

Original Research Article

Knowledge, perceptions and practices of Bangladeshi population regarding the novel coronavirus disease

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ABSTRACT

Background: Novel coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Thorough knowledge about its spread and symptoms, perceptions towards disease and practices to prevent its occurrence are essential. The goal of this study is to assess the knowledge, perceptions and practices of the Bangladeshi residents towards the COVID-19.

Methods: A cross-sectional, web-based, pre-tested questionnaire was designed emphasized on the demographic profile, knowledge and perceptions about cause, transmission, prevention and cure of COVID-19. The questionnaires were distributed to 8 districts of Bangladesh only. The survey consists of close ended questions and took approximately 15 minutes to complete during the period of 20th March to 20th April 2020.

Results: A total of 320 completed the study questionnaire, including (67.5%) men and (32.5%) women, and most of them are age range 31-50 years (80.00%). 87.19% people knew cause of COVID-19 is viral and 48.75% knew it spreads through coughs. 77.81% people correctly knew about symptoms of COVID-19. 70.00% mentioned all the correct preventive methods as wearing face mask, vaccination, avoid mass gatherings and maintaining hand hygiene. In reality, only 40.00% people exclusively practicing hand hygiene.

Conclusions: In general, Bangladeshi population participating in our survey had good knowledge about COVID-19, and a positive attitude towards using protective measures, which is important to limit the spread of the disease.

Keywords: Coronavirus disease 2019, SARS-CoV-2, Perceptions, Vaccination

INTRODUCTION

The coronavirus disease (COVID-19) has been identified as the cause of an outbreak of respiratory illness in Wuhan, Hubei Province, China beginning in December 2019.¹ As of 21 April 2020, this epidemic had spread to 210 countries with 2,314,621 confirmed cases, including 157,847 deaths. The World Health Organization has declared it a public health emergency of international concern on 30 January 2020 and a pandemic on 11 March 2020.² A poor understanding of the disease among the

general people may implicate in delayed treatment and the rapid spread of infection. The study aimed to investigate the knowledge, perceptions and practices about COVID-19 in Bangladeshi people.

The coronavirus disease has overcome geographical barriers achieving a remarkable proliferation. Because of that, different countries started public health protocols to control the spread of the virus, much of them related to social distancing, hand wash, and lockdown the cities.³

One of the first and recent studies analysing perceptions and knowledge, about coronavirus carried out in Hubei, conclude that attitudes towards government measures to contain the epidemic are highly associated with the level of knowledge about COVID-19.⁴ The authors detail that the higher the level of information, and education, the more the individuals would maintain a positive thinking towards COVID-19 preventive practices.⁴ A key factor is therefore the perception of risk that would contribute to the commitment to symptom prevention during outbreaks of global epidemics.⁵

Signs and symptoms of COVID-19 may appear 2 to 14 days after exposure and can include fever, cough, shortness of breath or difficulty breathing. Other symptoms can include tiredness, aches, runny nose, sore throat, headache, diarrhoea, vomiting. Some people have experienced the loss of smell or taste. The severity of COVID-19 symptoms can range from very mild to severe. Some people may have no symptoms at all. People who are older or who have existing chronic medical conditions, such as heart disease, lung disease or diabetes, or who have compromised immune systems may be at higher risk of serious illness. This is similar to what is seen with other respiratory illnesses, such as influenza.

Bangladesh is the latest among 47 countries in the world to have witnessed 100 or more fatalities with 3,772 confirmed cases from COVID-19 till 21st April 2020. Nearly 210 countries and areas are suffering from the disease caused by a strain of coronavirus, SARS-CoV-2.

Prevention of virus spread and outbreak essentially require the knowledge, perceptions and practices amongst people about COVID-19. Increase in COVID-19 cases could easily overstretch already fragile and overburdened health services, especially in developing countries and cause considerable suffering in human populations around the world.

In fact, in Bangladesh, have not experienced similar viruses such as SARS or MERS diseases until now. Besides that, the public systems are not prepared entirely to this epidemic. In the Bangladesh, the magnitude and rapid proliferation of the coronavirus through slightly symptomatic or asymptomatic infected people, shows the need to assess the behavioural responses of the population.

METHODS

A cross-sectional, web-based, and pre-tested questionnaire was designed to assess the knowledge, perceptions and practices of COVID-19 in the 8 districts residents of Bangladesh. The residents were explained the purpose of the study and assured confidentiality. A total of 320 completed the study questionnaire, including men and women and age range 21-71 years. Maximum 15 minutes were allotted to participants for completing

proforma. The collected data was tabulated and analysed. The ethical approval for study was obtained by the institutional ethics committee. The questionnaire emphasized on the demographic profile, knowledge and conceptions about cause, transmission, prevention and cure of COVID-19 and social responsibility of every residents about spreading awareness.

Eight randomly selected districts in Bangladesh named Dhaka, Rajshahi, Tangail, Sylhet, Lakshmipur, Bagerhat, Chattogram and Cumilla were included in this study. It took duration of one month to complete data collection. Study was completed from 20 March to 20 April 2020.

RESULTS

In present study, a total of 320 completed the questionnaire, including (67.5%) men and (32.5%) women, and most of them are age range 31-50 years (80.00%). Based on responses to questions asked with help of proforma following results were obtained.

Table 1 shows out of 320 participants, 279 (87.19%) residents knew that causes of COVID-19 is viral and 156 (48.75%) knew COVID-19 spreads through coughs.

Table 1: Cause and spread of COVID-19.

Knowledge	Frequency	Percentage
COVID-19 cause		
Viral	279	87.19
Bacterial	32	10.00
Fungal	1	0.31
Miscellaneous	8	2.5
Total	320	100
COVID-19 spread		
Close contact	53	16.56
Respiratory droplets	33	10.31
Airborne	45	14.06
Coughs	156	48.75
Blood borne	33	10.31
Total	320	100

Table 2: Difference between normal flu and COVID-19.

Knowledge	Frequency	Percentage
No difference	18	5.62
Totally different	187	58.44
Mutated flu	38	11.88
Do not know	77	24.06
Total	320	100

Table 2 shows that, 187 (58.44%) believed that normal flu and COVID-19 were totally different whereas 77 (24.06%) did not know the difference between normal flu and COVID-19.

Table 3 shows 18 (5.62%) residents responded common cold is symptom of COVID-19 whereas 19 (5.94%) said fever and cough are COVID-19 symptoms. 249 (77.81%) residents correctly knew about symptoms of COVID-19.

Table 3: Symptoms of COVID-19.

Symptoms	Frequency	Percentage
Common cold	18	5.62
Fever	19	5.94
Cough	19	5.94
Shortness of breath or difficulty breathing	15	4.69
All of the above	249	77.81
Total	320	100

Table 4 shows out of 320 residents, 138 (43.12%) knew that antiviral should be used to treat COVID-19. Also 76 (23.75%) responded that COVID-19 has no treatment. Also, it was seen that only 128 (40.00%) residents exclusively practicing hand hygiene.

Table 4: Treatment for COVID-19 and maintaining hand hygiene.

Parameters	Frequency	Percentage
Treatment of COVID-19		
Antibiotics	66	20.62
Antiviral	138	43.12
No treatment	76	23.75
Do not know	40	12.50
Total	320	100
Maintaining hand hygiene practicing		
Yes	128	40.00
No	192	60.00
Total	320	100

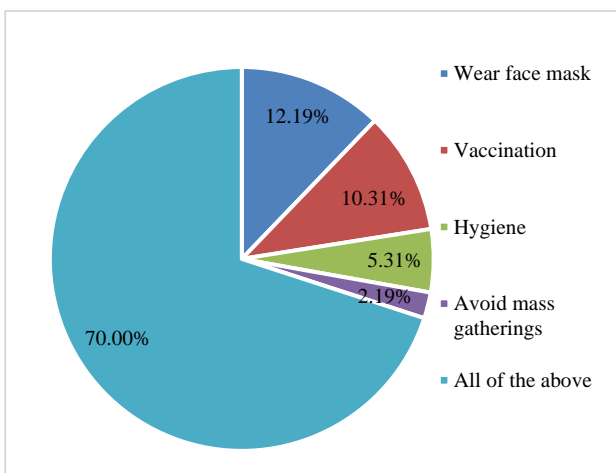


Figure 1: Prevention from COVID-19.

Figure 1 shows, participants were asked about their knowledge regarding how to prevent from getting

COVID-19. Out of 320 study subjects 224 (70.00%) mentioned all the correct preventive methods as wearing face mask, vaccination, mass gatherings and maintaining hand hygiene.

DISCUSSION

COVID-19 disease was first identified during the outbreak of severe acute respiratory syndrome in Wuhan, China, in December 2019.⁶ On the 11th of March 2020, the World Health Organization (WHO) characterized the disease as the first pandemic caused by a coronavirus.⁷ The disease had spread in more than 210 countries with a mortality rate of about 5.7%.⁸ Multiple numbers of similar studies have been conducted related to awareness about COVID-19 in various population groups. However, all of them have similar conclusion and they support our results.⁶

With more than 170 million citizens, Bangladesh is among the most populous countries in Asia. This high number of citizens could be associated with a great risk of spread and mortality, especially among old persons and those with chronic diseases. Global efforts have been exerted to prevent the spreading of the virus. These efforts include political efforts by the governments, together with personal attitude and behaviours, which depend on the awareness of the general public about the disease. Here we present the results of a survey about the knowledge perceptions, and practice of the Bangladeshi public towards the COVID-19 disease.

Knowledge about the disease

The knowledge about the COVID-19 disease would be a mediating element in the increase of cases infected by the virus.⁹ In general, participants in our survey had good general knowledge about the disease, its methods of spread, and prevention. According to the information provided by the WHO and the Ministry of Health and Family Welfare, Bangladesh to the public, we divided the questionnaire with the cause, spread, symptoms, treatment and practices of the disease which denoted a good level of knowledge about this point.

Perceptions about the disease

The perceptions regarding infection with the virus, most participants believed that it causes due to virus while some were thought it is due to bacteria. Participants of this study think that it is spread through close contact, respiratory droplets, coughs while some thinks it spread through air and blood.

This has been proven from multiple studies published about the disease in China.¹⁰ A little of participants thought that the normal flu and the COVID-19 has no difference while the other believed this is different or mutated.

Preventive and treatment practice regarding COVID-19 amongst participants

Respondents in this study had good knowledge to prevent infection and 70.00% mentioned all the correct preventive methods as wearing face mask, vaccination, avoid mass gatherings and maintaining hand hygiene. 43.12% of the participants reported, the treatment of this disease is antiviral. This could be due to the better perception about this pandemic. There was no significant association between demographic characteristics e.g. age, gender. Proper washing of hand is another important practice that one should consider reducing transmission of infection.¹¹ Present study found that only 60% practiced it frequently. This finding was very low compared to previous studies.¹² This could be due to the difference in living standards of the study population.

CONCLUSION

In general, Bangladeshi residents participating in our survey had good knowledge about COVID-19, and a positive attitude towards using protective measures, which is important to limit the spread of the disease. This knowledge is mainly acquired through social media platforms and the internet. However, we found that most of them are not practicing the hygiene and hand washing.

Recommendations

The observations from a small group of people can be a limitation of our study. Similar type of awareness program for COVID-19 should be conducted on a larger scale. Information regarding COVID-19 epidemiology, prevention, vaccination and treatment should be thoroughly spread to community at large with help of media. People should have knowledge and importance of hand washing to prevent spread of disease.

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