Original Research

Quality of life among Bangladeshi Youth during the early stage of the COVID-19 pandemic: A single-site survey

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ABSTRACT

Objectives: This study aimed to determine the impact of the COVID-19 pandemic on the psychological, mental health and quality of life among Bangladeshi residents.

Study design: A purposive cross-sectional study of quality of life during the COVID-19 pandemic was performed.

Methods: Respondents completed a modified questionnaire that determined the Impact of Event Scale (IES), indicators of psychological distress impact, impact on government strategies, awareness and lifestyles, and impact on expectation of quality life change. A total of 465 (male = 330 and female = 135) respondents participated in this study.

Results: The overall mean age of respondents was 28.42 ± 7.07 years, and 63.4%, 44.1% and 50.3% were unmarried, were in the middle-income family group and had a masters or PhD qualification, respectively. The overall mean IES score of respondents was 80.89 ± 8.91, which reflects a stressful impact of the COVID-19 pandemic on physical and mental health problems. Only 27.75% of respondents had an IES score ≥75. More than half of respondents (57.8%) reported that they did not feel lonely and hopeless. In terms of preventative measures, the majority of the respondents (80.2%) reported that they did not wash their hands frequently with soap and sanitiser for at least 20 s to reduce spread of the virus. During the pandemic, more than half of the respondents (56.8%) claimed that they faced serious problems in education.

Conclusions: The ongoing COVID-19 pandemic has resulted in significant mental and physical health problems.

1. Introduction

In December 2019, an unknown disease resulting in pneumonia was first identified in Wuhan, Hubei Province, China [2]. The COVID-19 pandemic has subsequently resulted in a global public health problem and threat to human health [1]. COVID-19 is a highly infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1]. On 12 February 2020, a total of 43,103 COVID-19 cases were recorded; 42,708 of these cases (99.1%) in China [3]. On the 19th March 2020, the World Health Organisation (WHO) declared COVID-19 to be a pandemic, with 118,000 cases and 4291 deaths in 114 countries [4]. The Johns Hopkins University database revealed that due to the COVID-19 pandemic, the worldwide case-fatality ratio increased by 6.2% (120,450/1,930,780) as of 14 April 2020 [5].

Recently, several studies have started to explore tension, anxiety, psychological symptoms and other mental health manifestations during the COVID-19 pandemic [6–12]. According to a British Medical Journal report, the psychological impact of the COVID-19 pandemic is being observed among residents in the UK [13]. China’s National Health Commission (NHC) has published various guidelines at different times during the pandemic [14] following identified psychological stress from home quarantine, effective treatment procedures for COVID-19 patients, and side effects of treatment or fear of the infection itself [15]. Recent studies have reported that ≥50% of respondents report stresses or...
uneasiness during pandemic situations [16–19]. Nonetheless, to date, there remains an absence of data on particular elements of vulnerability (e.g. trait health anxiety), amplification (e.g. cyberchondria) and adaptation (e.g. emotional regulation) with respect to wellbeing during the COVID-19 pandemic [12,20,21].

Major pandemic and epidemics are thought to have extreme negative effects on society and personal life [22]. Similarly, the ongoing COVID-19 pandemic has been reported to aggravate psychological vulnerability throughout the world. Several features of the pandemic have been shown to facilitate mental instabilities, such as fear of COVID-19 infection and panic towards it, economic recession and distress [23–25]. In addition to being infected with the virus, being in isolation or quarantine, and the fear of transmitting the virus to family members may also contribute to mental health problems [2,26,27]. However, various health bodies are now focusing on the mental health aspect of the COVID-19 pandemic. Guidelines include strategies relating to early diagnosis of mental health disorders, related social awareness and alternative treatments (e.g. telemedicine), with the aim of reducing unexpected loss of life. Early detection of mental health disorders can be useful in supporting the organisations and government who are trying to alleviate these issues.

Bangladesh reported a total of 398,815 COVID-19 cases according to a WHO report. As the number of infected patients and death rate continues to rise along with economic uncertainty, people are experiencing panic, anxiety, fear, adjustment disorder, depression, insomnia and other psychological problems, with extreme cases resulting in suicide [23,27–29]. There are a few prior studies conducted in Bangladesh; for example, Hossain et al. [30] examined the effects of social and electronic media in generalised anxiety disorder, whereas Islam et al. [31] studied depression and anxiety, Sakib et al. [32] looked at fear and depression and Mamun et al. [33] investigated suicidal behaviour. However, studies relating to the impact of the COVID-19 pandemic, government strategies and quality of life have not yet been investigated.

The aim of the current study is to investigate the links between psychological distress, awareness and quality of life during the COVID-19 pandemic. It was hypothesised that health anxiety moderates the level of psychological behaviour (i.e. an increase in COVID-19 leads to an increase in health anxiety)

2. Methods

A purposive cross-sectional study utilising Google form was conducted between 25 May 2020 and 26 July 2020. The online survey was distributed via the most popular social media platforms in Bangladesh, such as Facebook, Instagram and WhatsApp. The inclusion criteria were as follows: (i) being a Bangladeshi resident; and (ii) having no history of descriptive analysis (frequencies, percentages, means and standard deviation), and Chi-square tests and reliability tests were performed using SPSS software. The Chi-Square test of independence was used to determine if there was a significant association between two nominal

| Variables                      | Total (n = 465) | Males (n = 330) | Females (n = 135) | Chi-Square Value | P-Value |
|-------------------------------|----------------|----------------|-------------------|------------------|---------|
| Age of Respondents in years (mean ± SD) | 28.42 ± 7.07 | 29.53 ± 7.09 | 25.73 ± 6.28 | 0.000 |
| Marital Status [n (%)]        |                |                |                   |                  |         |
| Married                       | 170 (36.6)     | 134 (40.6)     | 36 (26.7)         | 8.026            | 0.005   |
| Unmarried                     | 295 (63.4)     | 196 (59.4)     | 99 (73.3)         |                  |         |
| Monthly Family Income Status [n (%)] |            |                |                   |                  |         |
| Low-income family             |                |                |                   |                  |         |
| (Below 30,000 tk)             | 151 (32.5)     | 108 (32.7)     | 43 (31.9)         | 0.954            | 0.386   |
| Middle-income family          |                |                |                   |                  |         |
| (30,000–60,000 tk)            | 205 (44.1)     | 144 (43.6)     | 61 (45.2)         |                  |         |
| High-income family            |                |                |                   |                  |         |
| (Above 60,000 tk)             | 109 (23.4)     | 78 (23.6)      | 31 (23.0)         |                  |         |
| Educational Qualification [n (%)] |            |                |                   |                  |         |
| Below Bachelor                | 64 (13.8)      | 29 (8.8)       | 35 (25.9)         | 35.45            | 0.000   |
| Bachelor                      | 167 (35.9)     | 110 (33.3)     | 57 (42.2)         |                  |         |
| Masters or PhD                | 234 (50.3)     | 191 (57.9)     | 43 (31.9)         |                  |         |

Table 1: Association between gender and sociodemographic characteristics of participants.

(categorical) variables [35]. An unpaired t-test (an independent t-test) was used to determine whether there was a statistically significant difference in the IES scores between categorical variables and gender. Generalized linear model (GLM) multivariate analysis was employed to assess the difference in dependent variables and independent variables, including age groups. A P-value <0.05 was considered to be statistically significant.

3. Results

3.1. Sociodemographic characteristics

Table 1 shows the sociodemographic characteristics of respondents. In total, 465 respondents participated in the study, the majority of whom were male (n = 330, 70.97%). The overall mean age of respondents was 28.42 ± 7.07 years, but mean age varied between males (29.53 ± 7.09) and females (25.73 ± 6.28). More than half (63.4%) of respondents were unmarried. In terms of monthly family income, 44.1% of respondents belong to middle-income family group (30,000–60,000 Bangladeshi taka). Additionally, half of the respondents (50.3%) had a masters or PhD qualification.

3.2. Impact of Event Scale (IES)

The total mean IES score of respondents was 80.9 ± 8.9, which reflects the impact of mild stress among respondents (Table 2). There was no statistically significant difference in mean IES scores between gender (male vs female: 81.1 vs 80.4, respectively) (P = 0.235). Overall, only 27.0% of respondents had an IES score >75. There was no statistically significant association between the percentages of respondents with an IES >75 and gender (male vs female: 27.0% vs 29.6%, respectively) (P = 0.561). Several other sociodemographic variables (i.e. age group, educational qualification and marital status) were not statistically associated with IES score or the percentage of respondents with an IES >75. Additionally, none of these variables statistically significantly predicted the IES score in the multiple regression analysis (Table 3).
### Table 2
Impact of Event scale (IES) and psychological distress impacts by sociodemographic factors.

| Variables                      | Gender (n = 465) | P-value* | Age Group (Years) (n = 465) | P-value* | Educational Qualification (n = 465) | P-value* | Marital Status (n = 465) | P-value* |
|--------------------------------|------------------|----------|-----------------------------|----------|-------------------------------------|----------|--------------------------|----------|
|                                | Male (n = 234)   | Female (n = 231) | Below (n = 212) | Above (n = 253) | Below Bachelor (n = 167) | Bachelor (n = 64) | Masters or PhD (n = 214) | Married (n = 170) | Unmarried (n = 295) |
| IES                           | 81.1 ± 9.0       | 80.4 ± 8.7 | 81.3 ± 8.3                 | 0.189    | 81.5 ± 7.8                         | 7.8       | 80.5 ± 9.5               | 0.256    |
| IES >75                       | 89 (27.0)        | 80 (29.6) | 65 (22.8)                  | 0.061    | 19 (29.7)                          | 0.825    | 42 (24.7)                | 0.267    |

**Depression**

| Feel sad, dirty or unwell [n [%]] | Yes (24.1) | Neutral (15.8) | No (60.0) |
|----------------------------------|------------|----------------|----------|
|                                  | 66 (33.1)  | 30 (15.2)      | 116 (58.7)|
|                                  | 60 (30.7)  | 45 (22.8)      | 148 (73.4)|
|                                  | 0.167      | 0.178          | 0.198    |

**Anxiety**

| Feel really tense [n [%]] | Yes (15.2) | Neutral (17.6) | No (77.0) |
|----------------------------|------------|----------------|----------|
|                            | 30 (13.4)  | 32 (15.1)      | 150 (69.6)|
|                            | 34 (14.5)  | 43 (17.0)      | 176 (69.6)|
|                            | 0.050      | 0.179          | 0.796    |

**Somatisation Problem**

| Feel weak [n [%]] | Yes (51.8) | Neutral (23.7) | No (29.1) |
|-------------------|------------|----------------|----------|
|                   | 101 (43.6) | 50 (21.3)      | 61 (28.8)|
|                   | 133 (56.4) | 45 (28.7)      | 75 (31.2)|
|                   | 0.289      | 0.130          | 0.347    |

*P-values indicate statistical significance.*
3.3. Several indicators of psychological distress impacts

During the COVID-19 pandemic, in terms of depression levels, just over half of the respondents (56.8%) reported that they did not feel sad, dirty or unwell during daily life activity (Table 2). Additionally, 46.01% of respondents reported that they did not feel ‘no interest to do work’. More than half of the respondents (57.8%) reported that they did not feel lonely and hopeless. Also, 43.9% of respondents reported that they did not feel that their life was valueless because of the COVID-19 pandemic.

However, when looking at anxiety levels, most of the respondents (70.1%) did not feel really tense during daily life activities. A little over half of the respondents (56.8%) reported that they did not feel sad, dirty or unwell during daily life activity. Additionally, 46.01% of respondents reported that they did not feel ‘no interest to do work’. More than half of the respondents (57.8%) reported that they did not feel lonely and hopeless. Also, 43.9% of respondents reported that they did not feel that their life was valueless because of the COVID-19 pandemic.

Table 2 (continued)

| Variables | Gender (n = 465) | P-value* | Age Group (Years) | P-value* | Educational Qualification (n = 465) | P-value* | Marital Status (n = 465) | P-value* |
|-----------|-----------------|----------|-------------------|----------|------------------------------------|----------|--------------------------|----------|
|           | Male (n = 234)  | Female (n = 231) | Below (n = 122) | Above (n = 123) | Below (n = 167) | Bachelor (n = 41) | Masters or PhD (n = 23) | Married (n = 170) | Unmarried (n = 295) |
|           | 58 (17.6) | 31 (23.0) | 52 (24.5) | 0.003 | 89 (42.0) | 141 (55.7) | 28 (43.8) | 75 (44.9) | 127 (54.3) | 0.345 | 97 (57.1) | 133 (45.1) | 0.040 |
| Feel dullness and exhausting [n (%)] | Yes 180 (54.5) | 50 (37.0) | 36 (25.0) | 0.003 | 89 (42.0) | 141 (55.7) | 28 (43.8) | 75 (44.9) | 127 (54.3) | 0.345 | 97 (57.1) | 133 (45.1) | 0.040 |
| 3.3. Several indicators of psychological distress impacts

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However, when looking at anxiety levels, most of the respondents (70.1%) did not feel really tense during daily life activities. A little over half of the respondents (54.8%) were not seriously nervous about the COVID-9 pandemic. Also, the majority of the respondents (65.4%) mentioned that they did not experience much more panic in daily life.
Due to the COVID-19 pandemic, in the somatisation levels, just 50.3% felt weak, but 64.1% of respondents reported that they felt numbness and emotionlessness due to the pandemic. Just under half of respondents (49.5%) felt dullness and exhaustive due to the COVID-19 pandemic. Just under half of respondents (57.0%) ‘feel(valueless because of the COVID-19 pandemic’ (P = 0.000), ‘feeling spells of panic because of the COVID-19 pandemic’ (P = 0.000), ‘feeling dullness and exhaustive because of the COVID-19 pandemic’ and ‘feeling dishonesty and exhaustive because of the COVID-19 pandemic’. On the other hand, sociodemographic variables such as gender, age group and education qualification were not associated with the indicators of psychological distress impacts.

### 3.4. Impact on awareness and lifestyles

During the COVID-19 pandemic, the majority of the respondents (80.2%) reported that they did not wash their hands frequently with soap and sanitiser for at least 20 s to reduce spread of virus. The majority of respondents (92.5%) mentioned that they did not stay home or self-quarantine to prevent the spread of COVID-19. An important preventative measure for the COVID-19 pandemic is maintaining social distance; however, 85.8% of respondents did not maintain social distance of at least 3 m from other people to reduce transmission. There was a statistically significant association between different age groups and other variables including ‘frequent washing hand to maintain social distance because of the COVID-19 pandemic’ (P = 0.012), ‘frequent sanitisations to prevent the spread of COVID-19’ (P = 0.000), ‘quarantine because of the COVID-19 pandemic’ (P = 0.000), ‘maintenance of at least 3 m from other people to reduce transmission’ (P = 0.000), ‘wearing face mask while going outside because of the COVID-19 pandemic’ (P = 0.000), ‘physical distance of more than 3 m because of the COVID-19 pandemic’ (P = 0.000), ‘staying home and quarantine because of the COVID-19 pandemic’ (P = 0.000), ‘physical distance of more than 3 m because of the COVID-19 pandemic’ (P = 0.000) and ‘frequent face mask while going outside because of the COVID-19 pandemic’ (P = 0.000) [see Table 4].

### Table 5

| Variables                              | Gender (n = 465) | Age Group (Years) (n = 465) | Educational Qualification (n = 465) | Marital Status (n = 465) |
|----------------------------------------|-----------------|-----------------------------|------------------------------------|--------------------------|
|                                       | Male (n = 330)  | Female (n = 135)            | Below (n = 25) Below (n = 212)     | Below Bachelor (n = 167)  |
| Educational barrier [n (%)]            |                 |                             |                                    |                          |
| Yes                                    | 188 (50.3)      | 76 (56.3)                   | 119 (56.1)                         | 33 (51.6)                |
| Neutral                                | 56 (17.0)       | 29 (21.5)                   | 38 (17.9)                          | 10 (15.6)                |
| No                                     | 86 (26.7)       | 30 (22.2)                   | 55 (25.9)                          | 21 (32.8)                |
| Income and consumption obstacles [n (%)]| 229 (69.4)   | 85 (63.0)                   | 153 (72.2)                         | 42 (65.6)                |
| Yes                                    | 44 (13.3)       | 31 (23.0)                   | 37 (17.5)                          | 15 (23.4)                |
| Neutral                                | 73 (24.5)       | 19 (14.1)                   | 22 (10.4)                          | 7 (10.9)                 |
| No                                     | 70 (24.2)       | 20 (14.8)                   | 38 (17.9)                          | 14 (21.9)                |
| Healthy lifestyle changes [n (%)]      | 194 (58.8)     | 74 (54.8)                   | 117 (55.2)                         | 31 (48.4)                |
| Yes                                    | 164 (49.7)      | 66 (48.9)                   | 94 (44.3)                          | 24 (37.5)                |
| Neutral                                | 92 (27.9)       | 49 (36.3)                   | 80 (37.7)                          | 26 (40.6)                |
| No                                     | 74 (22.4)       | 19 (14.8)                   | 38 (17.9)                          | 14 (21.9)                |
| Lost job opportunities [n (%)]         |                 |                             |                                    |                          |
| Yes                                    | 164 (49.7)      | 66 (48.9)                   | 94 (44.3)                          | 24 (37.5)                |
| Neutral                                | 92 (27.9)       | 49 (36.3)                   | 80 (37.7)                          | 26 (40.6)                |
| No                                     | 74 (22.4)       | 19 (14.8)                   | 38 (17.9)                          | 14 (21.9)                |
| Fulfilment of basic rights [n (%)]     |                 |                             |                                    |                          |
| Yes                                    | 175 (50.3)      | 68 (50.4)                   | 110 (51.9)                         | 30 (46.9)                |
| Neutral                                | 85 (25.8)       | 46 (34.1)                   | 67 (31.6)                          | 23 (35.9)                |
| No                                     | 70 (21.2)       | 21 (15.6)                   | 35 (16.5)                          | 11 (17.2)                |
| Child maternal health problems [n (%)]|                 |                             |                                    |                          |
| Yes                                    | 148 (44.8)      | 66 (48.9)                   | 81 (38.0)                          | 30 (46.9)                |
| Neutral                                | 75 (22.7)       | 36 (27.6)                   | 64 (30.2)                          | 17 (26.6)                |
| No                                     | 107 (32.4)      | 33 (24.4)                   | 67 (31.6)                          | 17 (26.6)                |

* Chi-square test or Chi-square test for trend was used for variables except for IES score.

During the COVID-19 pandemic, more than half of respondents (56.8%) claimed that they faced serious problems in education (Table 5). The majority of respondents (67.5%) reported some obstacles faced in income and consumption in daily life. The most serious issue was respondents losing their jobs (49.5%) as a result of the COVID-19 pandemic. In total, 52.3% of respondents reported that basic needs were not being fulfilled. Child health related problems (46.01%) frequently occurred during the COVID-19 pandemic.
4. Discussion

To gain a greater understanding about the impact of the COVID-19 pandemic, this study investigated the immediate effects on human health and quality of life of people in Bangladesh [31]. Since the COVID-19 pandemic is not yet over and it has spread worldwide, additional panic and anxiety has been reported throughout the globe [8, 13,36–38]. The Bangladesh government locked down the entire country to control COVID-19 and, at the same time, declared a complete shutdown of major religious ceremonies and activities throughout the country. All schools, colleges and universities in the country were declared closed indefinitely to deal with the pandemic. People were not allowed to go to religious places of worship and all religious observances were instructed to be performed at home [39]. The aim of this study was to investigate the links between psychological distress, awareness and quality of life during the COVID-19 pandemic. In particular, a possible unfavourable effect of health anxiety, as well as favourable effects on psychological distress and a significant relation with mental health problems of the COVID-19 pandemic were examined in this study.

Result revealed that, due to the COVID-19, about half of participants experienced severe anxiety associated with the pandemic, which is in line with results from previous studies on anxiety in pandemics or epidemics [17,18]. In the COVID-19 outbreak, Wang et al. found that in a local Chinese population, around 30% detailed anxiety side effects in a normalised self-report measure with no solid reference to the pandemic and 75% were worried that relatives may get infected with SARS-CoV-2 [9,10]. Our study results fit well into these findings, as we posed a more broad question about anxiety related to SARS-CoV-2. The current study identified the IES score from the entire questionnaire, so that the analysis could determine if a participant was suffering from mental and physical problems as a result of COVID-19. Possible reasons for concern and anxiety about COVID-19 are that the virus is new, there is currently no treatment or cure, no vaccine has yet been discovered and the pandemic has increased mental and physical illness in the population. The study results are very similar to the findings of Zhand and Ma who looked at the effects of the COVID-19 pandemic on mental and physical health problems in China [12].

A few limitations to this study should be mentioned. Data were collected through Google questionnaire, which resulted in mostly educated people participating in this research. In addition, the sample size is small and the convenience sampling method used limited the participation of people from elsewhere in Bangladesh.

5. Conclusions

The COVID-19 pandemic has been shown to have a mild impact on psychological and physical stress. However, because the COVID-19 pandemic is still ongoing, the current study is not sufficient to reach a conclusion. Further investigations should take place with larger population groups. The current study has revealed the positive and negative mental health effects of COVID-19 on certain people in a particular area of Bangladesh. This study has provided important evidence on the effects of COVID-19 on various aspects of human mental and physical health problems. This study has been able to show the positive and negative effects of human psychological and physical stress during this pandemic.

Ethical approval

The survey was conducted according to the ethical guidelines. Additional formal ethical issues, as well as formal ethics permission, were reviewed and approved by the ‘Group of Bio-photomati’, Tanguil-1902, Bangladesh. All respondents were informed about the purpose of the study and their verbal and formal consent was obtained prior to participation. Participants were informed that all their information would be kept anonymous and confidential, and they were provided with information about the nature and purpose of the study, the procedure and the right to withdraw their data.

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Author contributions

Conceptualisation: A.G. Khan, K Ahmed; Data curation, Formal analysis, Investigation: S.K. Mondal, M.M. Ali, A.G. Khan, K.M. Ahamed; Methodology: A.G. Khan, K Ahmed; Funding acquisition, A.G. Khan, K Ahmed; Project administration: A.G. Khan; Resources, Software: S.K. Mondal; Supervision, Validation: A.G. Khan, K Ahmed; Visualisation, Writing - original draft: S.K. Mondal, A.G. Khan, K.M. Ahamed; Writing - review editing: A.G. Khan, K Ahmed. The final version of the manuscript has been read and approved by all authors.

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.

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