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Original Research

Prevalence and determinants of mental well-being and satisfaction with life among university students amidst the COVID-19 pandemic

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ABSTRACT

Background: Due to a lack of treatments and vaccinations, the COVID-19 pandemic has resulted in a number of mental disorders, which have led to psychiatric symptoms and a lack of pleasure with one's life in students. Researchers found that perceived SWL and MWB dropped, which may be because students are more likely to experience mental health problems. The present study investigated the prevalence and determinants of mental well-being and satisfaction with life among university students in Bangladesh. **Methods**: An e-survey-based cross-sectional study was carried out from February to April 2021 among 660 students. A purposive sampling technique was employed in the study. Self-reported mental well-being and satisfaction with life psychological tools were also used. The e-questionnaire survey was conducted with informed consent, and questions were related to sociodemographics, satisfaction with life, and mental well-being scales. Descriptive statistics and multiple regression analysis were performed. The data were rechecked and analyzed with the R programming language. **Results**: The prevalence estimates of mental well-being and satisfaction with life were 27% and 13%, respectively. Of a total of 660 participants, 58.2% were male, and the rest were female (41.8%). Among the participants, 22.5% suffered the worst conditions regarding their financial conditions, and 16.5% badly sought a job for livelihood. **Conclusion**: The present findings revealed that the COVID-19 pandemic and long-term educational institution closure significantly affect students' mental health. Students' mental well-being was in vulnerable conditions, and their satisfaction with life was extremely poor. A comprehensive student psychological support service should be expanded to help students' mental health.

Key words: COVID-19, mental well-being, satisfaction with life, students, perceived stress, mental trauma

INTRODUCTION

The global health catastrophe caused by the COVID-19 pandemic poses a serious threat both physically and mentally. SARS-CoV-2, the novel coronavirus that produced the COVID-19 pandemic, has had a profound influence on the entire human race, with long-term consequences that are still unknown. The following COVID-19 pandemic and people's psychological capacity to cope with a prolonged crisis are challenging. In addition to inflicting mortality worldwide, this pandemic also creates psychological pressure on vulnerable populations, especially students, who are already suffering from various stressors (depression, loneliness, anxiety, and stress) [1].

Many countries imposed travel bans, social gathering restrictions, and educational institution closures after the virus spread quickly and widely in a relatively short period [2]. For millennia, quarantine has been used as a preventive tool for large infectious epidemics worldwide, and it has been proven to be successful in reducing the spread of contagious illnesses such as cholera and plague in the past [3]. All educational institutes, entertainment, and other public facilities, including restaurants, movie theaters, gyms, shopping malls, and places of worship, were closed for a few days later, prohibiting the free movement of people across borders without special authorization. Students' lives have changed considerably in a short amount of time as they have been ordered to leave school and adjust to new living situations. Students have to leave their campus immediately after the declaration of a country-wide lockdown and go back to their respective areas again for an uncertain period. It could lead to a high rate of depression, anxiety, stress, and other mental health problems among students [4,5], which may have life-long consequences.

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Moreover, for prospective students who come from other countries and join an educational institute, making new social relationships can be extremely difficult, which can lead to feelings of loneliness or disconnection. Loneliness has been linked to increased stress, anxiety, depression, and other mental health burdens among students, impacting mental well-being[6] and satisfaction with life. The rapid transmission of the novel coronavirus COVID-19 has changed this landscape dramatically, from instructional delivery to campus closures, contributing to an already complicated combination of factors affecting student well-being[7] and life satisfaction.

In addition, after a few days of university closure, the students were asked to adapt to online learning platforms. Students' stress levels are likely to have grown due to the shift to online learning, particularly in courses that were not originally planned for online delivery[8]. Courses that need a physical presence, physical labs, internships, and artistic performances have distinct disadvantages when delivered online[9]. In addition, it is assumed that some students have trouble accessing computers and the internet at home, especially students from low-socioeconomic backgrounds and living in rural areas[9,10].

Moreover, concerns about individual health, the health of family members, constraints on movement and outdoor recreation, self-isolation, quarantine, and disrupted ordinary daily activities affect overall mental well-being and financial status, particularly those students who support themselves by working, and the overall life satisfaction of this group of people is decreasing[11–13]. These new circumstances, together with the general sense of ambiguity, resulted in widespread distress with a negative influence on psychological health, as seen by an increase in reported sadness and anxiety among the people[3]. As a result of these mental health problems, unhealthy habits may emerge as coping techniques[14]. Students' academic progress and social connections can be greatly harmed by these mental health issues, limiting their future professional and personal potentiality.

Furthermore, several prior studies among Bangladeshi students have repeatedly noted significant mental repercussions, especially among university students[1,15,16]. As a result of the suspension of educational activities, together with the disruption of regularity and restricted human interactions, 83% believe that their already existing mental disorders have been aggravated[17].

However, in low- and middle-income countries (LMICs), such as Bangladesh, where few resources are available to combat COVID-19, mental health concerns are more prevalent as a result of this outbreak. Additionally, there is a dearth of research evaluating the mental well-being and satisfaction with the life of students in Bangladesh during the pandemic. To bridge that gap, this study sought to investigate the prevalence and determinants of mental well-being and satisfaction with life among students.

METHODS

Participants, Study procedure, and Measures

A cross-sectional study was employed to assess mental well-being and satisfaction with life among the students. The purposive sampling technique is also utilized in the present study. The survey was conducted from February to April 2021. The inclusion criteria for the study were i) being a university student, ii) being >18 years of age, and iii) having the ability to read and speak Bangla. The exclusion criteria for the study were individuals with severe psychological conditions (as this can cause memory biases).

A semistructured self-reported e-survey questionnaire (in Bangla) was developed, and an easily accessible Google survey form was created and publicly circulated on multiple social media platforms (Facebook, WhatsApp, *etc.*). A sufficient number of research assistants were recruited to obtain a high response rate in the survey.

All participants provided informed consent after the purpose and objectives of the study were thoroughly explained to them. Participation in this survey was voluntary and anonymous.

Before going on to the next phase, a pilot test was undertaken with 50 participants from the same population (target group) to ensure that the questionnaire was acceptable and transparent. Initially, there were 855 responses, and after removing incomplete and multiple responses, there were 660 responses for final analysis. The e-questionnaire consisted of three sections: sociodemographic, mental well-being, and satisfaction with life amid COVID-19 during the last month.

Sociodemographic measures

Sociodemographic characteristics were collected by asking about age, sex (male/female), relationship status (single/engaged/married), family type (nuclear/joint family), residence (urban/rural), and monthly family income (<15,000 Bangladeshi Taka (BDT), 15,000–30,000 BDT, and >30,000 BDT)[18]. Crisis during COVID-19 was measured by asking

the following questions: "are you currently searching for a job?" (trying/moderately trying/crying need/not trying), "your financial conditions during COVID-19" (good/better/best/worst), "your relationships with loved ones (good/better/best/poor).

Satisfaction with life scale (SWLS)

The satisfaction with life scale is the most widely used scale to measure life satisfaction [19]. The scale consists of five items, with which respondents indicate their level of agreement or disagreement on a seven-point Likert scale (from 7 = Strongly agree to 1 = Strongly disagree). Total scores ranged from 5 to 35, with the lowest scores indicating extremely dissatisfied (scores between 5 and 9), scores between 10 and 14 indicating dissatisfied, 19-19 indicating slightly dissatisfied, 20 indicating neutral, 21-25 indicating slightly satisfied, 26-30 indicating satisfied, and 31-35 indicating extremely satisfied. The SWLS has demonstrated satisfactory psychometric properties, a significant degree of internal consistency (Cronbach's varying from 79 to 89 in various studies), and a greater level of chronological reliability [20,21]. In the present study, the SWLS was found to have very good reliability (Cronbach's alpha =0.88).

Warwick-Edinburg mental *well-being scale (WEMWBS)*

The WEMWBS is a mental well-being metric that focuses solely on positive aspects of mental health. It holds promise as a tool for monitoring mental well-being at the population level because it is a short and psychometrically robust scale with no ceiling effects in a population sample [22]. An expert panel developed it based on current academic literature, qualitative research with focus groups, and psychometric testing of an existing scale. The scale consists of fourteen items, with a five-point Likert scale (from 1 = None of the time to 5 = All of the time). The Likert scale assigns a score of 1 to 5 to each item, with a minimum score of 14 and a maximum score of 70. All items received a positive score. The WEMWBS overall score is calculated by adding the scores for each item with equal weights. As a result, a higher WEMWBS score indicates a higher level of mental well-being. In the present study, the WEMWBS showed content reliability (Cronbach's alpha =0.89)

Sampling procedure

The sample size was calculated using the following equation:

$$n = \frac{z^2 pq}{d^2}; n = \frac{1.96^2 x 0.5 x (1-0.5)}{0.05^2} = 384.16 \approx 384$$

Here,

n = number of samples

z = 1.96 (95% confidence level)

p = prevalence estimate (50% or 0.5) (as no study found)

q = (1-p)

d = Precision of the prevalence estimate

The calculated sampling size was 384. There are limited studies to base this on; however, p = 0.5 was initially selected. Our sample size exceeds this by a substantial proportion. Out of 855 received responses, 660 responses were analyzed after removing incomplete or ineligible data.

Statistical analysis

Descriptive and inferential statistics (such as frequencies, percentages, means, and standard deviations) were computed. Inferential statistics included t tests or one-way analysis of variance (ANOVA) to determine the mean differences in mental well-being scores concerning background variables. Skewness, Kurtosis, and Pearson correlations were calculated between all measures of mental well-being and life satisfaction. The Cronbach's alphas for the SWLS and WEMWBS were 0.88 and 0.89, respectively. Then, a well-fitted regression model was used to determine the relationship between SWLS and WEMWBS with demographic variables. All analyses were carried out with a p value of < 0.05 using the R programming language.

Ethics

The present study was carried out following Institutional Research Ethics and the Helsinki Declaration. This study was approved by the respective Ethical Review Committee [Ref: UAMC/ERC/27/2021]. The study's objectives were explicitly defined in the first part of the questionnaire, along with i) the current research processes, ii) data confidentiality and privacy, and iii) the right to withhold data from the study at any time.

RESULTS

Descriptive analysis

In this study, we use age, sex, relationship status, family type, residence, monthly family income, currently searching for a job, financial situation during COVID-19, and relationships with loved ones as personal variables. Age 18-23 years (75.9%), male (69.5%), marital status in a relationship (72.1%), joint family (71.7%), rural residence (69.5%), monthly family income <15,000 BDT (69.6%), searching job

Table 1: General characteristics of personal variables

Variables		Prevalence (%)	Prevalence of Satisfaction With Life (score≥ 13)		Prevalence of mental well-being (score≥ 27)	
			Male (58.2%)	Female (41.8%)		
Age	18-23	419 (67.1%)	180 (43%)	107 (26%)	131 (31%)	104 (25%)
	24-29	220 (30.1%)	83 (37.7%)	61 (27.7%)	54 (24.5%)	50 (22.7%)
	30-35	21 (2.9%)	6 (28.6%)	9 (42.9%)	4 (1.9%)	6 (28.6%)
Relationship status	Unmarried	440 (60.1%)	170 (38.6%)	113 (25.7%)	112 (25.5%)	77 (1.8%)
	In a Relationship	140 (19.1%)	62 (4.4%)	54 (3.9%)	42 (3%)	37 (26%)
	Married	149 (20.4%)	35 (23%)	39 (25%)	33 (22%)	46 (3%)
Family type	Joint	180 (24.6%)	78 (43%)	51 (28%)	61 (34%)	52 (29%)
	Nuclear	544 (74.3%)	190 (35%)	155 (28.1%)	127 (23%)	107 (2%)
Residence	Urban	463 (63.4%)	146 (32%)	145 (30%)	103 (22%)	108 (23%)
	Rural	259 (35.4%)	118 (46%)	61 (24%)	82 (32%)	52 (2%)
Monthly family income	<15,000 BDT	168 (23%)	83 (5%)	33 (2%)	61 (36%)	23 (14%)
	15,000–30,000	276 (37.7%)	107 (39%)	77 (28%)	68 (25%)	56 (2%)
	>30,000 BDT	281 (38.4%)	789 (28%)	96 (34%)	60 (21%)	80 (28%)
Currently searching for a job?	trying	250 (34.2%)	107 (42.8%)	48 (19.2%)	62 (24.8%)	30 (12%)
	moderately trying	182 (24.9%)	51 (28.02%)	65 (35.7%)	47 (25.8%)	55 (30.2%)
	crying need	121 (16.5%)	51 (42.1%)	38 (31.4%)	44 (33.9%)	36 (29.8%)
	not trying	176 (24%)	59 (33.5%)	55 (31.2%)	36 (20.5%)	39 (22.2%)
Financial situation during COVID-19	good	153 (20.9%)	55 (35.9%)	26 (17%)	29 (19%)	13 (8.5%)
	better	316 (43.2%)	102 (32.3%)	91 (28.8%)	80 (25.3%)	74 (23.4%)
	best	93 (12.7%)	35 (37.6%)	34 (36.6%)	33 (35.5%)	31 (33.33%)
	worst	165 (22.5%)	77 (46.7%)	56 (33.9%)	47 (28.5%)	42 (25.5%)
Relationships with loved ones	good	244 (33.3%)	86 (35.2%)	57 (23.4%)	47 (19.3%)	34 (13.9%)
	better	186 (25.4%)	78 (41.9%)	48 (25.8%)	52 (28%)	43 (23.1%)
	best	255 (34.8%)	87 (34.1%)	84 (32.9%)	73 (28.6%)	68 (26.7%)
	worst	40 (5.5%)	18 (45%)	15 (37.5%)	16 (40%)	14 (35%)

Table 2: Association between personal variable and satisfaction with life (SWL)

Variables		prevalence of satisfaction with life (score≥ 13)	OR (95% of CI)	p-value
Age	18-23	318 (75.9%)	.77 (.27-2.19)	.624
	24-29	144 (65.5%)	.88 (.30-2.55)	<.001
	30-35	15 (71.4%)	1	
Sex	Male	269 (69.5%)	.72 (.49-1.04)	.040
	Female	207 (68.5%)	1	
Relationship status	Unmarried	284 (64.5%)	.99 (.62-1.58)	.051
	In a Relationship	101 (72.1%)	.6 6(.54-1.71)	.899
	Married	89 (59.7%)	1	
Family type	Joint	129 (71.7%)	1	
	Nuclear	346 (63.6%)	.82 (.54-1.24)	.355
Residence	Urban	191 (42.3%)	.75 (.51-1.11)	.158
	Rural	180 (69.5%)	1	
Monthly family income	<15,000 BDT	117 (69.6%)	1.15 (.66-1.96)	.590
	15,000–30,000	184 (66.67%)	1.30 (.86-1.95)	<.001
	>30,000 BDT	174 (61.9%)	1	
Currently searching for a job?	trying	156 (62.4%)	.91 (.57-1.46)	.715
	moderately trying	116 (63.7%)	.72 (.43-1.20)	.216
	crying need	89 (73.6%)	1.08 (.58-2.01)	.792
	not trying	114 (64.8%)	1	
Financial situation during COVID-19	good	81 (52.9%)	.33 (.18-.59)	<.001
	better	193 (61.1%)	.38 (.22-.63)	<.001
	best	69 (74.2%)	.79 (.37-1.66)	.538
	worst	134 (81.2%)	1	
Relationships with loved ones	good	143 (58.6%)	.24 (0.08-.74)	.013
	better	127 (68.3%)	.31 (.10-.95)	<.001
	best	171 (67.1%)	.29 (0.09-.89)	<.001
	worst	33 (82.5%)	1	

as a crying need (73.6%), bad financial situation during COVID-19 (81.2%), and bad relationships with loved ones (82.5%) are good satisfaction with their life, which means their score is more than 13 on the SWL scale [**Table 2**]. Males aged 18-23 years (43%), unmarried (38.6%), joint family (43%), rural residence (46%), family income 5,000-30000 BDT (39%), currently searching for a job as a yes tryout (42.8%), better financial condition during COVID-19 (32.3%), and best relationships with loved ones (34.1%) were highly satisfied with their life [**Table 1**]. Females aged 30-35 years (42.9%), unmarried (25.7%), nuclear family (28.1%), urban residence (30%), monthly family income >30,000 BDT (34%), currently searching for a job as moderately trying (35.7%), best financial situation during COVID-19 (36.6%), and poor relationships with loved ones (37.5%) were not satisfied with their life [**Table 1**]. Age 18-23 years (51.6%), female sex (53%), relationship status in a relationship (78.2%), joint family (62.8%), rural residence (81.9%), monthly family income <15,000 BDT (50.1%), currently searching for a job as moder-

Table 3: Association between personal variable and mental well-being

Variables		prevalence of mental well-being (score≥ 27)	OR (95% of CI)	p-value
Age	18-23	216 (51.6%)	1.35 (.48-3.81)	.569
	24-29	104 (47.3%)	1.26 (.43-3.36)	<.001
	30-35	10 (47.6%)	Reference	
Sex	Male	189 (44.4%)	.69 (.45-.95)	<.001
	Female	160 (53%)	Reference	
Relationship status	Unmarried	190 (67%)	.87 (.56-1.36)	<.001
	In a Relationship	79 (78.2%)	Reference	
	Married	79 (53.02%)	1.31 (.74-2.33)	.348
Family type	Joint	113 (62.8%)	Reference	
	Nuclear	235 (43.2%)	.46 (.30-.67)	<.001
Residence	Urban	134 (28.9%)	.77 (.52-1.14)	.162
	Rural	212 (81.9%)	Reference	
Monthly family income	<15,000 BDT	85 (50.1%)	.77 (.88-1.63)	.935
	15,000–30,000	124 (44.9%)	.81 (.54-1.22)	<.001
	>30,000 BDT	140 (49.8%)	Reference	
Currently searching for a job?	trying	92 (58.33%)	.75 (.45-1.15)	.172
	moderately trying	102 (87.9%)	1.25 (.76-2.05)	.366
	crying need	81 (66.9%)	1.51 (.88-.72)	<.001
	not trying	75 (42.6%)	Reference	
Financial situation during COVID-19	good	42 (27.5%)	.17 (.27-.81)	<.001
	better	155 (49.1%)	.70 (.45-1.11)	<.001
	best	64 (68.8%)	1.49 (.76-2.29)	.122
	worst	89 (53.9%)	Reference	
Relationships with loved ones	good	81 (33.2%)	.23 (0.09-.58)	.002
	better	95 (51.1%)	.35 (.14-.88)	<.001
	best	142 (56.7%)	.38 (.15-.94)	<.001
	poor	30 (75%)	Reference	

ately trying (87.9%), best financial situation during COVID-19 (68.8%), and best relationships with loved ones (56.7%) had good wellbeing during the last month [**Table 3**].

Association between satisfaction with life, mental well-being during the last month, and personal variables

Those with a better financial situation during COVID-19 [odds ratio: 38%, CI (.22-.63), p value < 0.05] and the best relationships with loved ones [OR: 29; 95% CI (0.09-.89), p value < 0.001] are more satisfied with their life than others [**Table 2**]. Age [OR: 88; 95% CI (.30-2.55), p value < 0.001], male sex

[OR: 69; 95% CI (.45-.95), p value < 0.001], nuclear family type [OR: 46; 95% CI (.30-.67), p value < 0.001], good financial situation during COVID-19 [OR:17; 95% CI (.27-.81), p value <0001], and good relationships with loved ones [odds ratio.23, 95% of CI (0.09-.58), p value < 0.001] were associated with good mental well-being during the last month compared to other factors [**Table 3**]. Overall, those aged 18-23 years, relationship status in a relationship, joint family, rural residence, monthly family income <15,000 BDT, and poor relationships with loved ones are simultaneously soundly satisfied with life, and mental well-being during the last month is good [**Table 1**].

DISCUSSION

The global pandemic has had a considerable impact on the student welfare sector, owing in part to comprehensive pragmatic measures aimed at limiting the spread of COVID-19. Across the board, education has experienced substantial changes in how education is delivered. The transition to online learning has been rapid, creating a slew of new difficulties for both academics and students. The required institutional restructuring has had a considerable (mainly negative) impact on students' overall learning experience and psychological well-being. Therefore, a study regarding their mental well-being and life satisfaction is necessary to address this research gap. However, the objective of this study was to determine the prevalence of mental well-being and satisfaction with the life of students during the COVID-19 outbreak in Bangladesh. To the best of the author's knowledge, this is the first study reporting students' mental well-being and satisfaction during the COVID-19 pandemic in Bangladesh.

According to the present findings, students reported significantly low mental well-being and poor life satisfaction. In addition, the present study reported that male students, early adults, middle socioeconomic status students, and job-seeker students are significantly more vulnerable to poor mental health and life satisfaction. According to the study, students' mental health has been jeopardized during the pandemic. This study reports the mental well-being and satisfaction with the life of students in Bangladesh while the education sector was substantially disturbed by COVID-19. However, the present study revealed that only 13% of students are satisfied with their lives, and the prevalence of mental well-being is 27%.

Despite differences in survey populations, methods, and cultures, the current findings are comparable to previous research on satisfaction with life and mental well-being and related factors in students and other populations.

However, a recent study conducted among university students in nine countries found higher satisfaction with life (60.54%). However, Columbia reported the highest satisfaction (81.94%) of students, and Turkey reported the lowest prevalence of life satisfaction (28.06%) of students[20]. Moreover, a recent study in Germany revealed that 72.2% of students suffer from serious impairment of mental well-being[23], and another study revealed that 75.8% have a serious indication of mental disorder[24].

However, the early adults (24 to 29 years) had significantly poor life satisfaction in this study. A prior study indicated that as people grew older, they became less satisfied with their lives[25]. While determining good well-being, this study showed that the prevalence of good mental well-being was significantly associated with middle-aged people. In line with the present study, another study among students reported that increased age was associated with enhanced psychological well-being[26]. A prior study among English and Scottish adolescent students showed no correlation between mental health and age[27]. In a survey of students in health disciplines, increased age was found to have a positive association with psychological well-being[26].

However, in the present study, it was found that male students had a significant association with good mental well-being. In contrast, a study in Denmark among general practitioners reported that males were more likely than females to experience poor mental well-being[28]. Another study of health science university students found no significant associations between and within age groups in regard to their mental well-being[29]. A similar study among medical students indicated that women's burnout rates are higher than men's burnout rates[30]. A further study among public health students showed that the psychological discomfort among females was larger than in the general population at the same age[31], indicating that male students were more mentally sound. However, a previous study indicated that males are less likely than females to seek care for mental health issues, resulting in a greater mental health burden[32]. Male students, in comparison to female students, have more negative attitudes toward psychiatric services and are less likely to seek treatment[32]. There is a dearth of evidence-based research to address this issue, despite significant interest. To completely comprehend the psychological impact of COVID-19 on male students, more research is needed.

Moreover, satisfaction with life was found to be significantly associated with monthly family income in this study. According to a previous study, relative income was found to be more important for life satisfaction[33]. Furthermore, students with better financial standing were found to have higher levels of life satisfaction. Similarities have been found in a study conducted among college students that suggests that favorable financial behaviors contribute to financial satisfaction, which in turn adds to life satisfaction[34]. Other research involving university students indicated that when the financial stress of paying tuition is removed, students' life satisfaction improves dramatically[35]. Consequently, students with higher socioeconomic status are more satisfied with their life[36].

Additionally, millions of individuals have lost their jobs as a result of global economic instability following COVID-19[37]. As a result, these same people will be dealing with the pain of job loss in the present as well as the stress of job hunting in the future. In addition, a satisfactory relationship with loved ones has also been found to be significantly associated with life satisfaction compared to others. However, the present study is in line with a study among university students in a Canadian Prairie City[36]. A study in Barbados also showed similar findings[38]. According to another study on family functioning and life satisfaction, people who rate their family functioning as cohesive, adaptable, communicative, and fulfilling are more likely to process their own emotions and have better life satisfaction[39]. As a representation of the quality of life, the home is more than just a house. It can offer a variety of advantages for a person's bodily and psychological well-being and satisfaction with life. Therefore, the relationship with family members, especially during the pandemic situation, as well as the relationship with friends and relatives, also plays an important role in mental health.

Nonetheless, each individual's mental well-being is critical to their performance and productivity. However, various stressors and environmental variables can contribute to an imbalance. Students frequently experience mental health issues as a result of recent changes in the education system, online classes, and financial strain. Unmarried people were found to have good mental well-being in the current study. In contrast, a previous study revealed that married people have the highest level of subjective well-being[40]. Longitudinal research, on the other hand, consistently shows that marriage promotes mental well-being[40,41]. As COVID-19 hit different people in different ways, the unmarried participants were found to have good mental well-being, as they did not need to think about their families, as they did not have spouses and children.

However, industrialization and globalization have accelerated social transformation, which has affected not only people's professional lives but also their personal lives, particularly in developing countries. As a result, extended families are turning into nuclear families. Over time, families were shown to be highly linked to the social adaptation and the psychological well-being of an individual[42]. In this study, students from nuclear families were found to have good mental well-being compared to others. This may be due to the nuclear family having a significant impact on the formation of an individual's personality. An individual is closer to their parents and may have more open and honest discussions with them about their concerns during quarantine, which aids in maintaining their psychological well-being. Nuclear families are also more likely to use emergency rooms and can have the opportunity to give children adequate healthcare[43]. Moreover, the emotional pressure on children with two parents living in nonviolent families is far lower. This maintains students living in the nuclear family in good mental well-being. A study among joint and nuclear family women revealed that there was a significant difference in marital adjustment and mental health between women from joint and nuclear families[44].

However, people from middle socioeconomic status (15,000 to 30,000 BDT) demonstrated good mental well-being. Earlier studies in Finland found that low income was associated with poor mental health in the men in the study group[45]. A comparable study among university students found that prolonged financial stress severely impacted students' psychological well-being by lowering their sense of comprehensibility about their circumstances, as well as their sense of control and self-esteem[46]. In contrast to many other studies, those who are looking for work as a crying need exhibited good mental well-being in our current study[45,47].

Consequently, being a student in today's society is the most challenging task, and the academic system has been more demanding than ever before. Furthermore, throughout the pandemic, it has become increasingly complex, with increased competitiveness, resulting in increased levels of stress among students. The spread of COVID-19 caused a severe change in the emotional, physical, mental, social, and financial conditions of billions of persons. The COVID-19 pandemic could have a major effect on the mental

well-being of many people, especially students. Another prior study at the time of COVID-19 found that the threat of COVID-19 harms subjective mental well-being[48,49], and serial mediation studies revealed that during COVID-19, intolerance and uncertainty had a large direct effect on mental well-being and satisfaction with life[50]. According to a recent study, lockdown, social distancing, and self-isolation requirements are stressful and harmful to many people, causing health, mental well-being, and satisfaction with life problems among students[51]. Moreover, the present study reported that students who have a good relationship with their loved ones are found to have better mental well-being and sufficient life satisfaction than others, which is in line with a prior study[52]. A previous study demonstrated that participants who reported poor family support had low mental well-being[53]. However, a further longitudinal study is necessary to establish a strong link between the relationship with loved ones and mental well-being and life satisfaction.

There are several limitations to the study that should be considered. The main limitation of this study is that participation in the study required access to a smartphone/computer, implying that respondents from the lower socioeconomic subgroup could not be included. Second, because this study relied on self-reported data, it was not completely free of recall or reporting bias. Third, because the study was conducted online using a convenience sampling technique, the possibility of selection bias should be considered. Finally, the study's cross-sectional design includes method bias because a causal relationship cannot be accurately elucidated in this design. Future qualitative and longitudinal studies will be required to determine the true scenario in the context of the COVID-19 pandemic.

CONCLUSIONS

The current study found that the closing of educational institutions generated significant disturbances in students' mental health. The COVID-19 pandemic had a significant impact on students' mental well-being and life satisfaction, and precautions were put in place to prevent its spread. Students' psychological services in hard-to-reach places should be expanded by the government and other policymakers. The evidence thus far concerning preexisting models of well-being shows that the pandemic's psychological influence will be extensive. While students will be living with uncertainty about their studies for an undetermined amount of time, researchers should move rapidly to assess student well-being and life satisfaction in these unprecedented times and beyond.

ABBREVIATIONS

None.

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AUTHOR'S CONTRIBUTIONS

All authors equally contributed to this work. All authors read and approved the final manuscript.

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AVAILABILITY OF DATA AND MATERIALS

The data that support the findings of the current study are available from the corresponding author upon reasonable request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was conducted in accordance with the amended Declaration of Helsinki. The institutional review board approved the study, and all participants provided written informed consent.

CONSENT FOR PUBLICATION

Not applicable.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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