

Assessing preparedness for COVID-19 Pandemic in Bangladesh

Sharmeen Jahan*

Abstract : Bangladesh is one of the worst hit countries in South - East Asia for COVID-19 outbreak. As the coronavirus outbreak quickly surges worldwide, many countries are adopting non-therapeutic preventive measures which include travel bans, remote office activities, country lockdown and most importantly social distancing. However, these measures face challenges in Bangladesh, a lower- middle-income economy with one of the world's densest populations. My analysis indicates that limited well-equipped hospitals, inadequate testing facilities, lack of awareness, improper knowledge, attitude to and practice of rules, poverty and precarious employment are the factors dominant in spreading COVID-19. Mobile sanitization facilities and temporary quarantine sites and healthcare facilities could help mitigate the impact of the pandemic at a local level. A prompt supportive and empathic collaboration between the Government, citizens and health experts, along with international assistance, can enable the country to minimize the impact of the pandemic.

Keywords: COVID-19, SARS-CoV-2, Economic and social challenges, Healthcare services.

1. Introduction

The COVID-19 pandemic in Bangladesh is part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was confirmed to have spread to Bangladesh in March 2020. The first three known cases were reported on 8 March 2020 by the country's Institute of Epidemiology Disease Control and Research (IEDCR). Since then, the pandemic has spread day by day over the whole nation and the number of affected people has been increasing. It is a rapidly evolving and emerging situation. In <5 months after the first emergence of the virus in December 2019, nearly two million people in 185 countries around the globe have been identified as confirmed cases of coronavirus disease 2019 (COVID-19) ^{1, 2}. The estimated basic reproductive number of the virus is significantly higher than many other infectious diseases and this can potentially result in the capacity of health facilities becoming overwhelmed, even in the countries that have the most developed healthcare systems ^{2,6}.

An estimated 20% of cases lead to clinically serious and complex conditions. With some sporadic cases of serious illness in younger individuals adults >60 years of age and with co-morbid conditions make up the most vulnerable

*Dr. Sharmeen Jahan, Assistant Professor, Dept. of Geography & Environment, Eden Mohila College, Dhaka

group. There are as yet no vaccines or antiviral drugs approved for the disease and hence, non-therapeutic interventions to control the spread of the virus are the most effective measures to control the disease³. Worldwide, billions of people are staying at home to minimize the transmission of the virus. Many countries are adopting preventive measures, e.g., remote office activities, international travel bans, mandatory lockdowns and social distancing. Bangladesh, a lower-middle-income country and one of the world's most densely populated areas is struggling to combat the spread of the disease. In this write-up, we briefly articulate the current scenario of COVID-19 in Bangladesh and provide some recommendations on how the country can combat this pandemic.

2. Methodology

The objective of this article is to analyse healthcare, social and economic challenges faced by the country. Data from secondary sources, authors' own estimates/projections, information from newspaper articles, websites of WHO, World meter, Institute of Epidemiology Disease Control and Research (IEDCR), Government of Bangladesh (GoB) and relevant research organizations were used. Estimates have been made of the vulnerable population by using data from official sources. They have been supplemented by data from other surveys and studies. Personal observations of societal behavior and qualitative information were obtained from a variety of sources. PubMed, Google scholars were searched for original research articles on COVID-19 pandemic. The search was performed from March 7, 2020 to May 7, 2021 to collect data related to healthcare, social and economic perspective of Bangladesh. A series of key search terms was used in the process such as, "COVID-19," "Coronavirus," "COVID-19 Outbreak".

3. Analysis

3.1 Bangladesh's Response to COVID-19

With almost every country adopting aggressive non-therapeutic measures to control the spread of nCoV-2. Bangladesh in Southeastern Asia has followed the same trend; however, there is an ongoing debate as to whether measures have been adopted adequately and implemented efficiently. The country confirmed the first COVID-19 case in its territory on March 7, though many experts speculated that nCoV-2 may have entered the country earlier than that but had not been detected due to inadequate monitoring⁴. As of April 13, 2020 the country had reported 803 cases of COVID-19 and the death toll stood at 39^{5,7}. However, concerns have been raised that extreme insufficiency of

testing assays may be leaving many cases undetected in the country. In response to the emergence of the virus, Bangladesh admittedly reduced international flights, imposed thermal scanner checking and shut down schools; however, offices maintained their regular schedules until March 26.

On March 15, the country banned all flights coming from Europe except the United Kingdom; however, the authority still allowed flights from Europe to land in an airport^{7,8}. As a result, over 631 thousand people entered the country in just 55 days from January 2⁹. Although the Institute of Epidemiology, Disease Control and Research (IEDCR) claimed that it tested every single person who entered the country, there has been intense criticism of the testing facilities in the ports of entry^{10,11}. Beginning on March 16, the country imposed a 14-day obligatory quarantine to all travelers who entered the country¹². It attempted to bring travelers coming from Italy-which was then declared a new epicenter of the pandemic - to a quarantine site. The move was sharply criticized due to a lack of arrangements and the travelers were allowed to enter the country by themselves on the condition of 14-day-long self- isolation. Since then, hundreds of expatriates who came from COVID-19-affected countries have been seen out in the streets and gatherings -traveling to tourist sites, meeting with friends and families¹³. On March 19, the country deployed the army to supervise two quarantine facilities in Dhaka^{14,30}.

On March 25, Bangladesh declared the enforcement of lockdown or 10 days effective from March 26. With the enforcement of this lockdown, travel on water, rail and air routes is banned and road-transportation is suspended. All non-essential organizations, businesses and educational institutions are closed except for pharmacies, groceries and other unavoidable necessities. Following the declaration, many people from the major cities, especially from Dhaka started to leave the city by various means including overcrowded public transport services with a high risk of contracting COVID-19 and in violation of the government instructions. On the same day Bangladesh issued a temporary release to its ailing former prime minister from prison and consequentially thousands of political followers greeted her in Dhaka defying the lockdown imposed by the Government¹⁵. It was predictable that on the release of a political leader of her fame a huge gathering might occur; however, she was temporarily released on humanitarian grounds^{15,16}.

A specialized lockdown was also imposed on Cox's Bazar a southern district of the country where many Rohingya refugees live¹⁷. These Rohingya refugees, as well as older individuals anywhere in the country constitute the most potentially vulnerable groups to virus infection.

3.2 Coping with Mental Stress due to COVID-19

Fear and anxiety about the pandemic are causing overwhelming stress for everyone^{18,19}. While receiving mixed messages piles up the stress, sharing the real facts and understanding the actual risk reduces the stress. Moreover, this helps the authorities to organize better and manage the crisis. Social activists, television and print media, social workers, religious and political leaders should come forward to help in the dissemination of scientifically factual information on nCoV-2 and COVID-19 among the mass population of Bangladesh. For instance, the Imams (a Muslim leadership position) of each mosque could play a vital role in fighting this extraordinary crisis in Bangladesh²⁰. Together, the media personalities and political, religious leaders could help spread basic knowledge on COVID-19-related issues to the mass populace especially, the marginalized communities. Given the high level of illiteracy among the slum and village population the dissemination of COVID-19-related basic knowledge would be the key to controlling the spread of the virus^{21,22}.

3.3 Health care service

Bangladesh has adopted some policies in order to minimize the transmission of COVID-19 in accordance with the WHO guidelines. The policies include changes in lifestyle using face masks, movement restriction, social distancing and changes in hygiene practices. In addition, the government and private sector are working on creating awareness among the people by using local media in order to strengthen personal hygiene practices.

Bangladesh healthcare facilities encountered huge difficulties for treating patients since the outbreak of COVID-19. Serious drawbacks were found in hospitals regarding the availability of ventilator support facilities to treat severe acute respiratory syndrome. With a size of population of 163,046,173, hospital beds per 1000 population is 0.8 and Intensive Care Unit (ICU) beds per 100,000 population is 0.73,4. The situation report of WHO states that as of 26 October 2020 there are 11,730 general beds and 564 ICUs for treating COVID-19 patients all over the country. Among which 3519 (30.0%) general beds and 314 (55.7%) ICUs are occupied by the patients only in Dhaka city. The beds in the hospital were not being fully occupied as many infected people are taking treatment at home^{23,31}.

Initially the testing facilities were inadequate however, with time the facilities improved as the number of cases increased. Over the time all the government and some private health care facilities across the country have started

COVID-19 testing²³. However, the testing coverage for COVID-19 in Bangladesh is 1485.6/1 million which is still modest when compared with the countries in the region²⁴. WHO continuously supported Ministry of Health and Family Welfare (MOHFW) Bangladesh to expand testing capacity and the plans for further expansion are underway. WHO also undertook a vast operation of samples transportation from the entire 64 districts of Bangladesh. As of September 2020, over 400,000 laboratory samples have been transported with WHO support, representing nearly half of the samples transported all over the country²⁵.

After three months of coronavirus epidemic in Bangladesh, the GoB decided to charge 200 taka (£1•80) for the COVID-19 test in Government facilities whereas, the private sectors charge 3500 taka (£32). As a result, the rates of testing have reduced to 0.8 tests per 1000 people in one day²⁴.

This pandemic has seen doctors on the COVID-19 front-line make personal sacrifices by helping and treating patients with minimal support even though they do have the ethical responsibility for their own protection²⁶. Front-line doctors and other healthcare professionals struggled to treat COVID-19 patients efficiently due to shortage of appropriate equipment, inadequate number healthcare facilities providing COVID-19 support and unpreparedness of the Government to deal with the crisis²⁷. Coronavirus has taken lots of lives including that of healthcare professionals since its first outbreak in Wuhan, China. Bangladesh is not an exception where physicians and health workers are highly vulnerable to get infected by this deadly disease²⁸.

3.4 Precarious living

Shutting down of public services and daily activities resulted in an economic crisis alongside the health crisis. About one-fifth of the country's population live below the poverty line and a significant proportion of the workforce is dependent on casual jobs. The shutdown created a dilemma between saving lives and livelihoods^{29,31}.

In Bangladesh, out of the employed population of around 63 million around 25 million are in wage/salaried employment over 10 million of whom are in casual employment based on daily wages. Approximately 4.5 million casual laborers are engaged on a daily basis in construction, transport, trade, food and accommodation who were seriously affected²⁹.

The country's major manufacturing industry of readymade garments (RMG) employs about 4 million people, whose jobs are also of a precarious nature.

When COVID-19 spread to developed countries that are major importers of the products of RMG industry, buyers started to cancel their orders – thus jeopardizing the livelihoods of workers engaged in the industry^{30,31}.

The rest of the manufacturing sector employs another 5 million workers of whom 85% are informally employed. Their conditions of employment are no better than the casual workers. Additionally, among the large proportion of self-employed working people around 5.19 million self-employed people in the urban informal sector live precariously^{27,29}. Thus, the livelihood of approximately 18 million people was facing uncertainty during the shutdown period. Taking into account the average size of a family is 4, it would seem that about 72 million are now facing the challenges of livelihood.

The government came up with a policy package for economic recovery amounting to Tk 103,117 core that included credit to export-oriented industries for payment of wage, credit to other enterprises of different sizes credit for unemployed youth, migrant workers returning from abroad and other micro enterprises, as well as allocations for safety net for the poor – in cash as well as kind²⁵. But the implementation record of the various schemes varies considerably with the items for larger enterprises doing much better than those meant for micro, cottage and small enterprises. As for safety net measures the cash transfer meant for the poor was small in amount and the process of implementation was marred by errors in selection and delay. So, it is not surprising that the incidence of poverty increased substantially during the crisis – as can be seen from the findings of various research studies²⁹.

3.5 Social distancing

Social distancing is being adapted as the principal strategy to prevent and to slow down the transmission of COVID-19 infection. Due to the unavailability of any established treatment, mankind has to maintain social distancing for mitigating the morbidity and fatality consequence. In Bangladesh, enforcement of strict social distancing becomes an important strategic dilemma for a significant proportion of people who are dependent on the availability of daily work.

According to World Bank data, over 55% of the urban population of Bangladesh live in slums²⁵. The poor living in slums of the major cities typically have one small room for the family – the average size of the family being about 4 but in many cases higher. Uddin (2018) reported that in the slums of Chittagong, half the respondents have four to six members living in

one room while a quarter have seven to ten members sharing one room. Access to individual living quarters in slums is usually through narrow lanes barely passable for two individuals. In such an environment social distancing may be a far cry even for those who are willing to comply. The poorest members of society like, daily laborers, vendors, rickshaw pullers find themselves forced to break social distancing merely to survive.

Social distancing has also come under challenge in the larger socio-economic milieu of the country. The poor may have to queue up to get goods offered as relief for buying low-priced food grains offered by the government and to avail low-cost transport. Added to the socio-economic obstacles are the socio-cultural factors that may adversely influence compliance with the norms of social distancing. The situation is further complicated when people travel during holidays and festivals in crowded means of transport. Adherence to social distancing may have been a problem also because of lack of access to appropriate information and public awareness²⁴.

Another factor in maintaining social distancing is observation of religious ceremonies to which people automatically lean during stressful life. People prefer to attend religious gatherings as religion provides hope and a sense of social solidarity. We observed two serious breaches in adhering to lockdown. One was the return of millions of workers of the RMG industry to Dhaka from different parts of the country for the sake of keeping their job and the second was to join the funeral procession of a religious leader. The GoB has been criticized by different segments of the society for these administrative failures^{24,25}.

4. Discussion

GoB adapted many initiatives to prevent and control the spread of COVID-19. MOHFW (Ministry of Health and Family Welfare) of Bangladesh developed “Bangladesh Preparedness and Response Plan for COVID-19”. The main goal of this plan is to prevent and control the spread of the disease.

The GoB increased number of ICU, recruited and trained 2000 doctors and 5000 nurses provided safety measures for healthcare workers. GoB ensured supply of medical equipment, PPE and other medical aids for COVID-19 patients and health care providers.

However, Bangladesh lags behind the ratio of patients and their doctors and nurses compared to other neighboring countries. Inadequate COVID-19 testing facilities as well as limited clinical and health care services are the

serious problems to treat COVID-19 infected people in Bangladesh. Therefore, adequate testing facilities and health care services should be provided by the GoB to combat this deadly virus.

For many people in Bangladesh who struggle at precarious levels of living, the stark choice during the period of shutdown was to face a deadly virus or hunger because of inability to access work and earnings. Many preferred to accept the former in order to prevent hunger; for them remaining shut was not a practical option. And when shutdown was imposed upon them the result for many was inability to go to work and a loss of income. The assistance from the government was too little and too late. Consequently, many who were not poor became poor and those who were already poor became poorer.

The economic, physical and cultural environment in which people of Bangladesh live the practice of social distancing is often a big challenge. Furthermore, lack of awareness about COVID-19 inadequate knowledge of attitudes to practice of social distancing are factors that make the COVID-19 epidemic a huge threat to the nation^{6,11}. At the same time, issues such as poverty, hunger and the fear of losing employment are very important causes of peoples' noncompliant behavior.

Wearing of a mask is most important and it is one of the essential and effective tools to limit the spread of infection caused by COVID-19. According to a report, 63% of people in Bangladesh wear masks. The report also showed that around 53% of people in Dhaka division wear masks to control the transmission of infections²⁷. It indicates that the people in urban areas are also not compliant to the guidelines to prevent spreading of the disease. Therefore, it is a challenge for the Government to influence people and make them aware about this contagious nature of the virus. In order to do that, strict measures may be taken to ensure compliance with social distancing and wearing of mask in public places during this pandemic period.

Domestic violence increases during such restrictive times when families spend more time together. This situation exists across all social classes and women see their self-esteem being crushed and shattered on a daily basis within the confinement of their homes. It is a well-known fact that violence against women and children in Bangladesh is a serious social, economic and cultural problem. According to the Bangladesh Bureau of Statistics 54.4% of married women face domestic violence by their partners²⁵. Despite legislation and awareness this is still a huge problem faced by women. The Bangladesh government needs to provide leadership and guidance in this area and implement safeguards and services for women facing such abuse.

5. Conclusion

Preparedness is the key to addressing any health crisis and so far Bangladesh as a lower-middle-income country has numerous limitations in restricting the spread of the virus. While continuing the lockdown at any cost with more strict maintenance the country has to expand its testing and healthcare facilities. It has to ensure a constant supply of PPE for healthcare workers. Based on the experience with regard to the management of the COVID-pandemic a number of conclusions can be drawn. First, a well-thought out strategy is important in addressing such a big challenge. Rather than assuming that the challenge may not be serious, it is important to err on the more cautious side. Second, stricter measures and more effective enforcement are essential in preventing or slowing down the spread of such a disease. Above all, improvised and timely measures taken with proper coordination may help the country to fight the lethal virus. The Government will not be able to mitigate the situation alone; individual efforts from the citizens, direct involvement of the nation's public health experts and international help are urgently needed^{22,25}. As the situation intensifies the world is closely watching how Bangladesh will navigate this crisis.

6. Recommendations

In order to contain the spread of infections the government's health and social policies need strengthening. Following recommendations are being made in that context:

- (i) Health care services and testing facilities should be increased.
- (ii) Firm steps should be taken by the local authorities to ensure compliance with social distancing and wearing of mask in public places.
- (iii) The government's economic recovery programmers for the poor and lower income people should be given greater priority in implementation.

References

1. Dong E, Du H, Gardner L. *An interactive web-based dashboard to track COVID-19 in real time.* Lancet Infect Dis. (2020). doi: 10.1016/S1473-3099(20)30120-1.
2. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. *Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia.* N Engl J Med. (2020) 382:1199–207. doi: 10.1056/NEJMoa2001316.
3. Bootsma MCJ, Ferguson NM. *The effect of public health measures on the 1918 influenza pandemic in U.S. cities.* Proc Natl AcadSci USA. (2007) 104:7588–93. doi: 10.1073/pnas.0611071104.
4. Perera W. *Bangladesh Government Downplays COVID-19 Threat as Job Losses Mount.* (2020).
5. Directorate General of Health Services. *Novel Coronavirus (COVID-19) Press Release.* (2020).
6. *Institute of Epidemiology DC and R. COVID-19.* (2020).
7. *Worldometer. Covid-19 Coronavirus Pandemic.* (2020).
8. JavedHAI. *Passengers From Europe Land in Dhaka Despite Ban.* (2020).
9. Molla MA-M. *Govt Now Scrambles for Testing Kits, PPE.* (2020).
10. *The New Age. Six of Seven Thermal Scanners in Bangladesh Inoperative.* (2020).
11. *Sujan MA, Hasan R. Coronavirus Outbreak: Screening Still Lax at Dhaka Airport.* (2020).
12. *Maswood MH, Chowdhury SI. Bangladesh Bans Travellers' Entry From Europe.* (2020).
13. *Dhaka Tribune. Coronavirus: Overseas Returnees Roaming Around Violating Govt Directive, Hundreds Fined.* (2020).
14. *bdnews24.com. Army to Run Coronavirus Quarantine Units in Dhaka's Ashkona, Diabari.* (2020).
15. *Aljazeera. Bangladesh Releases Jailed Opposition Leader Khaleda Zia.* (2020).
16. *bdnews24.com. Khaleda, Freed by Hasina, Goes Into Quarantine at Gulshan Home* (2020).
17. *BBC News. Coronavirus: Bangladesh Locks Down a Million in Rohingya Camps.* (2020).
18. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. *The psychological impact of 18th COVID-19 epidemic on college students in China.* Psychiatry Res. (2020) 287:112934. doi: 10.1016/j.psychres.2020.112934
19. Xiao H, Zhang Y, Kong D, Li S, Yang N. *Social capital and sleep quality in individuals who self-isolated for 14 days during the coronavirus disease 2019 (COVID-19) outbreak in January 2020 in China.* Med SciMonit. (2020) 26:e923921. doi: 10.12659/MSM.923921
20. Van Bavel JJ, Baicker K, Boggio PS, Capraro V, Cichocka A, Cikara M, et al. *Using social and behavioural science to support COVID-19 pandemic response.* Nat Hum Behav. (2020). doi: 10.31234/osf.io/y38m9

21. Zhong B-L, Luo W, Li H-M, Zhang Q-Q, Liu X-G, Li W-T, et al. *Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey.* Int J Biol Sci. (2020) 16:1745–52. doi: 10.7150/ijbs.45221
22. Wang J, Xu C, Wong YK, He Y, Adegnik AA, Kremsner PG, et al. *Preparedness is essential for malaria-endemic regions during the COVID-19 pandemic.* Lancet. (2020) 395:1094–96. doi: 10.1016/S0140-6736(20)30561-4
23. M. Abdullah Number of ICU beds insufficient to combat Covid-19 pandemic *Dhaka Trib* (2020).
24. S. Cousins *Bangladesh's COVID-19 testing criticized Lancet* (London, England), 396 (2020), p. 591, 10.1016/S0140-6736(20)31819-5
25. Increased testing capacity, essential step in fighting COVID-19. *World Heal Organ* 2020.
26. C. Gerada ,Clare Gerada: *doctors on the covid-19 front line also need to protect themselves and their colleagues*,BMJ, 368 (2020), p. 2020, 10.1136/bmj.m1121
27. K. Iserson, *Healthcare ethics during a pandemic*,West J Emerg
- 28 . Bangladesh sees 100th death of doctors from Covid-19, *DhakaTrib* (2020)
- 29.R. Islam.The impact of COVID-19 on employment in Bangladesh: *Pathway to an inclusive and sustainable recovery*, (2020)
- 30.R. Huq, Message From BGMEA President, *Bangladesh Garment Manuf Export Assoc* (2020).
- 31.M.S. Anner, Abandoned, *The impact of Covid-19 on workers and businesses at the bottom of global garment supply chains.*(2020)

