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Knowledge, Attitude and Practices towards COVID-19 Guidelines among Students in Bangladesh

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Abstract

This paper explores the level of knowledge, attitude and practices of COVID-19 guidelines among the students in Bangladesh. In achieving this objective, this paper uses primary data collected from 1822 students wherein three different Likert scales and a one-way ANOVA test are used to assess knowledge, attitudes, and practice (KAP) scores as well as mean differences with respect to different variables. This research reveals that the majority of students have a higher level of knowledge and a positive attitude towards the COVID-19 guidelines. Contrarily, only 0.22 percent of students show strong compliance towards COVID-19 guidelines while the majority of students (60.54 percent) have rather poor adherence which is an alarming finding. Hence, reopening the educational institutions in Bangladesh amid this second wave of the pandemic is not advisable yet. Nevertheless, reinforcing the preventive measures through campaigns or online discussion to persuade people to follow the preventive guidelines while vaccinating students urgently are highly recommended to contain this global disease in an attempt to reopen the on-campus education system shortly.

Keywords: COVID-19, Knowledge, Attitude, Practice, Bangladesh

1. Introduction

The recent outbreak of respiratory illness caused by a novel (new) coronavirus named (SARS-CoV-2) that was first detected in Wuhan City, Hubei Province, China in December 2019 has kept ravaging the world by spreading to at least 213 countries attributing 38.5 million deaths and 178.1 million confirmed cases (worldometer, 17 June 2021). As a consequence, the World Health Organization (WHO) declared it a global pandemic on 12 March 2020 due to its high infectious rate with tremendous transmission dynamics (Gumbrecht and Howard, 2020). SARS-CoV-2 is the third coronavirus to emerge in the human population in the past two decades, following the outbreaks of SARS-CoV in 2002 and MERS-CoV in 2012.

Since COVID-19 is an emerging and rapidly evolving situation, even after multiple trials to prove the efficacy of potential drugs that can cure the disease, promising progress seems still far-off (Maragakis, 2020). Hence, following COVID-19 basic infection prevention guidelines as per WHO protocols are the cornerstones of reducing the transmission and they are- practicing social-distance (at least 6 feet away from others), maintaining hand hygiene (frequent hand washing with soap-water or alcohol-based sanitizer), use of facemasks in public settings., sneezing on elbows and quarantining of the exposed individuals to COVID-19 (CDC, 2020).
Ever since the first case was recorded in Bangladesh on March 8, 2020, the exponential rise of case number and death rates have made Bangladesh one of the worst-hit countries in the world. Up to 17 June, 2021, global COVID-19 cases crossed 178 million (worldometer, 2021), wherein Bangladesh reported 0.83 million infected cases and 13,282 deaths (Coronatracker Bangladesh, 2021).

In light of flattening the coronavirus curve, a major number of schools, colleges and universities all over the world have suspended or canceled all their face-to-face campus activities and rapidly transitioned to online learning instead. With no exception, the government of Bangladesh has also announced to close all the educational institutions on 16 March 2020 and extended the closure till 30 June 2021 (The Daily Star, 14 June 2021). Meanwhile, Bangladesh has adapted distance learning and many institutions are conducting online classes and tests according to their logistics support and choices. This new norm, however, is creating difficulties for both the students and teachers. On one hand, a great number of students aren’t equipped with adequate devices or a strong broadband network and so, they have to depend on unstable mobile data which is costly as well. On the other hand, many of the teachers lack the required technical skills to conduct online classes. Furthermore, both the teachers and students are yet to be at ease in interacting through screens rather than the traditional face-to-face communication (Tariq and Fami, 2020)

Regarding the public exams, the education ministry has already canceled the Higher Secondary Certificate (HSC) and its equivalent examinations, which were scheduled to start from 01 April 2020 (TBS, 7 October 2020). Primary school certificate and junior school certificate exams were canceled earlier too due to the Coronavirus situation (Bangla News, 11 August 2020). Most importantly, the pandemic-induced academia closure has significantly affected the public universities of Bangladesh taking them back in the loops of session-jams which they were fighting against to reverse in the pre-pandemic period. Most undergraduate students have already lost an academic calendar year, yet there is no sight of reopening the universities in foreseeable future (Anwar et al., 2020)

After three months of apparent strict containment, the offices, garment factories, courts, shopping malls, public transports all have reopened gradually to move the wheel of the economy. Only the educational institutes have remained closed, with no specific decisions taking into account yet. This, in consequence, raised uncertainty among a group of students compelling them to protest against the government’s decision on extending the closure of the universities in different sites of social media whereas the other group is content with the pace of online classes and support the decision (Shovon, 2020). Unfortunately, Bangladesh experienced the second wave of Coronavirus which peaked in the second week of April with over 3,500 new cases in a day (Xinhuanet, 2021). This led to a full-fledged nationwide lockdown starting from April 5 extending twice till May 16 compelling the closure of the educational institutions till the Muslim religious Eid holidays (Baibhawi, 2021)
It is a well-known fact that to address a public health issue, such as the COVID-19 global crisis, people’s knowledge and awareness play a crucial role as adherence to the preventive measures depend on the level of the understanding about the disease and grave consequences are followed by if the preventive controls are not taken properly (Kumar and Pinky, 2020). Again, students of secondary education (grade 6-10), higher secondary and university going students constitute a set of the population whose lives have witnessed a major change throughout this pandemic leaving their academic calendars in disarray. Not only these, many students, especially female students are getting married at their very early ages, and they are suffering from social violence, economic hardship, mental health crisis, and so on (Kumar et al. 2021).

Figure 1: Daily New Cases in Bangladesh

![Daily New Cases in Bangladesh](source: Worldometer)
Knowledge, attitude and practice (KAP) surveys are an important tool that represents the collective information on what’s already known, perceived and implemented by a certain group of population. Hence, assessing the knowledge, perspectives and practice toward COVID-19 guidelines among students are vital since their perception and practice will have a significant impact on the spread of a pandemic once the educational institutions are open. Similarly, student’s deeper insight into the existing knowledge, responsive attitude, and healthy precautionary practice towards the guidelines may curb the infection rate of coronavirus breaking the important chain of transmission in the community (Elmer et al., 2020).

Although Ferdous et al (2020) and Haque et al (2020) have carried out research on assessing the knowledge, awareness, and practice towards the COVID-19, they have considered all classes of people of Bangladesh in the study. Thus far, no study has been carried out on assessing the knowledge, awareness, and practice towards the COVID-19 guidelines taking students of Bangladesh as the target population. Hence, this study is pivotal as it will denote the adherence to the given protocols by the WHO and as a result, will determine the risks of reopening the educational institutes in near future. On that account, the results of this study will have significant implications for policymakers and further project planners as well.
2. Materials and Methods

2.1 Study Design and Sample Selection

This is a cross-sectional study conducted among the students of Secondary (grade 6 to 10), Higher-Secondary (grade 11 to 12), and Tertiary (Undergraduate and Master’s) level in Bangladesh. This paper did not consider primary (grade 1 to 5) level students as they are unable to make decisions on their own and generally don’t use the Internet for responding to this survey questionnaire. Amid this pandemic, collecting data from the field through face to face interview was impossible due to social distancing measures, restricted movement, and lockdowns. Hence, data were collected online using Google Forms via a self-reported questionnaire, and following snowball sampling, the link of the questionnaire was sent to the students of different institutions who filled up and forwarded it to others. Moreover, it was also shared in social media platforms, namely Facebook, LinkedIn, Twitter, WhatsApp, Messenger, and so on so that the sample size becomes larger as the larger the sample size, the higher the external validity and the greater the generalizability of the study (Cavana et al., 2001). From the latest statistics, it is found that Bangladesh has about 18405709 students from secondary to tertiary level (BANBEIS, 2018). To achieve the study objectives and sufficient statistical power, the representative sample size was calculated with a sample size calculator (RAOSOFT, 2020) and using a margin of error of ±4 percent, a confidence level of 99 percent, a 50 percent response distribution, and 18405709 students, the sample size calculator reached at 1,037 respondents.

Based on the guidelines for the community of COVID-19 by the World Health Organization (WHO), the questionnaire was developed. The online survey was conducted from 10 October 2020 to 16 November 2020, and finally, 1822 data were collected. After collection, data were edited, sorted, and coded for analysis.

2.2 Measurement of Students’ Knowledge, Attitude and Practices of COVID-19 Guidelines

Respondents were asked ten statements regarding knowledge of COVID-19 guidelines to respond as either true or false or don’t know option. Among ten statements, five statements were given correct and the rest five statements were given wrong. Regarding correct statements, false and don’t know responses were measured with a score of 0 while true answers with 1. On the other hand, true and don’t know responses were measured with a score of 0 and false answers with 1 in the case of wrong statements. The total score for knowledge ranged from 0 to 10. With scores 0 to 5 indicates a lower level of knowledge of COVID-19 guidelines while scores 6 to 7 and 8 to 10 indicate moderate and higher level of knowledge, respectively. Internal reliability of items was evaluated using Cronbach’s \( \alpha \). Here, Cronbach’s alpha coefficient was 0.66, implying internal reliability.
The scores of attitudes were calculated based on the respondents’ answers to each attitudinal statement, 1 = undecided, 2 = disagreed, and 3 = agreed. Scores were calculated by averaging respondents’ answers to the six statements. Total scores ranged from 6 to 18 with scores 6 to 9 denoting lower or negative attitudes while 10 to 14 and 15 to 18 signifying moderate and higher or positive attitudes, respectively. The internal reliability of items were assessed by Cronbach’s α. Herein, Cronbach’s alpha coefficient was 0.64, marking internal reliability.

Regarding practices of COVID-19 guidelines, respondents were asked to respond “always = 3” or “frequently = 2” or “sometimes = 1” or “never = 0” to the items. The total score ranged from 0 to 36 with scores 0 to 18 indicating a lower level of practices, scores 19 to 27, and 28 to 36 stating a moderate and higher level of practices, respectively. For internal reliability, the Likert scales were assessed using Cronbach’s α. Cronbach’s alpha coefficient was 0.80, reflecting internal reliability.

2.3 Empirical Methods

This study primarily employed descriptive statistics to tabulate the frequency distribution of socio-demographic and institutional features of the students. Each item of students’ knowledge, attitude, and practices is measured through Relative Importance Index (RII) method following (Somiah et al., 2015; Badu, et al., 2013, and Aziz et al., 2016). The formula for calculating Relative Importance Index is as follows:

\[
RII = \frac{\sum P_n}{QN}
\]

where P is the rating given to each item by the respondents, n is number of response in each likert, N is the total number of respondents, and Q is the highest point of the likert scale.

One-way Analysis of Variance (ANOVA) was used to assess differences in mean values for knowledge, attitudes, and practice (KAP) scores with respect to different factors. The overall mean differences were estimated using a Bartlett test as the scores were continuous (Wetzel et al., 2012 and O’Brien, 1979). All analyses were conducted using SPSS 24 software.

3. Results and Discussion

3.1 Social and Demographic Features of the Students

The social and demographic features of the students are analyzed by frequency distribution and the estimated findings are presented in the following table.
Table 1: Social and Demographic Features of the Students

| Variables                  | Indicators               | Frequency | Percentage |
|----------------------------|--------------------------|-----------|------------|
| **Age**                    | 15 years and below       | 84        | 04.61      |
|                            | 16 to 20 years           | 483       | 26.51      |
|                            | 21 to 25 years           | 983       | 53.95      |
|                            | 26 to 30 years           | 207       | 11.36      |
|                            | 31 years and above       | 65        | 03.57      |
| **Sex**                    | Male                     | 969       | 53.20      |
|                            | Female                   | 804       | 44.10      |
|                            | Preferred not to say     | 49        | 02.70      |
| **Level of study**         | Secondary                | 135       | 07.40      |
|                            | Higher Secondary         | 289       | 15.90      |
|                            | Undergraduate            | 1088      | 59.70      |
|                            | Masters                  | 310       | 17.00      |
| **Areas of living**        | Rural                    | 505       | 27.70      |
|                            | Sub-urban                | 375       | 20.60      |
|                            | Urban                    | 942       | 51.70      |
| **Duration of using Internet per day** | Don’t use regularly | 34        | 01.90      |
|                            | Less than 1 hour         | 141       | 07.07      |
|                            | 1 to 2 hours             | 303       | 16.60      |
|                            | 2 to 3 hours             | 365       | 20.00      |
|                            | More than 3 hours        | 979       | 53.70      |
| **Duration of watching TV/reading Newspaper per day** | Don’t watch/read regularly | 293 | 16.10 |
|                            | Less than 1 hour         | 642       | 35.20      |
|                            | 1 to 2 hours             | 466       | 25.60      |
|                            | 2 to 3 hours             | 237       | 13.00      |
|                            | More than 3 hours        | 184       | 10.10      |
| **Total family income per month** | Less than Tk.10000 | 313       | 17.20      |
|                            | Tk.10001 to Tk.20000     | 488       | 26.80      |
|                            | Tk.20001 to Tk.30000     | 511       | 28.02      |
|                            | More than Tk.30001       | 510       | 27.98      |
| **Education of guardian**  | Sign only                | 146       | 08.00      |
|                            | Primary                  | 163       | 08.90      |
|                            | Secondary                | 290       | 15.90      |
|                            | Higher Secondary         | 384       | 21.10      |
|                            | Graduation               | 466       | 25.60      |
|                            | Post-graduation          | 373       | 20.50      |

Source: Online survey, 2020

Table 1 shows that the majority of the participants (53.95 percent) were aged of 21 to 25 years and the lowest percent of students (3.57 percent) was ‘31 years and above’ group. It is also found that the majority of the students (53.20 percent) were male while 44.10 percent were female. Besides, this paper finds that the majority of the participants studied in undergraduate level and lived in urban areas. It is found that majority of the students used the Internet more than 3 hours a day and watched TV or read Newspaper less than 1 hour a day. Table 1 also reveals that the total family income per
month of the majority students (28.02 percent) was between Tk.20001 and Tk.30000 while the level of education of guardian of majority students (25.60 percent) was graduation.

3.2 Students’ Responses to Statements regarding Knowledge of COVID-19 Guidelines

Students’ knowledge towards COVID-19 guidelines is measured by their responses to the given 10 statements using relative importance index, and the estimated findings are presented in Table 2.

Table 2: Students’ Responses to Statements regarding Knowledge of COVID-19 Guidelines

| No. | Statements                                                                 | T  | F  | DK | RII | Rank |
|-----|----------------------------------------------------------------------------|----|----|----|-----|------|
| i.  | Wearing a mask is mandatory for the public                                | 1625 | 161 | 36 | 0.89 | 1    |
| ii. | Pregnant women, elderly people, and adults with chronic disease should take extra precautions against coronavirus | 1604 | 117 | 101 | 0.88 | 2    |
| iii. | Avoiding visits to crowded places can be a way to prevent high rates of droplet transmission | 1587 | 148 | 87  | 0.87 | 3    |
| iv. | After being in a public place, after nose-blowing, coughing or sneezing, people must wash their hands with soap and water, or use hand sanitizer containing at least 60 percent alcohol, for at least 20 seconds | 1506 | 164 | 152 | 0.83 | 4    |
| v.  | Self-isolation is important if someone develops any flu-like symptoms      | 1473 | 249 | 100 | 0.81 | 5    |
| vi. | Only mouth is the routes of entry of the Coronavirus                      | 518  | 1158 | 146 | 0.64 | 6    |
| vii. | It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 | 551  | 1128 | 143 | 0.62 | 7    |
| vii. | Washing hands for 10 seconds with soap-water is enough to kill the virus  | 559  | 1129 | 134 | 0.62 | 8    |
| ix. | Wearing a surgical mask can fully protect someone from getting coronavirus | 612  | 993  | 217 | 0.55 | 9    |
| x.  | Maintaining 2 feet distance among one another is enough to prevent droplet transmission | 848  | 888  | 86  | 0.49 | 10   |

Note: T = True, F = False, and DK = Don’t Know

Source: Online survey, 2020

Among given ten statements, students had knowledge of COVID-19 guidelines mostly on ‘wearing a mask is mandatory for the public’ which is indicated by maximum value of RII (0.89) and rank 1. Similarly, students rated ‘pregnant women, elderly people, and adults with chronic disease should take extra precautions against coronavirus’ as the second ranked of knowledge regarding COVID-19.
guidelines. On the other hand, students had the lowest level of knowledge on ‘maintaining 2 feet distance among one another is enough to prevent droplet transmission’ which is depicted by the lowest value of RII (0.49) and rank 10.

### 3.3 Students’ Responses to Attitudinal Statements towards COVID-19 Guidelines

Students’ attitude towards COVID-19 guidelines is measured by their responses to the given 6 statements using relative importance index, and the estimated findings are presented in Table 3.

Table 3: Students’ Responses to Attitudinal Statements regarding COVID-19 Guidelines

| No. | Statements                                                                 | A   | D   | U   | RII  | Rank |
|-----|-----------------------------------------------------------------------------|-----|-----|-----|------|------|
| i.  | Isolation and self-quarantining for 14 days is important to safeguard others | 1619| 142 | 61  | 0.95 | 1    |
| ii. | Social distancing is necessary to maintain everywhere                       | 1574| 178 | 70  | 0.94 | 2    |
| iii.| Wearing a mask is effective as a preventive measure                          | 1417| 329 | 76  | 0.91 | 3    |
| iv. | Keeping educational institutions closed can prevent COVID-19 explosion      | 1263| 437 | 122 | 0.88 | 4    |
| v.  | Bangladesh may experience a second wave in winter                            | 1352| 224 | 246 | 0.87 | 5    |
| vi. | Bangladesh is in a good position in controlling the coronavirus             | 522 | 1123| 177 | 0.73 | 6    |

Note: A = Agreed, D = Disagreed, and U = Undecided

Source: Online survey, 2020

Among given six statements, students had the highest (positive) attitude towards COVID-19 guidelines on ‘isolation and self-quarantining for 14 days is important to safeguard others’ which is indicated by maximum value of RII (0.95) and rank 1. Similarly, students rated ‘social distancing is necessary to maintain everywhere’ as the second ranked of attitude regarding COVID-19 guidelines. On the other hand, students had the lowest level of attitude on ‘Bangladesh is in a good position in controlling the coronavirus’ which is depicted by the lowest value of RII (0.73) and rank 6.

### 3.4 Students’ Responses to Statements regarding Practice of COVID-19 Guidelines

Students’ practices towards COVID-19 guidelines are measured by their responses to the given 12 statements using relative importance index, and the estimated findings are presented in Table 4.
Table 4: Students’ Responses to Statements regarding Practice of COVID-19 Guidelines

| No. | Statements                                                                 | A    | F    | S    | N    | RII  | Rank |
|-----|----------------------------------------------------------------------------|------|------|------|------|------|------|
| i.  | I wash fruits and vegetables well before eating                           | 1277 | 319  | 188  | 38   | 0.85 | 1    |
| ii. | I wear a mask when leaving home                                           | 1169 | 442  | 178  | 33   | 0.84 | 2    |
| iii.| I wash your hands with soap and water/rubbing alcohol for at least 20 seconds | 992  | 486  | 281  | 63   | 0.77 | 3    |
| iv. | I avoid some cultural behaviors like shaking hands                         | 927  | 440  | 336  | 119  | 0.73 | 4    |
| v.  | I keep updates and follow the COVID-19 guidelines                          | 786  | 629  | 344  | 63   | 0.72 | 5    |
| vi. | I maintain a physical distance of 3 feet while being out                  | 524  | 577  | 512  | 209  | 0.59 | 6    |
| vii.| I go out of home amid COVID-19 pandemic                                   | 360  | 705  | 643  | 114  | 0.57 | 7    |
| viii.| I interact with people nowadays                                          | 326  | 659  | 547  | 290  | 0.52 | 8    |
| ix. | I use public transport for commuting                                      | 444  | 535  | 399  | 444  | 0.51 | 9    |
| x.  | I touch the surface of the mask when taking it off                        | 416  | 462  | 462  | 482  | 0.48 | 10   |
| xi. | I visit any crowded place nowadays                                       | 289  | 537  | 570  | 426  | 0.46 | 11   |
| xii.| I visit restaurants/cafes meanwhile                                      | 142  | 452  | 587  | 641  | 0.35 | 12   |

Note: A = Always, F = Frequently, S = Sometimes, and N = Never

Source: Online survey, 2020

Students had the highest level of practices towards COVID-19 guidelines on ‘I wash fruits and vegetables well before eating’ among twelve statements, which is indicated by maximum value of RII (0.85) and rank 1. Similarly, students rated ‘I wear a mask when leaving home’ as the second ranked of practices regarding COVID-19 guidelines. On the other hand, students had the lowest level of practices on ‘I visit restaurants/cafes meanwhile’ which is depicted by the lowest value of RII (0.35) and rank 12.

3.5 Level of Students’ Knowledge, Attitude and Practice regarding COVID-19 Guidelines

The level of students’ knowledge, attitude, and practice regarding COVID-19 guidelines is presented in the following figure.
Figure 3 shows that most of the students (49.78 percent) had the higher level of knowledge regarding COVID-19 guidelines while 26.67 percent had a moderate and 23.55 percent had lower level of knowledge. In the case of attitudes towards COVID-19 guidelines, majority of the students (64.27 percent) had the higher level (positive and optimistic) of attitude. Not like the preceding findings, rather an alarming finding is found in the case of students’ practices towards COVID-19 guidelines. That is only 0.22 percent students practiced COVID-19 guidelines highly. Contrarily, maximum students (60.54 percent) maintained the lower level of practices of COVID-19 guidelines.

3.6 Comparison of Social and Demographic Features, and Mean KAP Score

Mean knowledge, attitude and practices towards COVID-19 guidelines with respect to different features of the students are analyzed through one-way ANOVA test, and the estimated findings are presented in the following table.

| Variables | Indicators       | Knowledge | Attitude | Practice |
|-----------|------------------|-----------|----------|----------|
|           |                  | Mean | F   | Mean | F   | Mean | F |
| Age       | 15 years and below | 6.96 | 14.38 | 22.74 |
|           | 16 to 20 years   | 7.07 | 15.25 | 23.39 |
|           | 21 to 25 years   | 7.43 | 14.76 | 3.88* | 23.03 | 5.96* |
|           | 26 to 30 years   | 6.70 | 15.05 | 21.34 |
|           | 31 years and above | 6.20 | 15.08 | 20.74 |
Table 5 reveals that the mean knowledge towards COVID-19 guidelines of the students aged between 21 and 25 years was more than other categories of age, which is indicated by the maximum mean score, 7.43, and this mean difference is statistically significant at 1 percent level of significance. Similarly, students who are male, read in Masters level, live in rural areas, use Internet more than 3 hours a day, and have family income more than Tk. 30001 per month had the highest mean of knowledge towards COVID-19 guidelines than other categories of those variables. Mean difference of students’ knowledge towards COVID-19 guidelines among different categories of each variable are found statistically significant. The findings of age and areas of living are in line with and the findings of sex, year of study and family income are not in line with Ferdous et al (2020).
Regarding students’ attitude towards COVID-19 guidelines, it is found that students of aged 16 to 20 years had the maximum mean of attitude than other categories, which is indicated by the maximum mean score, 15.25, and this mean difference is statistically significant at 1 percent level of significance. Similarly, students who are female, read in higher secondary level, live in rural areas, use Internet more than 3 hours a day, and have family income more than Tk. 30001 per month had the highest mean of attitude towards COVID-19 guidelines, and the mean difference for all variables were statistically significant. The findings of age, sex, year of study and family income are in line with Ferdous et al (2020).

Students of aged 16 to 20 years had the maximum mean of practices of COVID-19 guidelines among different categories of age, which is indicated by the maximum mean score, 23.39, and this mean difference is statistically significant at 1 percent level of significance. Similarly, students who are female, read in higher masters, live in rural areas, use Internet more than 3 hours a day, and have family income less than Tk. 10000 per month had the highest mean of practices towards COVID-19 guidelines, and the mean difference for all variables were statistically significant. The findings of age, sex, year of study, family income and areas of living are in line with Ferdous et al (2020).

4. Conclusion and Policy Recommendations

This paper principally sheds lights on two distinct research questions: (i) what is the level of students’ knowledge, attitude, and practices of COVID-19 guidelines in Bangladesh? and (ii) What factors do trigger the level of students’ knowledge, attitude, and practices of COVID-19 guidelines? This paper used primary data and several methods to investigate these research questions, and revealed some significant findings.

Firstly, this research ascertains that the majority of students (49.78 percent) had the higher level of knowledge of COVID-19 guidelines while 26.67 percent and 23.55 percent of students had a moderate and lower level of knowledge, respectively. Regarding attitude, a majority of students (64.27 percent) held a very positive perspective towards the COVID-19 guidelines, followed by another (30.57 percent) who shows moderate optimism towards it. Surprisingly yet, only 0.22 percent students had the higher level of practices of COVID-19 guidelines whereas the majority of students (60.54 percent) mentioned the lower level of practices. Secondly, this paper also reveals that the higher the students’ study year, Internet use, family income, and education of household head, the higher the extent of students’ knowledge, attitude, and practices of COVID-19 guidelines.

Based on the findings, it is recommended to keep the educational institutions closed in Bangladesh since almost no students practice the COVID-19 guidelines highly, if the institutions reopen amid the
second wave of this pandemic, these schools, colleges and universities might become reservoirs of virus in the upcoming days. This paper also suggests the government to vaccinate students and teachers urgently and take proper initiatives to reopen institutions to start academic activities. Otherwise, the loss of nearly one and half academic year of mass students might come across as a grave damage to the whole nation. Since the time and budget of this paper were constraints, this paper could not take a larger sample size or employ more relevant empirical methods. Thus, the findings of this paper may not represent the actual scenario of Bangladesh, therefore, a further in-depth study on this issue are suggested to carry out excluding these constraints.

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Author Contributions

BK conceived and designed the study. Both BK and SDP made the questionnaire in English and translated into Bengali and set in Google Forms. While SDP wrote introduction, BK wrote methodology and analyzed data, and AMN wrote results and discussions. Finally, BK reviewed and edited the whole paper and all authors approved it.

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Data Availability

All data analyzed during this study are available online as a supplementary file.

Conflict of Interest

Authors state that they have no competing interests.
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