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Methods: The binary logistic regression model was performed to assess the impact of COVID-19 concern in Bangladesh. Based on data obtained through online surveys in November 2020 and to predict the next 40 days daily confirmed and deaths of COVID-19 in Bangladesh by applying the Autoregressive Integrated Moving Average (ARIMA) model.

Results: The study enrolled 400 respondents, with 253 (63.2%) were male, and 147 (36.8%) were female. The mean age of respondents was 25.13 ± 5.74 years old. Almost 70% of them were found to be concerned about the COVID-19 pandemic. The result showed that respondents’ education level, knowledge regarding COVID-19 transmission, households with aged people, seasonal flu and HD/respiratory problems, and materials used while sneezing/coughing significantly influenced COVID-19 concerns. The analysis predicted that confirmed cases would gradually decrease for the ARIMA model while death cases will be constant for the next 40 days in Bangladesh.

Conclusion: The current study suggested that knowledge about COVID-19 spread and education played a vital role in the decline of COVID-19 concern. A particular program should focus on creating an awareness of the disadvantages of concerns about the COVID-19 pandemic by augmenting knowledge about COVID-19 spread, enhancing education in Bangladesh.

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People’s Concerns With the Prediction of COVID-19 in Bangladesh

Methods

Study Setting

This study is a cross-sectional study and based on both primary data and secondary data. In terms of primary data, data was conducted through an online-based questionnaire survey collected from November 15, 2020, to November 25, 2020. A semi-structured questionnaire was developed in google form to gather relevant information regarding COVID-19. The questionnaire was designed to three sections: consent section, socio-demographic question, and question on the relevant information regarding COVID-19 in the last section. In addition to secondary data, The COVID-19 data from IEDCR was used as secondary data to predict the future scenario of the COVID-19 pandemic. They provided daily data consisting of bar graphs representing confirmed cases, deaths, active cases, and recovered cases. From these data, we included only the confirmed and death cases in our study.

Study Population

After developing the questionnaire, the respondents were adults who use Facebook and understood questions in English. We sent the link through Facebook Messenger only to fill out the form. Therefore, adults who use Facebook and understood questions in English were the study population in this current analysis.

Exclusion and Inclusion Criteria

Respondents under the age of 18 and who did not have any Facebook account were excluded from the survey rather, only respondents aged 18 or older who had a Facebook account were considered for this study.

Participants and Sampling

The data is based on a convenient sampling technique to draw a sample of respondents in this analysis. Based on convenient sampling, a total of 400 respondents aged 18 years or more were considered and answered voluntarily, and the desired information from them was carefully assembled. Therefore, the total sample in this study was 400 adults who were used Facebook in this analysis.

Dependent Variable

People’s concern about COVID-19 was assessed as the current dependent variable in this analysis. Here we recode, 1 = Concerned about COVID-19 and 0 = Not concerned about COVID-19.

Independent Variables

In this current research, the employed independent variables were educational status, knowledge about COVID-19 spreading mechanism and symptoms, the infected local/adjacent area, the occurrence of seasonal flu among family members, cleaning hand regularly, having family member over 50 years old, heart disease/respiratory problem in the family, regular outgoing, being free from germs, using masks, covering face while sneezing, and proper knowledge about how vitamin C boosts immunity.

Statistical Methods

Simple descriptive analysis and multivariate statistical analyses were performed in this analysis. Descriptive statistics were used for frequency, and percent of age distributions were analyzed for all variables.

Binary logistic regression was used to assess the effect of an independent variable on concerns about COVID-19 in Bangladesh.

Let \( Y \) denote the binary dependent variable for the \( i^{th} \) observation.

Where, \( X_i = \begin{cases} 1, & \text{if the Respondent is concerned about COVID-19} \\ 0, & \text{if the Respondent is not concerned about COVID-19} \end{cases} \)

\( X_{i1}, \ldots, X_{ip} \) is a set of explanatory variables, which can be quantitative or indicator variables referring to the level of categorical variables.

Since \( Y \) is a binary variable, it has a Bernoulli distribution.
with parameter $\pi_i$. The dependence of the probability of success on independent variables was assumed to be respectively as:

$$P(Y_i=1) = \pi_i = \frac{\exp(\beta_0 + \beta_1 X_{i1} + \ldots + \beta_p X_{ip})}{1 + \exp(\beta_0 + \beta_1 X_{i1} + \ldots + \beta_p X_{ip})}$$

The above relation also can be expressed as:

$$g(X) = \logit(\pi_i) = \log\frac{\pi_i}{1-\pi_i} = \beta_0 + \beta_1 X_{i1} + \ldots + \beta_p X_{ip}$$

The likelihood was maximized by finding estimates of the most likely parameters to give us the data. The maximum likelihood estimator of $\beta_0$ and $\beta_1$ can be obtained by maximizing:

$$L(\beta_0, \beta_1) = \prod_{i=1}^{n} \frac{\exp(Y_i \beta_0 + \beta_1 X_{i1} + \ldots + \beta_p X_{ip})}{1 + \exp(\beta_0 + \beta_1 X_{i1} + \ldots + \beta_p X_{ip})}$$

For future prediction, a well-known statistical forecasting model named Autoregressive Integrated Moving Average (ARIMA) model was used, developed by Box.

The SPSS version 25 software (IBM, Corporation, Armonk, NY, USA) was applied for data processing. The R Project for Statistical Computing version 3.6.0 (R Core Team-2019) was used to perform the statistical analyses.

**Results**

Among 400 respondents, 253 were male, and 147 were female in the study. The mean age of the respondents was 25.13 years, and the standard deviation was 5.74 years. In the present study, Cronbach's alpha was 0.713. In the following sections, the results were shown by analyzing the data of these 400 respondents.

**Percentage Distribution of Various Factors**

Table 1 illustrates the frequency distribution of socio-demographic factors and health-related general knowledge among Bangladeshi residents. Table 1 shows that the proportion of variables was higher among the respondents who had higher secondary and above education (95%), who knew that the novel coronavirus is transmitted by sneezing and coughing (47.5%) and who could recognize the symptoms of COVID-19 (95%). Moreover, as per Table 1, the respondents whose family members were not infected with seasonal flu (84%), who washed their hands regularly (98.8%), who had no heart disease patients, and elderly members (>50 years old) in their family had a higher proportion of variables. Based on information delivered by the respondents, almost 60% (59.8%) of families refrained from going outside, and 94.8% of participants sanitized themselves after coming from outside. Accordingly, the respondents stick to the practice of using some materials when they feel coughing or sneezing. To be specific, the majority of the respondents (81%) used tissues or handkerchiefs, alongside 16% who covered their mouth with their hand while coughing or sneezing. The table also revealed that more than 80% of the respondents believed that vitamin C helps prevent the novel coronavirus. Also, over 73% (73.8%) were concerned about COVID-19, while 26.3% were not concerned at all.

**Percentage Distribution of Multiple Responses**

The frequency distribution of respondents and government actions/steps taken for COVID-19 was exhibited in Table 2. Only the two steps taken by the government were not to

| Variables                                           | Number | Percent |
|-----------------------------------------------------|--------|---------|
| Educational status                                  |        |         |
| Secondary education                                 | 20     | 5.0     |
| Higher secondary and above                          | 380    | 95.0    |
| Knowledge of COVID-19 spread                        |        |         |
| Touching infected people/object                     | 100    | 25      |
| Sneezing/coughing from infected people              | 190    | 47.5    |
| Droplets from infected people                       | 56     | 14      |
| Others                                              | 54     | 13.5    |
| Knowledge about Symptoms                            |        |         |
| Yes                                                 | 380    | 95      |
| No                                                  | 20     | 5       |
| Infected local/adjacent area                        |        |         |
| Yes                                                 | 210    | 52.5    |
| No                                                  | 102    | 25.5    |
| Do not know                                         | 88     | 22.5    |
| Seasonal flu in family                              |        |         |
| Yes                                                 | 64     | 16.0    |
| No                                                  | 336    | 84.0    |
| Clean hand regularly                                |        |         |
| Yes                                                 | 395    | 98.8    |
| No                                                  | 5      | 1.3     |
| 50+ aged people in the family                       |        |         |
| Yes                                                 | 305    | 76.3    |
| No                                                  | 95     | 23.8    |
| HD/Respiratory problem in the family                |        |         |
| Yes                                                 | 156    | 39      |
| No                                                  | 244    | 61      |
| Regular outgoing                                    |        |         |
| Yes                                                 | 161    | 40.3    |
| No                                                  | 219    | 59.8    |
| Free from germs                                     |        |         |
| Yes                                                 | 379    | 94.8    |
| No                                                  | 21     | 5.3     |
| Use materials when feel cough, sneezing            |        |         |
| The face should be covered with tissue/handkerchief | 324    | 81.0    |
| The face should be covered with hands               | 64     | 16.0    |
| Others                                              | 12     | 3.0     |
| Vitamin C is helpful for COVID-19                   |        |         |
| Yes                                                 | 329    | 82.3    |
| No                                                  | 71     | 17.8    |
| Concerned about COVID-19                             |        |         |
| Yes                                                 | 295    | 73.8    |
| No                                                  | 105    | 26.3    |
move out of the house without any urgent need (68.8 %) and to use masks and gloves when needed (57 %) and, these were recorded by more than 50% of the respondents in the sense of preserving social distance (37.2 %). Avoiding mass transits and public meetings were also mentioned by some respondents, along with restricting traffic in religious places. Besides, it was revealed by a large number of respondents that they took fruits (92.7%), vegetables (28.3%), Ceevit/another Vitamin C tablet (19%), and other things (3.1%) as a source of vitamin C. More than half of the respondents mentioned that they embraced regular cleaning and spraying disinfectants around the home (55%) as family safety actions. Maintaining social distances (57.2%) was taken as personal safety. The respondents’ additional family safety actions were preventing members from going out without any need (45.2%) and keeping in mind that everyone is washing hands regularly (39.8%). Moreover, it was also shown from Table 2 and respondents possessed outstanding knowledge of COVID-19 symptoms and, according to them, the symptoms were acute fever (91.1%), seasonal flu/common cold/dried cough (86.6%) and, respiratory problems (57.1%).

Collinearity Diagnostic of Background Variables

Table 3 showed whether or not the independent variables corresponded. Whenever two or more independent variables were correlated in the regression model, multicollinearity occurs, this can be identified using the tolerance and its reciprocal called the variance inflation factor (VIF). Multicollinearity can be used to show how much the variance of the coefficient estimate is inflated by the VIF. Usually, typical suggestions for a cutoff point are 5 or 10, as there was no conventional cutoff value or method that prescribes multicollinearity when a VIF was too large. The VIF value of each variable in this study was below 2.

In this instance of tolerance, to determine multicollinearity, no formal cutoff value could be used with tolerance. Manifested by Myers, tolerance value under 0.1 expresses serious collinearity complications, whereas Menard suggested a tolerance value not more than 0.2 exhibits a potential collinearity problem. Based on experiments, tolerance, which is 0.1 or less, is a cause of concern. All the variables of the current study with tolerance values were larger than 0.1.

From the above review, this was remarked that multicollinearity was not present in this study.

Multivariate Analysis of COVID-19 Concernedness

The result of the binary logistic regression to show the effect of COVID-19 concernedness on the background variables is shown in Table 4. The Respondent’s educational status was one of the determining factors for COVID-19 concerned. As...

| Table 2. Distribution of Respondent and Government Actions/Steps Taken for COVID-19 in Bangladesh |
|-------------------------------------------------------------|
| **Variables**                                                | **Number** | **Percent** |
|-------------------------------------------------------------|
| The government took steps                                    |            |            |
| Do not move out of the room without an urgent need           | 275        | 68.8       |
| Use masks and gloves when needed                            | 228        | 57.0       |
| Avoid mass transit and public meetings                      | 45         | 11.2       |
| Maintain social distances                                   | 149        | 37.2       |
| 14-day compulsory home quarantine for people with sneezing cough and non-compliance | 29 | 7.2         |
| Restricting traffic in religious places of worship          | 45         | 11.2       |
| Others                                                      | 158        | 39.5       |
| Foods taken by the respondents                              |            |            |
| Fruits (lemon, orange, grape, grapefruit, tomato, taco fruit) | 269        | 92.7       |
| Vegetables (raw pepper, red pepper, papaya)                  | 82         | 28.3       |
| Ceevit/another Vitamin C tablet                             | 55         | 19.0       |
| Others                                                      | 9          | 3.1        |
| Family actions are taken for COVID-19                        |            |            |
| Making everyone aware of the spreading of the virus          | 55         | 13.8       |
| Keeping in mind that everyone is washing hands regularly    | 159        | 39.8       |
| Preventing members from going out without any need           | 181        | 45.2       |
| Regular cleaning and spraying disinfectants around the home  | 220        | 55.0       |
| Others                                                      | 122        | 30.5       |
| The respondent took several steps                           |            |            |
| Creating social distancing                                  | 229        | 57.2       |
| Washing hands frequently                                    | 193        | 48.2       |
| Self-cleaning and also cleaning the surroundings             | 117        | 29.2       |
| Not to touch the nose, face, and eyes with hands             | 46         | 11.5       |
| Not to move out of the room without any need                 | 122        | 30.5       |
| Wearing masks and gloves when leaving the room               | 122        | 30.5       |
| Others                                                      | 150        | 37.5       |
| Knowledge of COVID-19 symptoms                              |            |            |
| Acute fever                                                 | 346        | 91.1       |
| Seasonal flu/common cold/dried cough                        | 329        | 86.6       |
| Respiratory problems                                        | 217        | 57.1       |
| Pneumonia/pneumonia like symptoms                           | 13         | 3.4        |
| Disability                                                  | 2          | 0.5        |
| Sore throat                                                 | 189        | 49.7       |
| Others                                                      | 142        | 37.4       |

| Table 3. Collinearity diagnostics among the independent variables |
|---------------------------------------------------------------|
| **Associated Factors**                                         | **Collinearity Statistics** |
|                                                               | **Tolerance** | **VIF** |
| Educational status                                           | 0.933         | 1.072   |
| Knowledge of COVID-19 spread                                  | 0.924         | 1.082   |
| Knowledge about symptoms                                     | 0.906         | 1.104   |
| Infected local/adjacent area                                 | 0.955         | 1.048   |
| Seasonal flu in family                                       | 0.962         | 1.039   |
| Clean hand regularly                                         | 0.946         | 1.057   |
| 50+ aged people in the family                                | 0.838         | 1.194   |
| HD/Respiratory problem in family                             | 0.885         | 1.130   |
| Regular outgoing                                             | 0.962         | 1.039   |
| Free from germs                                              | 0.953         | 1.050   |
| Use materials when feel cough, sneezing                      | 0.965         | 1.036   |
| Vitamin C is helpful for COVID-19                            | 0.953         | 1.049   |
the table showed, in this COVID-19 pandemic, 72% (odds ratio [OR] = 0.28, CI: 0.09-0.83, P value = 0.02) of those with higher secondary and higher education levels were less likely to be concerned than those with secondary education levels.

There was also a notable association between COVID-19 and participants who knew how COVID-19 spread (P value <0.05). Of all participants, those who knew that COVID-19 spreads through sneezing/coughing were 58% OR = 0.42, CI: 0.23-0.76, P value =0.004) less likely to be concerned than who knew that it spreads only by touching infected people/object. Droplets from infected people, with 60% (OR = 0.40, CI: 0.17-0.92, P value = 0.03), were less likely to be concerned than those who knew it spreads only by touching infected people/objects.

Moreover, the present study showed that those unaware of whether there were infected persons in their area/adjacent were 2.4 times (OR =2.41, CI: 1.32-4.41, P value = 0.004) more concerned than the others. Seasonal influenza in family members also showed significant effects in terms of concern about COVID-19. Surprisingly, our study found that respondents without seasonal influenza in the family were 2.27 times (OR =2.27, CI: 1.09-5.14, P value = 0.04) more likely to be concerned than those who had seasonal influenza. Another impressive finding of our study was that families with elder members over 50 years of age were more concerned compared to their counterparts. Families who did not have heart disease or respiratory problems were 2.12 times (OR =2.12, CI: 1.23-3.73, P value = 0.008) more concerned than those who had these types of health problems.

There was statistical significance with the associated factors of using some materials when coughing, sneezing, and concerned respondents about COVID-19. Respondents who did not use tissues and hands when sneezing or coughing were 3.94 times (OR = 3.94, CI: 1.06-14.51, P value = 0.03) more concerned about COVID-19  than those who used tissues and hands when sneezing or coughing in a public place.

**Prediction Analysis of COVID-19**

Applied confirmed and death data series to fit two ARIMA

### Table 4. Binary Logistic Regression for Analysis of People’s Concern on COVID-19 and Socio-demographic Factors in Bangladesh

| Associated Factors | OR  | 95 % CI   | P Value |
|--------------------|-----|-----------|---------|
| Educational status |     |           |         |
| Secondary education (ref.) | 1   |           |         |
| Higher secondary and above | 0.28* | 0.09-0.83 | 0.02   |
| Knowledge of COVID-19 spread | | | |
| Touching infected people/object (ref.) | 1   |           |         |
| Sneezing/coughing from infected people | 0.42* | 0.23-0.76 | 0.004  |
| Droplets from infected people | 0.40* | 0.17-0.92 | 0.03   |
| Others | 0.38* | 0.16-0.84 | 0.02   |
| Knowledge about symptoms | | | |
| Yes (ref.) | 1   |           |         |
| No | 0.38 | 0.07-1.40 | 0.1    |
| Infected local/adjacent area | | | |
| Yes (ref.) | 1   |           |         |
| No | 1.62 | 0.89-2.96 | 0.11   |
| Do not know | 2.41* | 1.32-4.41 | 0.004  |
| Seasonal flu in family | | | |
| Yes (ref.) | 1   |           |         |
| No | 0.37 | 0.01-7.76 | 0.60   |
| 50+ aged people in the family | | | |
| Yes (ref.) | 1   |           |         |
| No | 0.40* | 0.20-0.76 | 0.006  |
| HD/Respiratory problem in family | | | |
| Yes (ref.) | 1   |           |         |
| No | 2.12* | 1.23-3.73 | 0.008  |
| Regular outgoing | | | |
| Yes (ref.) | 1   |           |         |
| No | 1.24 | 0.76-2.05 | 0.39   |
| Free from germs | | | |
| Yes (ref.) | 1   |           |         |
| No | 1.18 | 0.33-3.60 | 0.78   |
| Use materials when feel cough, sneezing | | | |
| The face should be covered with tissue/ handkerchief (ref.) | 1   |           |         |
| The face should be covered with hands | 1.45 | 0.74-2.77 | 0.26   |
| Others | 3.94* | 1.06-14.51 | 0.03   |
| Vitamin C is helpful for COVID-19 | | | |
| Yes (ref.) | 1   |           |         |
| No | 1.40 | 0.76-2.54 | 0.27   |

Note: significant at **P<0.01 and *P<0.05, ref. = Reference Category.

### Table 5. Different ARIMA Model for a Confirmed Case

| Model       | AIC      | BIC      |
|-------------|----------|----------|
| ARIMA (2,1,2) | 3516.52  | 3534.08  |
| ARIMA (0,1,0) | 3537.02  | 3540.88  |
| ARIMA (1,1,2) | 3514.02  | 3528.07  |
| ARIMA (1,1,4) | 3500.86  | 3521.93  |
| ARIMA (1,1,5) | 3502.78  | 3527.37  |
| ARIMA (2,1,3) | 3513.50  | 3534.58  |
| ARIMA (2,1,5) | 3501.00  | 3529.12  |

* Best ARIMA model

### Table 6. Different ARIMA Model for Death Cases

| Model       | AIC      | BIC      |
|-------------|----------|----------|
| ARIMA (2,1,2) | 1644.40  | 1661.97  |
| ARIMA (0,1,0) | 1757.75  | 1759.26  |
| ARIMA (1,1,0) | 1677.49  | 1684.52  |
| ARIMA (0,1,1) | 1640.53  | 1647.56  |
| ARIMA (1,1,1) | 1641.39  | 1651.94  |
| ARIMA (0,1,2) | 1641.45  | 1651.99  |
| ARIMA (1,1,2) | 1642.52  | 1656.57  |

* Best ARIMA model.
models to predict the next 40 days for both confirmed and death cases in Bangladesh. Tables 5 and 6 showed the results of the different ARIMA models for the (time series) confirmed and death cases of COVID-19, respectively. The best model was selected based on the principle of Bayesian information criterion (BIC) and Akaike's information criterion (AIC). It was observed that ARIMA (1,1,4) and ARIMA (0,1,1) were in good agreement for the current values of confirmed cases and deaths, respectively.

The ACF correlogram of the residuals (Figure 1) from the ARIMA (1,1,4) model showed that all autocorrelations, except for lags 7 and 14, were within bounds and had no seasonality effect on occurrence. Figure 2 showed that the predicted confirmed cases were gradually decreasing, which was good news for the people of Bangladesh. Figure 3 showed the ACF correlogram of the residuals from the ARIMA (0,1,1) model and demonstrated that except lag 14, all autocorrelations were within the band level. Figure 4 predicted the future death cases from the perspective of Bangladesh, and soon we are going to get a constant death case.

**Graphical Illustration of COVID-19**
The IEDCR published district-by-district data on the total number of confirmed cases and deaths per day. The geographic map in Figure 5 was created using this accurate data. We created this spatial map using December 13, 2020 (for confirmed cases) and December 6, 2020 (for deaths).

Concerning the confirmed cases, we have divided the whole country into three zones, successively orange, green, and blue. The orange zones denoted the areas with a higher level of infection and were therefore called “risk zone”. The map illustrated that Dhaka and Chattogram districts had comparatively higher infection rates (>10000) and were assigned to an orange zone. Green zones had relatively fewer COVID-19 cases (5001-10000) than the orange zones. It is also evident from the map that in green zones, Bogura and Sylhet districts had more COVID-19 infection cases than other districts, indicating that necessary measures should be taken in these zones to prevent the increasing infection rate. The blue zones had slightly fewer confirmed cases.

Figure 5 also showed that most of the COVID-19 deaths occurred in Dhaka Division in terms of deaths. In addition, Figure 6 showed a representation of those affected by the key factors regarding COVID-19 from Bangladesh’s perspective. Education, knowledge about the spread of the virus, hand washing, staying at home, the elderly population, and people with heart diseases were considered important factors in this figure. These factors should be given special consideration in future decisions regarding COVID-19.

**Discussion**
As mentioned earlier, our study aimed to explore the current profile of COVID-19 concerns and predication of COVID-19 among the inhabitants of Bangladesh and give directions to the policymakers about what initiatives should be adopted.

There was a negative association between respondent education and COVID-19 concerns. As per this research, the level of education was a key factor influencing COVID-19 concern, and this particular result was comparable to the
study carried out in India\textsuperscript{29} and Ethiopia.\textsuperscript{30} According to them, educational level is a known factor that influences disease awareness. The higher the level of education, the stronger the knowledge about diseases, and vice versa. The present analysis showed that higher secondary or above Education of Respondent had fewer concerns about the COVID-19 pandemic. Some other separate prior studies support this finding.\textsuperscript{29,31}

Sneezing/coughing or droplets was significantly associated with COVID-19 concerns and spread. In Bangladesh, participants who were aware that COVID-19 spreads by sneezing/coughing or droplets were less concerned about the virus, although this was not coherent with the results of some other studies.\textsuperscript{32,33} Because in a populous country like Bangladesh, most people were poor and going outside the home for their livelihood. For that, people in Bangladesh have engaged in various work, gathering together for earning money in the cluster place. So that is one of the reasons why it was not consistent with previous research.

It was established from the study that respondents were more concerned about the virus in those areas where COVID-19 more occurred. In our analysis, those who were not conscious about whether there were infected people or not in their areas were more than two folds concerned than other individuals. An interesting finding of our analysis showed that those families having members infected with seasonal flu were less likely to be concerned than others. Besides, families with elderly persons over 50 years of age were more concerned, whereas having heart disease/respiratory problems in family members was less concerned about the virus. Also, from this study, individuals who did not go outside were comparatively more worried than others. Few studies demonstrated a direct interaction between going outside and the spreading of the virus responsible for COVID-19.\textsuperscript{34} Our study also indicated that 81% of respondents covered their faces when sneezing/coughing with tissue/handkerchief/hands materials. There was in line with a survey conducted in Ethiopia.\textsuperscript{29} Moreover, people who covered their face with tissue/handkerchief/hand during sneezing/coughing to block droplets in a public place were less concerned than others, and this evidence coincides with other separate previous studies.\textsuperscript{33,35,36}

If we notice carefully, the COVID-19 cases in Bangladesh seemed to be decreasing day by day. The prediction methods of the ARIMA model suggested the same findings and clearly showed that the number of daily cases in Bangladesh could decrease, and in case of death, it will be constant. However, another study conducted in Bangladesh\textsuperscript{37} found a somewhat contrary to our result. We described the results of the Residual plot from the ARIMA model, which showed non-seasonality impact on occurrence and prevalence, a similar conclusion reached by another researcher.\textsuperscript{38}

This study showed a few limitations. Firstly, due to the insufficiency of funds, samples could not be collected to represent the whole of Bangladesh. Secondly, due to the sampling frame or list of the target population is not known, we had to consider a convenient sampling technique to draw a sample of respondents in this analysis. Thirdly, it was not feasible to discuss a comparatively great number of points. Fourthly, the cross-sectional nature of the study did not
permit us to exhibit the relationship. Despite having such limitations, the study's objective was to analyze the behavior in massive COVID-19 outbreaks. Hence to throw some light to guide the responsible ones about how to manage pandemic, where necessary initiatives should be taken as well as where it is required to be

**Conclusion**

In summary, we conclude that educational status, knowledge about COVID-19 spread, infected local/adjacent area, seasonal flu in the family, 50 or more aged people in the family, HD/Respiratory problem in the family, use materials when feeling cough, sneezing were the most significant findings. In terms of the ARIMA predictive model, we revealed that confirmed cases gradually decreased in Bangladesh while death cases will be constant in Bangladesh. The World Health Organization (WHO) recommended wearing a mask, washing hands by handwash/hand sanitizer/soap for 20 minutes, and maintaining a social distance by lockdown was a way to prevent coronavirus and directly related to people's attitudes and their concern. In conformity with the study, it was evident that the COVID-19 situation in Bangladesh was very delicate. The Respondent's educational status was one of the determining factors for reduce COVID-19 concerns. Therefore, the awareness of respondents should be uplifted immediately. For this reason, to get rid of this predicament, the government should take different steps to reduce the COVID-19 spread. Concern by ensuring people awareness, knowledge, and unconcerned of this pandemic again execute the law for people to remove all types of gathering, mandatory

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**Figure 5.** COVID-19 Situation in Bangladesh (Data source: IEDCR, 2020).

**Figure 6.** An Illustration of Concerned People With the Key Factors to COVID-19 From the Perspective of Bangladesh.
wearing mask outside the home, and create a campaign about social distance about this pandemic.

**Authors’ Contributions**

MIH and AASS had the original idea for this study. MRH and SK helped in data collection and data entry. IH, MIH, and AASS analyzed the statistical analysis. MAZ and MIH helped to write the manuscript. MIHM, MIHN, and AT helped in reviewing and editing. All authors read and approved the final manuscript.

**Conflict of Interest Disclosures**

The author declares no conflict of interest.

**Ethical Approval**

This study did not require ethics committee authorization.

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