Data Article

A dataset on the prevalence and associated risk factors for mental health problems among female university students in Bangladesh

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A R T I C L E   I N F O

A B S T R A C T

The data presented here relate to the article with the following title, "Prevalence and associated risk factors for mental health problems among female university students during COVID-19 pandemic: A cross-sectional study findings from Dhaka, Bangladesh" [1]. This article provides a dataset on the prevalence of psychological distress among 451 female university students during the ongoing COVID-19 pandemic. We collected their responses from October 15, 2021, to January 15, 2022, using Google survey tools (Google Forms). A structured questionnaire was prepared, consisting of sociodemographic variables and their association with mental health problems. Three psychometric scales, UCLA-3, GAD-7, and PHQ-9, were applied to measure disorders of loneliness, anxiety, and depression, respectively. We performed the statistical analysis using IBM SPSS (v. 25.0). Each respondent gave their electronic consent for the study, and anonymized

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data were published. Hence, policymakers of government and non-government groups may utilize the data to create a variety of initiatives to support the mental health of female university students from Dhaka, Bangladesh.

Specifications Table

Subject	Public health
Specific subject area	Mental health, Psychology
Type of data	Primary Data
	Tables
	Figure
How data were acquired	We collected data using Google survey tools (Google Forms)
Data format	Raw and analyzed
Parameters for data collection	We assembled responses from Bangladeshi female university students residing in Dhaka city, Bangladesh. The target group for this study was any female university students who volunteered to take part in this study.
Description of data collection	Using Google survey tools (Google Forms), we carried out this parallel cross-sectional study from October 15, 2021, to January 15, 2022. A structured survey questionnaire was prepared to collect responses from female university students via various social media platforms. The questionnaire contained sociodemographic information and the assessment of depression, anxiety, and loneliness using PHQ-9, GAD-7, and UCLA-3 scales, respectively. For any concerns about the comprehension and clarity of the survey questions. We offered support to the respondents via video or phone calls. Additionally, we have uploaded the questionnaire in the repository.
Data source location	Researchers from the University of Asia Pacific, Dhaka, have collected data from Dhaka city, Bangladesh.
Data accessibility	The raw dataset of this article has been published as Microsoft Excel (.xlsx) in Mendeley data that can be found at: https://data.mendeley.com/datasets/v7kjs729bm/3
Related research article	"Nahar Z, Sohan M, Supti KF, Hossain MJ, Shahriar M, Bhuiyan MA, Islam MR. Prevalence and associated risk factors for mental health problems among female university students during COVID-19 pandemic: A cross-sectional study findings from Dhaka, Bangladesh. Heliyon. 2022;8(10):e10890. https://doi.org/10.1016/j.heliyon.2022.e10890."

Value of Data

- The dataset is well documented to undergo further studies about the particular effects of the COVID-19 pandemic on students' mental health (anxiety, loneliness, and depression) and how they are handling this stress.
- This dataset can be useful for cross-cultural comparisons of mental health problems among the young generations across the countries.
- The dataset is useful for researchers in comparing the severity of mental health among male university students in urban areas during the COVID-19 pandemic.
- The information in this article can be utilized by policymakers of government and non-government organizations, to develop a range of programs to promote the mental health of university students.

1. Objective

The COVID-19 pandemic has impacted the health and well-being of lives worldwide [2–5]. Poor and developing nations are the most vulnerable during the pandemic time. However, the impact may vary across countries [6–8]. We conducted this cross-sectional study for a better understanding of the psychological aspects of the COVID-19 pandemic among the young generation of Bangladesh. The dataset of this manuscript has been generated during the ongoing COVID-19 pandemic to assess the mental health of female university students residing in urban areas through an online survey. This dataset supports our previous publication [1] by expanding the individual responses for further analysis and understanding of the associated factors involved. The overall objective of this article is to provide an open-access dataset of mental health variables for university students for analyzing and understanding associated risk factors, and the potential interventions and other preventive and therapeutic approaches [9].

2. Data Description

The World Health Organization states that the first COVID-19 case was recorded in December 2019 in Wuhan, China and that it spread around the world by March 2020 [10]. On March 8, 2020, the first verified COVID-19 case in Bangladesh was discovered [11]. Many of the unanticipated difficulties brought on by the COVID-19 pandemic seem to be disproportionately harming young adults' mental health and general well-being [12–14]. There is growing concern about the psychological distress of university students, especially females. Due to the abrupt shutdown of universities during COVID-19, students experienced social isolation, a lack of support, and uncertainty about their academic future [1]. Hence, to evaluate their levels of depression, loneliness, and anxiety, we designed a structured questionnaire on sociodemographic information and mental health. The questionnaires were prepared using Google survey tools (Google Forms) during the late stage of the disease outbreak. The survey form was distributed online from October 15, 2021, to January 15, 2022, among female university students in Dhaka, Bangladesh. We used three different psychometric assessment scales: Generalized Anxiety Disorder (GAD-7), UCLA Loneliness Scale-3 (UCLA-3), and Patient Health Questionnaire-9 (PHQ-9) for proper assessment of anxiety, loneliness, and depression, respectively [15,16]. The survey form was submitted by 481 students, out of which we eliminated 30 owing to inaccurate or missing information, and included 451 responses in the statistical analysis.

Table 1
Distribution of responses based on the UCLA Loneliness Scale-3 (UCLA-3).

Indicate how often each of the statements below is descriptive of you in the past 30 days. descriptive of you	Frequency (n)	Percentage (%)
1. How often do you feel left out?		
Hardly ever (1)	146	32.37
Some of the time (2)	211	46.79
Often (3)	94	20.84
2. How often do you feel isolated from others?		
Hardly ever (1)	136	30.16
Some of the time (2)	193	42.79
Often (3)	122	27.05
3. How often do you feel that you lack companionship?		
Hardly ever (1)	142	31.49
Some of the time (2)	185	41.02
Often (3)	124	27.49
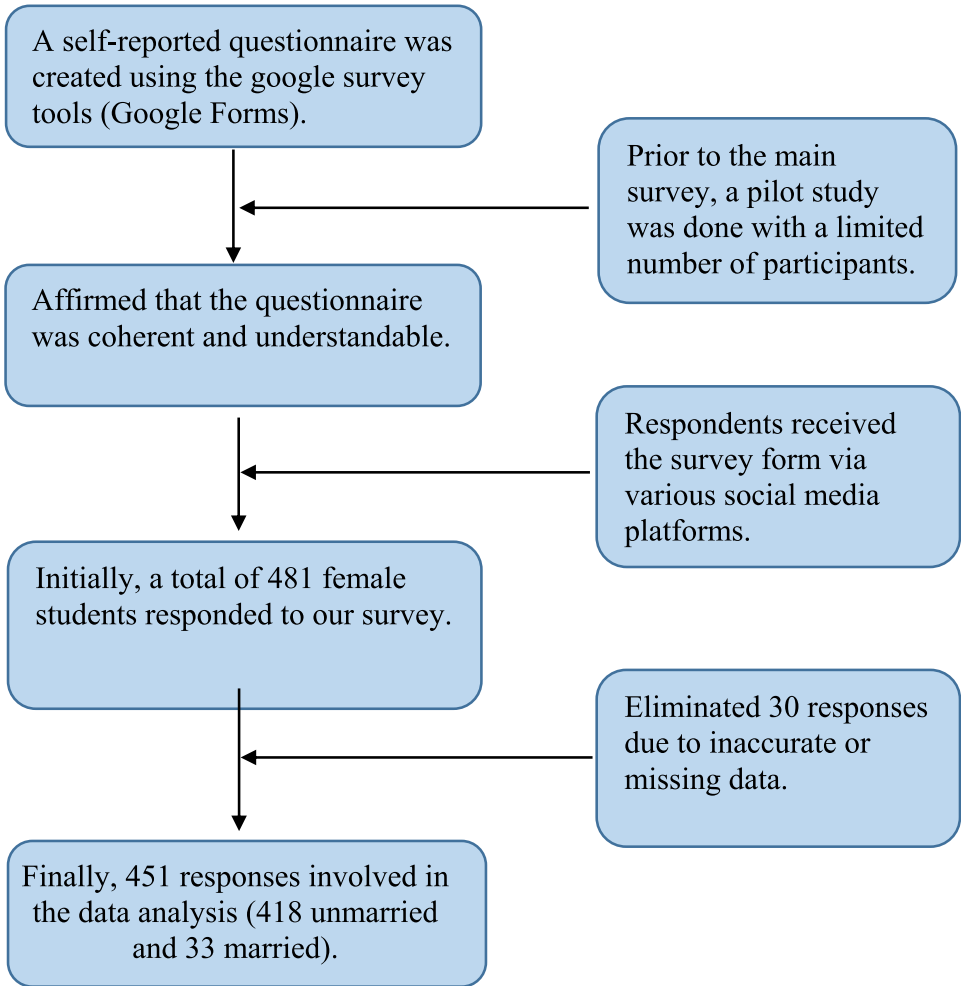
Fig. 1. Flowchart of collecting responses from the participants. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

The dataset presents (i) estimation of loneliness using UCLA-3 in Table 1, (ii) estimation of anxiety using GAD-7 in Table 2, (iii) estimation of depression using PHQ-9 in Table 3, estimation of different psychometric parameters among the respondents in Table 4, and the severity of symptoms of mental health disorders among the participants (Table 5). Moreover, we prepared a flowchart of the steps taken to gather and exclude respondents' survey data, illustrated in Fig. 1.

Table 2

Distribution of responses based on the 7-item Generalized Anxiety Disorder (GAD-7) Scale.

Indicate how often each of the statements below is descriptive of you.	Frequency (n)	Percentage (%)
1. In the last two weeks, I am feeling nervous, anxious, or on edge.		
Not at all (0)	132	29.27
Several days (1)	179	39.69
More than half of the days (2)	52	11.53
Nearly every day (3)	88	19.51
2. In the last two weeks, I am not being able to stop or control worrying.		
Not at all (0)	128	28.38
Several days (1)	177	39.25
More than half of the days (2)	54	11.97
Nearly every day (3)	92	20.40
3. In the last two weeks, I am worrying too much about different things.		
Not at all (0)	97	21.51
Several days (1)	169	37.47
More than half of the days (2)	56	12.42
Nearly every day (3)	129	28.60
4. In the last two weeks, I felt trouble in relaxing.		
Not at all (0)	133	29.49
Several days (1)	180	39.91
More than half of the days (2)	40	8.87
Nearly every day (3)	98	21.73
5. In the last two weeks, I am being so restless that it's hard to sit still.		
Not at all (0)	146	32.37
Several days (1)	179	39.69
More than half of the days (2)	43	9.54
Nearly every day (3)	83	18.40
6. In the last two weeks, I becoming easily annoyed or irritable.		
Not at all (0)	126	27.94
Several days (1)	180	39.91
More than half of the days (2)	46	10.20
Nearly every day (3)	99	21.95
7. In the last two weeks, I am feeling afraid as if something awful might happen.		
Not at all (0)	184	40.80
Several days (1)	147	32.59
More than half of the days (2)	50	11.09
Nearly every day (3)	70	15.52

Table 3
Distribution of responses based on the Patient Health Questionnaire-9 (PHQ-9).

Indicate how often each of the statements below is descriptive of you.	Frequency (n)	Percentage (%)
1. In the last two weeks, little interest or pleasure in doing things.		
Not at all (0)	109	24.17
Several days (1)	183	40.58
More than half of the days (2)	41	9.09
Nearly every day (3)	118	26.16
2. In the last two weeks, feeling down, depressed or hopeless.		
Not at all (0)	67	14.85
Several days (1)	188	41.69
More than half of the days (2)	67	14.86
Nearly every day (3)	129	28.60
3. In the last two weeks, trouble falling or staying asleep, sleeping too much.		
Not at all (0)	119	26.39
Several days (1)	162	35.92
More than half of the days (2)	51	11.31
Nearly every day (3)	119	26.38
4. In the last two weeks, feeling tired or having little energy.		
Not at all (0)	124	27.50
Several days (1)	161	35.70
More than half of the days (2)	54	11.97
Nearly every day (3)	112	24.83
5. In the last two weeks, poor appetite or overeating.		
Not at all (0)	167	37.03
Several days (1)	152	33.70
More than half of the days (2)	39	8.65
Nearly every day (3)	93	20.62
6. In the last two weeks, feeling bad about yourself-or that you are a failure or have let yourself or your family down.		
Not at all (0)	157	34.81
Several days (1)	130	28.83
More than half of the days (2)	43	9.53
Nearly every day (3)	121	26.83
7. In the last two weeks, trouble concentrating on things, such as reading the newspaper or watching television.		
Not at all (0)	135	29.93
Several days (1)	172	38.14
More than half of the days (2)	45	9.98
Nearly every day (3)	99	21.95

Table 3 (*continued*)

Indicate how often each of the statements below is descriptive of you.	Frequency (n)	Percentage (%)
8. In the last two weeks, moving or speaking so slowly or the opposite-moving around a lot more than usual.		
Not at all (0)	168	37.25
Several days (1)	160	35.48
More than half of the days (2)	43	9.53
Nearly every day (3)	80	17.74
9. In the last two weeks, thoughts that you would be better off dead, or of hurting yourself in some way.		
Not at all (0)	285	63.19
Several days (1)	89	19.74
More than half of the days (2)	25	5.54
Nearly every day (3)	52	11.53

Table 4
Different psychometric parameters among the respondents.

Symptoms of mental health disorders (total responses, $N = 451$)	Frequency (n)	Percentage (%)
Loneliness		
Yes	252	55.88
No	199	44.12
Generalized anxiety		
Yes	312	69.18
No	139	30.82
Depression		
Yes	204	45.23
No	247	54.77

Table 5
Severity of different psychometric parameters among the respondents.

Psychometric parameters (total responses = 451)	Frequency (n)	Percentage (%)
Loneliness (n = 252)		
Mild	93	36.90
Moderate	102	40.48
Severe	57	22.62
Depression (n = 204)		
Mild	78	38.24
Moderate	54	26.47
Severe	72	35.29
Generalized anxiety (n = 312)		
Mild	150	48.08
Moderate	69	22.11
Severe	93	29.81

3. Experimental Design, Materials and Methods

Researchers performed a large-scale cross-sectional online survey to determine how the COVID-19 pandemic has affected students' mental health in Bangladesh [17,18]. We gathered the response utilizing Google Forms and distributed it among female students of different universities in Dhaka. We sent the survey link via messenger, e-mail, and other social media platforms. A self-administered sociodemographic and mental health questionnaire was included in the link. Additionally, we offered assistance to the respondents via phone or video conversations

to resolve any concerns with the comprehension and clarity of the survey questions. Initially, between October 15, 2021, and January 15, 2022, we had 481 responses. We discarded 30 responses after rigorous data analysis because they contained erroneous or missing information.

We structured the questionnaire into two main sections: one regarding sociodemographic information and the other about psychometric evaluations. We utilized three well-recognized psychometric scales to evaluate mental health and a structured questionnaire to gather demographic data. Initially, we prepared three questions regarding how frequently respondents felt the following statements during the past 30 days to determine their loneliness level. Depending on the response, each question receives a score between 1 and 3: Hardly ever, some of the time, and often. Individuals with a score between 3 and 5 regarded as "not lonely" and the respondents with the score 6–9 as "lonely". Then there were seven questions as psychometric measures indicating how frequently the following problems impacted them during the past 30 days to determine their level of anxiety (GAD-7). Finally, there were nine questions to measure their level of depression (PHQ-9), indicating how frequently they had experienced any of the following issues during the past 30 days. Based on the answers related to both anxiety and depression, each question receives a score between 0 and 3; 0 (Not at all), 1 (Several days), 2 (More than half of the days), and 3 (Nearly every day). The overall GAD-7 score ranges from 0 to 27 where four or below scores indicate "no anxiety". On the other hand, PHQ-9 score ranges from 0 to 27 where the total score nine or less indicates "no depression". For each psychometric measures, higher scores indicate more severe symptoms and vice-versa. We used Microsoft Excel 2016 to analyze the data and displayed the results as frequency and percentage.

Ethics Statement

The protocol was approved by the Research Ethics Committee, University of Asia Pacific, Dhaka, Bangladesh (Ref: UAP/REC/2021/102). We conducted this study following the principles stated in the Declaration of Helsinki. Also, we obtained informed electronic consent from all the participants.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

Raw dataset of mental health problems in female university students in Bangladesh (Original data) (Mendeley Data).

CRediT Author Statement

Acknowledgments

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