance infected with COVID-19 had a significant effect on anxiety ($p < 0.05$). On the other hand, gender, educational status and steady family income had no significant impact on anxiety ($p > 0.05$). Moreover, students from urban areas (0.15%), poor (0.33%) and having a relative or an acquaintance infected with COVID-19 (0.14%) were more likely to be severely anxious ($p < 0.05$).

Table 2: Univariate Analysis of the University Students' Anxiety about the Pandemic

Variables	Frequency	Anxiety Level				Statistics	P
		Normal	Mild	Moderate	Severe		
Gender							
						-0.205(a)	0.837
Male	31 (59.62)	6 (19.35)	10 (32.25)	12 (38.70)	3 (9.67)		
Female	21 (40.38)	3 (14.28)	9 (42.85)	5 (23.80)	4 (19.04)		

Educational Status						-0.435(a)	0.663
Second last semester	11 (21.15)	1 (9.09)	7 (63.63)	1 (9.09)	2 (18.18)		
Last semester	41 (78.85)	8 (19.51)	12 (29.26)	16 (39.02)	5 (12.19)		
Place of Residence						-1.973(a)	0.048
Urban	20 (38.46)	8 (40)	5 (25)	4 (20)	3 (15)		
Rural	32 (61.54)	1 (3.13)	14 (43.75)	13 (40.63)	4 (12.5)		
Family Status						7.557(b)	0.022
Poor	3 (5.77)	0 (0.00)	0 (0.00)	2 (66.67)	1 (33.33)		
Middle class	39 (75.00)	5 (12.82)	14 (35.89)	15 (38.46)	5 (12.82)		
Upper middle class	10 (19.23)	4 (40)	5 (50)	0 (0.00)	1 (10)		
Steady Family Income						-1.026(a)	0.305
Yes	32 (61.54)	5 (15.63)	14 (43.75)	11 (34.38)	2 (6.25)		
No	20 (38.46)	4 (20)	5 (25)	6 (30)	5 (25)		
Live with Parents						2.607(a)	0.009
Yes	44 (84.62)	7 (15.90)	16 (36.36)	16 (36.36)	5 (11.36)		
No	8 (15.38)	4 (50)	3 (37.5)	1 (12.5)	0 (0.00)		
Relative or Acquaintance got COVID-19						2.895(a)	0.003
Yes	22 (42.31)	2 (9.09)	3 (13.63)	14 (63.63)	3 (13.63)		
No	30 (57.69)	7 (23.33)	16 (53.33)	3 (10)	4 (13.33)		
Mann-Whitney U test (a); Kruskal-Wallis H test (b)							

Source: Calculation Based on Online Survey, 2020

Ordered Logistic Regression Analysis

Table 3 shows the ordinal multivariate analysis of factors associated with anxiety during the COVID-19 outbreak. The ordered logistic regression analysis included significant factors from the univariate

analysis. In the model test, $P < 0.05$, indicating that the OR value of at least one variable was statistically significant. Therefore, $\chi^2 = 27.97$ ($P\text{-value} = 0.0000$) shows that the models fit the data well as compared to the null.

Table 3: Ordered Logistic Regression Analysis of Factors Influencing University Students' Anxiety

Variables	Total	SE	OR	P	OR(95%CI)
Place of residence					
Urban	20	1.87	3.12	0.059	(0.95, 10.16)
Rural (a)	32	-	-	-	-
Family Status					
Poor	3	45.34	34.11	0.008	(2.52, 461.67)
Middle class	39	2.84	3.44	0.133	(0.68, 17.34)
Upper middle class (a)	10	-	-	-	-
Live with Parents					
Yes	44	0.10	0.12	0.012	(0.02, 0.63)
No (a)	8	-	-	-	-
Relative or Acquaintance got COVID-19					
Yes	22	0.12	3.21	0.010	(0.06, 0.69)

No (a)	30	-	-	-	-
SE (Standard Error), OR (Odds ratio), CI (Confidence interval) (a) reference group					

Source: Calculation Based on Online Survey, 2020

The results indicated that living with parents was a protective factor against anxious students (OR = 0.12, 95% CI = 0.02 – 0.63). On the other hand, living in urban areas, in contrast to rural areas, was a risk factor for anxiety experienced by the students (OR = 3.12, 95% CI = 0.95 – 10.16). In addition, being poor (OR = 34.11, 95% CI = 2.52 – 461.67) and having a relative or an acquaintance infected with COVID-19 (OR = 3.21, CI= 0.06 – 0.69) were risk factors for anxiety.

Correlation Analysis

Table 4 represents the results of the correlation between corona related stressors and anxiety level. Worry about academic delays, the influence of this pandemic on daily life, worry about getting job and financial condition were positively correlated with the level of anxiety. Conversely, the result suggested a negative association between social support and anxiety symptoms of university students during the COVID-19 outburst.

Table 4: Correlation between the COVID-19-Related Stressors and Levels of Anxiety

COVID-19 related Stressors	Anxiety Level	
	r	P
Academic delays	0.321	0.018
Worry about getting job	0.512	0.000
Financial condition	0.568	0.000
Influence on daily life	0.469	0.000
Social support	-0.222	0.124
r (Correlation coefficient)		

Source: Calculation Based on Online Survey, 2020

Discussion

The purpose of this study was to assess the psychological condition of the final year university students during a pandemic and to explore the factors influencing their anxiety. This survey indicated that 82.64% of the final year students were afflicted with anxiety because of the outbreak.

The results of this research indicated university students' anxiety regarding the COVID-19 was

associated with their place of residence, family status, whether living with parents and whether a relative or an acquaintance was infected with the corona virus. However, there was no significant difference in gender or educational status. Multivariate Logistic regression analysis suggested that living in rural areas, compared with urban areas, was contributing to reducing the anxiety of university students. One of the plausible reasons behind this might be the insecurity of losing a job. In Bangladesh, people living in urban areas faced involuntary unemployment and a lot of people were fired due to this pandemic, on the other hand, most of the people living in rural areas are self-employed, hence had a steady family income, which worked as a protective factors against anxiety. Living with parents was another favorable factor against anxiousness, which is consistent with prior studies (Woodgate et al., 2020; Gentili et al. 2020). University students' with low-income family status were most anxious during the COVID-19 crisis, which could be explained by increased psychological and financial pressure. Similarly, relative or acquaintance being infected with COVID-19 was a risk factor for university students' anxiety about the outbreak.

The COVID-19-related stressors, which include academic delays, worry about getting a job, financial condition, effects on daily-life, were positively related to anxiety symptoms of the final year students during the corona crisis. Because of the pandemic, students might feel that they would be unable to complete their graduation in the time since educational institutions had to bring a lot of changes in the existing system due to the sudden outbreak. In Bangladesh, the cyclical unemployment was visible which made the university finalists be worried about getting expected jobs after the completion of their graduation. Some families lost their source of earnings, and students might feel anxious about paying their tuition fees. The government announced lockdown from March 2020, including travel warnings and bans, and extending the national holidays to control the outburst, which certainly

disrupted daily life (Tang et al., 2020) and resulted in anxiety. Finally, the negative and insignificant correlation between social support and the anxiety of university students indicated that it did not have any effective impact on the anxiety level of the students in the context of Bangladesh.

Future Research Directions

This study considered the final year students of one private university. Further research can be undertaken by including several public and private university students. Furthermore, this study was conducted only by including anxiety level and other measures like depression and stress level were not taken into account for the study. Therefore, further research can be conducted by incorporating things that have not been explored in this research.

Conclusion

The COVID-19 pandemic is a worldwide public health crisis and such widespread outbreaks are associated with adverse mental health consequences. About 82.64% of the final year university students have experienced anxiety because of this COVID-19 crisis. Living in rural areas and living with parents were protective factors and being poor and having a relative or an acquaintance infected with COVID-19 were risk factors for the university finalists. A global public health emergency has a significant impact on the mental wellbeing of the university students graduating into a pandemic and they entail assistance, attention and support of the families, universities and society. It is recommended that the government, along with universities, should collaborate to resolve this difficulty to provide high-quality, timely crisis-oriented mental services to stabilize the emotional state of the university finalists.

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