



# Awareness and social attitude towards COVID-19 in Bangladeshi population

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**Background:** Assessing individuals' knowledge and attitudes towards the Coronavirus Disease of 2019 (COVID-19) is essential for the related public health surveillance strategies. Although some of the studies were conducted in Bangladesh, none of these studies considered the social attitudes along with the awareness towards COVID-19. Because social attitudes may affect the mental health of COVID-19 patients. Therefore, the present cross-sectional study aims to assess the knowledge and social mindset toward COVID-19.

**Methods:** A cross-sectional study was conducted via an online questionnaire, from 330 participants. Participants were purposefully selected who were Bangladeshi citizens age minimum 18 years of old, has internet connections and gave their consent to participate this survey. The measures included in this study were demographic data along with source of knowledge, measures taking for COVID-19 prevention, management, avoid affected person and places etc. All the data collected through survey were analyzed by SPSS-25.0. Mean, median, mode, percentages and 95% Confidence Interval with 5% margin of errors were calculated

**Results:** Study indicating a high level of knowledge (95.5%) to COVID-19. Practically, Maximum respondents will avoid COVID-19 affected persons due to fear of infection 84% (95% CI: 80.0% to 87.1%) and fear of death 27.7% (22.9% to 32.5%) respectively. Another valuable point that about 71.8% (66.1–76.7%) of them have the knowledge of the COVID-19 spreading process and around 56.4% (51.0–61.8%) of them know how to maintain necessary protection without avoiding COVID-19 affected person. This knowledge and attitude reflecting the belief that COVID-19 is controllable and containable.

**Conclusions:** The finding suggests that health education interventions, public awareness-raising campaign should be directed by Government of Bangladesh (GoB) who may have knowledge gap or pessimism about COVID-19 infections and spread.

**Keywords:** COVID-19; awareness; social attitudes; Bangladesh; spread

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## Introduction

Coronavirus disease 2019 (COVID-19) is defined as an illness caused by a novel coronavirus, now renamed as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (1). COVID-19 has been emerged in Wuhan, China in the end of 2019 (2). Since then, it has been spread to 200 countries and has been declared pandemic by the World Health Organization (WHO) (3,4).

The first COVID-19 infected individuals (03) has been detected on 8 March, 2020 in Bangladesh (5). To the date of 19th September, 1,542,683 positive cases recorded in Bangladesh designated as fourth phase of infection (5,6). The total number of deaths has been crossed 3.9 thousand (6). However, the Government of Bangladesh (GoB) has declared a general leave as the art of stringent measure from 26 March, 2020 to 04 April, 2020 and later extended several times in response of infection rate (7). The success or failure of controlling any outbreak is not only depending upon above mentioned measures but also requires general public knowledge and according activities. Previous experiences also showed that public awareness is important in tackling pandemics (8,9). By assessing public awareness about the pandemic such as COVID-19 deeper insights of public perception and according practices can be worthy, thereby helping to take initiatives by the government and policy makers in in adopting healthy practices, responsive behavior, educated them (10). Along with people awareness, social attitude is one of the important behaviors to control the transmission of from COVID-19. Several works have been done to measure knowledge, attitude and practices towards COVID-19 in Bangladesh (11-13).

This first work on this has been published in April, 2020 by Haque *et al.* All the studies demonstrated the knowledge is rising. However, their studies have not clearly resulted social attitude regarding COVID-19. Some of the studies did not represent the whole population of Bangladesh thus our aim of this study on measuring the awareness on COVID-19 and respective social attitude towards COVID-19 by Bangladeshi population. We present the following article in accordance with the STROBE reporting checklist (available at <https://dx.doi.org/10.21037/jxym-21-27>).

## Methods

### Study design

This was a cross-sectional semi-descriptive online-based

survey using pretested questionnaires. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by ethical review committee of Bangladesh University of Health Sciences (NO. BUHS/ERC/EA/21/33) and informed consent was taken from all the participants.

### Settings

The study was conducted from November, 2020 to March, 2021 using online survey form developed by google form apps. The form then disseminated through different social media such as Facebook, Tweeter, Messenger, Instagram bulk of e-mails to potential respondents. After getting primary response we made some modifications such as restricted age limits and location (Bangladesh only) in social media.

### Participants

Participants was purposefully selected who were Bangladeshi citizens age minimum 18 years of old, has internet connections and gave their consent to participate this survey. There was no restriction except this. The access of the survey questionnaires to the participant were available upon accepting term and conditions. The participants size was calculated using formula  $n = Z^2 pq/d^2$ , where p or percentages of good knowledge holders were 54.87% obtained in previous study (11,14). A minimum number of participants has been calculated as 385. As we know that We consider a number of non-respondent and the final targeted number were 400. However, a total of 331 data have been reached where one of them did not accept the terms and condition to participate.

### Variables, data sources and measurement

The variables include demographic data along with source of knowledge, type of knowledge etc. Knowledge has been calculated by measuring some other variables like measures taking for COVID-19 prevention, measures taking for COVID-19 management, avoid affected person and places, maintaining health measures etc. we also calculated knowledge by gender, age, educational and occupational status and their socio-economic condition. All data were calculated as mean, median, mode, percentages and 95% confidence interval. Standard deviation was used to consider the error.

**Table 1** Sociodemographic characteristics of the respondents

Variable	Number	Percentage	Mean $\pm$ SD/median (IQR)
Age, year			26.2 $\pm$ 7.4
Sex			
Male	163	49.4	
Female	167	50.6	
Educational status			
JSC and SSC	28	8.5	
HSC	103	31.2	
Bachelor	104	31.5	
Masters and above	95	28.8	
Occupational status			
Unemployed	176	53.3	
Unemployed due to COVID-19	32	9.7	
Employed	106	32.1	
Self-employed	16	4.8	
Monthly family income			30,000 (13,000 to 50,000)

JSC, Junior School Certificate; SSC, Secondary School Certificate; HSC, Higher Secondary Certificate; COVID-19, coronavirus disease 2019; SD, standard deviation; IQR, interquartile range.

### **Bias**

As this survey was conducted using internet and online tools, a large population residing in rural area possibly were out of this survey as they have limited access to internet. So that mostly who were well connected to internet took part in this study.

### **Statistical method**

All the data collected through survey were analyzed by SPSS-25.0. Mean, median, mode, percentages and 95% Confidence Interval with 5% margin of errors were calculated. The participants size was calculated using formula  $n = z^2 pq/d^2$  (14).

### **Results**

Among 331, one of them did not accept the terms and condition to participate. The mean age of the 330 respondents was 26.2 $\pm$ 7.4; as well as men (%) and women (%) ratio was almost equal. Among 330 respondents number (62.7%) of the respondents completed their

bachelor and higher secondary level of education, 176 (53.3%) were unemployed, and 32 (9.7%) participants became unemployed due to COVID-19 (Table 1).

Majority 315 (95.5%) of the respondents had knowledge on COVID-19. Where media (92.7%), friends (77.6%), family (73.6%) and relatives (63.0%) were the main source of knowledge. Knowledge on preventive measures of COVID-19 (92.7%) and about COVID-19 diseases (74.5%) were the main types of knowledge reported by the respondents but some of them had superstitions with 44.1% (95% CI: 12.9–21.0%). Almost all of the respondent knew that the COVID 19 spread out (Table 2).

Regarding measures taking for the COVID-19 prevention and management, people were more concerned on hand washing and wearing of mask. Participants (77.3% with 95% CI: 72.8% to 88.8%) also practiced drinking hot water as prevention and management of COVID-19 (Table 3). Almost 50% people were concerned about processing of food where only 10% remains neutral to this issue.

We also assessed the cause of avoiding COVID-19 affected person. Almost two third of the participant (64.5%) avoided COVID-19 affected persons due to the fear of

**Table 2** Knowledge related to the COVID-19 among the Bangladeshi population

Variable	Number	Percentage	Percent of cases	95% CI
Knowledge of COVID-19				
Yes	315	95.5		93.3–97.8
No	15	4.5		2.3–6.8
Source of knowledge*				
Media	306	21.9	92.7	17.4–26.4
Relatives	208	14.9	63	11.0–18.71
Friends	256	18.3	77.6	4.1–22.5
Neighbor	190	13.6	57.6	9.9–17.3
Colleague	193	13.8	58.5	10.0–17.5
Family	243	17.4	73.6	13.3–21.5
Type of knowledge*				
Treatment	157	18.4	47.7	14.2–22.6
Prevention	305	35.8	92.7	30.6–40.1
Diseases	245	28.8	74.5	23.9–33.7
Superstition	145	17	44.1	12.9–21.0
Knowledge on COVID-19 spread				
Yes	329	99.7		99.1–100.3
No	1	0.3		0.0–0.9

\*, multiple responses counted here. COVID-19, coronavirus disease 2019; CI, confidence interval.

COVID-19 infection (84%). However, only 59 (27.7%) participants have fear of death. Among 330 participants, 117 (35.5%) did not avoid the COVID-19 affected person. We also tried to find out the reasons for not avoiding the COVID-19 infected person. Around 71.8% (95% CI: 66.1–76.7%) of them had knowledge on COVID-19 transmission and around 56.4% (95% CI: 51.0–61.8%) knew how to maintain necessary protection from COVID-19. Furthermore, most of them (98.5%) have been agreed for being home isolation if they become affected and maximum of them (93.6%) would like to maintain 14 days' quarantine (Table 4).

## Discussion

COVID-19 is a significant public health threat as an emerging infectious disease. It imposed a global warning to the world, particularly in a densely polluted country like Bangladesh. Apparently, like many other countries, Bangladesh decided to be locked-down to combat

COVID-19 from March 26 (7). Though the Government of Bangladesh (GoB) has declared this general leave but according to study awareness of people in Bangladesh will play an essential role in reducing infection rates and controlling the disease's spread (15).

The first study revealed only knowledge about COVID-19 Bangladeshi population was 54.87% in April, 2020 which was rising over a period of time (11–13). But no concrete data was observed about social attitudes towards COVID-19. As well as the awareness is concerned, social behavior from friends and family towards COVID-19 patients is much more important that may affect the mental health (16). Thus, this study aimed to assess the awareness and social attitudes towards COVID-19 patients in Bangladesh. But due to limited access to internet and other logistic support, it was not possible to bring a large number of people of the country under this study.

Given the social distancing measures, we studied the population's awareness and social behavior through the internet (17). Knowledge is the key to being aware

Table 3 Measures taking for COVID-19 prevention and management

Variables	Hand washing		Wearing mask		Maintain 1 meter distance		Safely food processing		Avoid crowded places		Drink hot water		If, symptom appears any one of the family members, isolate them		Hospital admission	
	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI
Measures taking for COVID-19 prevention																
Strongly agree	293 (88.8)	85.4–92.2	289 (87.6)	84.0–91.2	224 (67.9)	62.9–72.9	187 (56.7)	51.4–62.0	276 (83.6)	79.6–87.6	150 (45.5)	40.1–50.9	-	-	-	-
Agree	34 (10.3)	7.0–13.6	39 (11.8)	8.3–15.3	83 (25.2)	20.5–29.9	105 (31.8)	26.8–36.8	49 (14.8)	10.9–18.7	107 (32.4)	27.4–37.4	-	-	-	-
Strongly disagree	1 (0.3)	0.0–0.9	0	0	1 (0.3)	0.0–0.9	1 (0.3)	0.0–0.9	1 (0.3)	0.0–0.9	4 (1.2)	0.0–2.8	-	-	-	-
Disagree	1 (0.3)	0.0–0.9	1 (0.3)	0.0–0.9	3 (0.9)	0.0–1.9	4 (1.2)	0.0–2.4	1 (0.3)	0.0–0.9	11 (3.3)	1.4–5.2	-	-	-	-
Neutral	1 (0.3)	0.0–0.9	1 (0.3)	0.0–0.9	19 (5.8)	3.3–8.3	33 (10.0)	6.8–13.2	3 (0.9)	0.0–1.9	58 (17.6)	13.5–21.7	-	-	-	-
Measures taking for COVID-19 management % (of cases)	16.8 (74.2)	69.5–78.9	18.3 (80.9)	76.7–85.1	16.1 (71.2)	66.3–76.0	-	-	-	-	17.5 (77.3)	72.8–81.8	21.1 (93.3)	90.6–95.1	10.2 (45.2)	39.8–50.6

COVID-19, coronavirus disease 2019; CI, confidence interval.

of COVID-19. Our findings indicate that most study participants (95.5%) were knowledgeable about COVID-19 (Table 2). This finding is consistent with other studies that have shown satisfactory knowledge levels across the Bangladeshi population (11,12,18).

In our study, answers to knowledge-related questions among participants was not surprising. This may be due to the sample’s characteristics, as 91.5% had a college or university degree, or above and the age mean of respondents is 26.2 (Table 1). So, by their educational background, it is quite confirmed that they have easily understood the question while responding (19). Most of the knowledge gained from media source (92.7%) followed by friends (77.6%) and family (73.6%) to protect themselves (Table 2).

In Table 2, Many of the respondents knew about treatment, prevention and disease. But still, the misconception is residing in 17% population about COVID-19. Only one participant had no knowledge of spread of COVID-19 among 329 participants.

Our study participants had a perception about prevention from coronavirus (COVID-19). On the question about whether respondents are preventing virus, out of the total participants, admit that mask-wearing is crucial for decreasing the infection rate (Table 3). According to the WHO and the CDC, faces mask should only be worn by those who are sick or caring for people suspected of having COVID-19 (20,21). People also have concern about washing hands and avoiding crowded places. But their response to marinating social distance is rarely low. So, these findings highlight that, need to encourage and emphasize maintaining social distance to prevent the spread of the virus.

With the outbreak of the COVID-19 pandemic, people who are infected and suspected with symptoms are labelled, stereotyped, and discriminated against because of a perceived link. Therefore, the rising stigmatization among the diverse community people increases unmeasurable distress (22). Evidence showed that reproach due to coronavirus reduces people seeking medical care or testing, which may affect their mental health.

Fear of COVID-19 infection and fear of death became the prime reasons to avoid COVID-19 infected person (Table 4). But we should bear in mind that that we can combat the infection with the necessary protection. Our help and our positive words will motivate them and as well encourages them to recover the infection.

Another data showed that the maximum number of participants will isolate themselves if they get any infection

**Table 4** Reasons to avoid COVID affected persons and information on isolation as well as quarantine

Variable	Number	Percentage	95% CI
Avoid COVID affected persons			
Yes	213	64.5	59.3–69.7
No	117	35.5	30.3–40.7
If yes, reasons			
Fear of COVID infection			
Yes	179	84	80.0–87.1
No	34	16	12.0–19.1
Fear of death			
Yes	59	27.7	22.9–32.5
No	154	72.3	67.5–77.1
If No, reasons			
Having knowledge on spreading of COVID-19			
Yes	84	71.8	66.1–76.7
No	33	28.2	23.3–33.0
Maintain necessary protection			
Yes	66	56.4	51.0–61.8
No	51	43.6	38.2–48.1
Willing to maintain home isolation			
Yes	325	98.5	97.2–99.9
No	5	1.5	0.2–2.8
Willing to maintain 14 days quarantine			
Yes	309	93.6	90.1–96.3
No	21	6.4	3.8–9.0

COVID-19, coronavirus disease 2019; CI, confidence interval.

and will maintain 14 days quarantine. Their approach was adding a constructive attitude to reduce the rate of infection.

Finally, the study findings may be useful to inform policymakers and healthcare professionals, on further public health interventions, awareness-raising, policies, and health education programs to maintain or increase the knowledge level among Bangladeshi population. Our finding suggests that targeted health education interventions should be directed to make them more alert about social distancing.

Another initiative should be taken by the Government of Bangladesh (GoB) to get back a suitable job to those who became unemployed coronavirus outbreak. Lastly, we have to erase all social discrimination among COVID-19 patients

to get them back in their normal lifestyle.

## Conclusions

Bangladesh is a resource-challenged country where source of knowledge, social attitudes towards COVID-19 patients play a crucial role to control the vicious community transmission of COVID-19. The study found that most of the people had adequate knowledge regarding COVID-19 infection and transmission. There were positive responses among respondents related to the control of the disease in Bangladesh. The majority of the population did not have fear of deaths but most of them had fear on getting COVID-19 infection which is a vital finding of our study.

Surprisingly, the people had fear of infection had adequate knowledge on how COVID-19 spread and how they can prevent this infection by using necessary protective measure.

Bangladesh is a densely polluted country so further studies on lifestyle, food habit, residence of Bangladeshi population and continuous monitoring might add more valuable impact of COVID-19 control and prevention strategies.

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### Footnote

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