**Pandemic Preparedness and Healthcare Response Plan during the COVID-19 Pandemic in Bangladesh**

**Abstract**

The outbreak of SARS-CoV-2, the virus which causes COVID-19, was traced back to the Hubei province of China at the end of December 2019, and has rapidly spread across China and the rest of the world. This unprecedented outbreak was declared a Public Health Emergency of International Concern under the International Health Regulations on 30th January 2020, and a global pandemic on 11th March, by the World Health Organization. This viral infection is mainly transmitted through respiratory droplets and physical contact, which leads to clustering of  
infected cases in families and in healthcare professionals. COVID-19 has already infected millions worldwide and, with no vaccine available until now, governments around the world have faced crucial challenges regarding how to respond in order to mitigate the spread of the infection. Governments thus focus on the effective implementation of non-medical interventions (e.g. face masks and physical distancing) to mitigate the spread of the virus, especially in  
resource-limited settings. Bangladesh has been adversely affected by COVID-19 as a part of the global burden of the pandemic. The first case reported in Bangladesh was on 8 March 2020. At time of writing, the outbreak is still ongoing, and the rate of infection has significantly increased over winter. To address the threat to human health, the government set out the ‘Bangladesh Preparedness and Response Plan’ on 05th March 2020, and updated it in July. The plan outlines the activities required for the health sector to efficiently control the threat of COVID-19 in a coordinated manner. The government of Bangladesh imposed lockdown and restrictions on individuals, requiring the use of face masks and physical distancing, to reduce the health risk to the public. The government has, therefore, imposed robust, restrictive measures, including fines for individuals who do not comply with lockdown, wear a face mask, and practice physical distancing. As the majority of Bangladeshis live in rural areas and the general level of  
education is low, the public lacks the necessary awareness to understand the nature of viral transmission. The findings of this study suggest that the Preparedness and Response Plan needs substantive modifications to the stipulations in the policy directing the general public. Improved messaging should be employed to make the public aware of the mechanisms for viral transmission, how to maintain lockdown, practice physical distancing, and use face masks altruistically. Furthermore, parliament should produce guidelines outlining how to successfully  
implement the plan in an ethical manner with the aim of protecting the health of the public in a time of emergency, specifically during the COVID-19 pandemic. An efficient, effective and ethical means of epidemic preparedness and healthcare response plan can significantly reduce the health risk to the Bangladeshi public during the current pandemic and in the future.

**Keywords:** COVID-19, Preparedness and Response Plan, ethics, Bangladesh

**Introduction**

The outbreak of SARS-CoV-2, the virus that causes COVID-19, was traced back to the Hubei province of China at the end of December 2019 (Lu, Stratton, and Tang 2020), and subsequently spread rapidly across China and the rest of the world (Wang et al. 2020). This infectious viral disease is mainly transmitted through respiratory droplets and physical contact. This behavior leads to clustering of infected cases in families and in healthcare professionals (Wang et al. 2020). This unprecedented outbreak was declared a Public Health Emergency of International Concern (PHEIC) under the International Health Regulations (IHR) on 30 January 2020 by the World Health Organization (WHO), and a global pandemic on 11 March (WHO 2020c). According to the WHO, as of 9:57am CET, 25 December 2020, a total of 77,920,564 people globally have been confirmed as having been infected with COVID-19, spanning 220 countries, areas or territories, with a global death toll of 1,731,901 (WHO 2020e). As there has not been a vaccine available until recently, governments have focused their response on measures to mitigate the spread of the virus, especially in resource-limited settings. Bangladesh has been adversely affected by COVID-19 as a part of the global burden. The first case reported in Bangladesh was on 8 March 2020 and the first death due to COVID-19 was reported on 18 March (WHO 2020a). With 506102 confirmed cases and 7378 deaths, Bangladesh ranks 27th globally and 5th in Asia as of 25 December 2020 (Worldometer 2020). Despite the daily confirmed cases for COVID-19 patients remaining below 1,500 for the previous two months, the country still continues to struggle with a possible second wave of COVID-19 (The Daily Star 2020d). With the number of daily cases reported to have recently passed 2000, there are rising concerns that the second wave may hit Bangladesh during the winter (Worldometer 2020; The Daily Star 2020b). For comparison, the outbreak of dengue, a mosquito-borne disease, which officially started in 2000 and remained severe in 2019 saw a total of 101,354 confirmed cases and 179 deaths reported (UNB 2020b). The combined effect of the possible second wave of COVID-19 and the steady rise of dengue may signal nationwide disaster for the healthcare system. For instance, a total of 969 dengue cases were confirmed in Bangladesh between 1st January and 20th November 20th 2020 (UNB 2020b). With pervasive poverty and hunger, the Bangladesh regularly faces challenges including a low purchasing power parity rate and low adult literacy rate, malnutrition of newborn babies and mothers, overcrowding of public healthcare services, limited sanitation, unsafe drinking water, unavailability of required food and shelters, floods, and environmental disasters (Siraj, Dewey, and Hassan 2020).

As a resource-limited setting, Bangladesh is unable to effectively combat the COVID-19 pandemic. Despite the government recruiting 2,000 physicians and 5,054 nurses to public funded hospitals in May 2020, and having approved a proposal to recruit another 3,000 **medical technologists, health technicians and cardiographers in order to improve the COVID-19 testing and healthcare services (The Daily Star 2020e),** the country still lacks the required front-line healthcare workers to deal with the impact of the pandemic (GoB 2020; GoB 2018a). For example, there are only 8.3 healthcare workers per 10,000 population in Bangladesh, compared to the 45 per 10,000 population recommended by the WHO (GoB 2020). This insufficient allocation of infrastructure and finance, necessary protective equipment, medical equipment, and supplies are significant barriers to fighting COVID-19. For 1.67 billion people, there are only 49 postgraduate medical teaching institutions, 113 medical colleges, 77 nursing colleges and 208 nursing institutes, 209 medical assistant training schools, and 110 of health technology institutions. Further, the majority of these institutions are privately funded (GoB 2020). In addition, there are only 35 dental colleges and dental units, and six Armed Forces & Armed Forces Medical Colleges (GoB 2020). Intensive Care Units (ICUs), necessary for treating COVID-19 patients, are few, with only 399 across the country, of which 218 are in the capital city of Dhaka alone (Dhaka Tribune 2020b). The WHO has reported that 20% of COVID-19 patients (comprising 15% with severe complications and 5% percent in critical condition) require ICU treatment. However, Bangladesh’s hospitals are unable to meet this demand (Dhaka Tribune 2020b). Further, Bangladesh spends less than 3% of its Gross Domestic Product (GDP) on health (GoB 2020; The World Bank 2017). While per capita spending on health is currently USD 37, whereas the Bangladeshi government only spends USD 8.5 per capita on health (GoB 2020). It is a grim reality that the vast majority of Bangladeshi people have to rely on underfunded government-run hospitals, and these hospitals always remain overcrowded as they provide COVID-19 tests and treatment either free of charge or at a subsidized cost (Siraj et al. 2020). Meanwhile, private healthcare enterprises do not tend to offer these services, and if they do, they charge greatly for them in order to ensure making a profit (Siraj et al. 2020).

In 2018, the Bangladeshi government updated the Infectious Diseases Act that aims to raise awareness of, prevent, control and eradicate infectious diseases in order to address public health emergencies and reduce risks to human health (GoB 2018b). The Ministry of Health and Family Welfare (MoHFW) issued a circular as per the stipulations of the Act on March 19, and issued an official gazette on March 23, both listing COVID-19 as an infectious disease and a public health emergency (The Daily Star 2020). The Act empowers the government to make policy decisions and produce guidelines for mitigating the spread of the virus. Epidemic preparedness generally depends on the capacity of the public healthcare authorities, healthcare systems and the emergency response of legislative bodies to respond (Oppenheim et al. 2019). Despite the rapid transmission rate of COVID-19 (Gautam and Trivedi 2020; Kim et al. 2020; Sanche et al. 2020; Shereen et al. 2020), effective pandemic preparedness and response plans and guidelines have been effective in many countries e.g., Australia, China, South Korea, New Zealand, Sri-Lanka, Taiwan, Vietnam, among others, in slowing the transmission (Hettiarachchi et al. 2020; Liu, Yue, and Tchounwou 2020; Rice 2020; Tian et al. 2020; Wilson 2020; Zhang et al. 2020). An efficient, effective and ethical means of pandemic preparedness and response plan should assist policy makers and healthcare authorities in effectively tackling the COVID-19 pandemic.

The Act also prescribes that the government must take initiatives including the formulation of strategies to prevent, control and eradicate infectious diseases, and to protect the people from national and international spread of the infection. In order to formulate strategies in response to, and prepare for, the outbreak, the government published the first ‘Bangladesh Preparedness and Response Plan for COVID-19’ on 5 March 2020. This was based on the WHO global COVID-19 strategic preparedness and response plan and the WHO Country Readiness Checklist released in February 2020 (Shammi et al. 2020). In July 2020, the government updated the plan to incorporate new developments. The plan directs the government to effectively implement non-medical healthcare interventions (e.g. lockdown, quarantine, use of face masks and physical distancing) to mitigate the spread of the virus and reduce the possibility of a second wave. The plan has required the formation of a number of committees including a high level multi-sector coordination committee led by the Minister for Health and Family Welfare that advises the Office of the Prime Minister on multi-sector non-medical healthcare interventions to reduce spread of virus. The sub-national multi-sector COVID-19 committees comprised subnational committees at each division, district, sub-district, city-corporation, municipality and union to coordinate and enforce local social, administrative, legal, and service delivery mechanisms. The national technical advisory committee, consisting of government and independent experts, advises the government on identifying the key strategies, priority interventions and healthcare measures that need to be taken to implement the government response, based on scientific findings and recommendations, including WHO guidance and global evidence (GoB 2020). As countries across Europe see a resurgence or second wave of COVID-19 transmission after successfully having slowed transmission during summer 2020 (Cacciapaglia, Cot, and Sannino 2020), the WHO updated their interim guidance on 4 November 2020 entitled ‘Critical preparedness, readiness and response actions for COVID-19’ (WHO 2020d). This interim guidance focuses on suppressing community transmission through infection prevention and control measures, e.g., the use of face masks, physical distancing, and other related measures that are appropriate to the cultural context of the location (WHO 2020d). An effective, efficient and ethical means of pandemic preparedness and healthcare response plan should assist government officials and healthcare authorities in the implementation of appropriate non-medical interventions to mitigate the spread of the virus. Despite the plan offering a framework on how committees should function and enforcing compulsory wearing of face masks, lockdowns, physical distancing and related other measures, it lacks guidance on how to improve awareness and understanding of the mechanisms of action behind these measures.

**The Spread of COVID-19 in Bangladesh**

***Lockdown and Quarantine Procedures***

Since the first cases of the disease in Bangladesh, the number of cases and deaths due to the COVID-19 greatly increased in the following weeks. In order to contain the spread, the government of Bangladesh declared nationwide ‘lockdown’ in the name of a ’10-day public holiday’ from March 26. This was later extended seven times (The Business Standard 2020e). Initially, the general holiday was extended until April 11, then to April 14, April 25, May 05, May 07, May 16, and finally May 30 (The Business Standard 2020e). During these lockdown and general holiday periods, all public and private offices, educational institutions, and markets were closed, and land borders were sealed. The government declared a holiday period for all public and private offices except offices that manage essential goods and daily services. Consequently, these lockdowns caused severe economic problems, increased the crime rates and poverty, and mass unemployment. This was the primary motivation for the government ending the lockdown, despite educational institutions remaining closed across the country. The lockdown was mostly found to be ineffective as the majority of the people did not maintain physical distancing, and did not use face masks. Further, government measures for controlling the spread of the virus were insufficient. For example, without arranging institutional quarantine, returnees arrived in Bangladesh from different countries, often already with symptoms such as fever, were allowed to quarantine either at their home or in hospital (Dhaka Tribune 2020a). Private sector industry, such as the garment industry, continued to function according to their own will, irrespective of the strict measures imposed by the government. Thus, the virus spread to all 64 districts across Bangladesh, with Rangamati, a hill-district, being the last to report the presence of the infection. Despite visiting Chinese medical experts advising the government to arrange institutional quarantine for international travelers (UNB 2020c), public officials in Bangladesh failed to follow this advice initially, even for travelers returning from affected areas such as Italy. During the second week in March, travelers returning to Bangladesh only underwent temperature testing and were not tested for COVID-19 (or quarantined) and were allowed to go home even if unwell (The Business Standard 2020c). Despite the local administration imposing fines on expatriates for violating home quarantine restrictions, such individuals were reported as being able to move freely in complete disobedience of government rules and restrictions. All these factors are likely to have contributed to the spike in disease numbers as reported by the media and newspapers (The Financial Express 2020d).

**Religious Misconception**

Religious misconceptions and false beliefs are a potential cause of virus transmission in Bangladesh. The Bangladeshi government postponed mass gatherings for the much awaited celebration of *Mujib Borsho,* the 100th anniversary of the birth of Bangabandhu Sheikh Mujibur Rahman, the Father of the Bengali Nation, on 19th March (The Daily Star 2020c). Despite this, thousands of people gathered in a special prayer session, ignoring the government advice and the potential risk of viral transmission. It is often cited that members of the public believe that “Islamic sermons and prayer are able to solve their problems" regardless of the risk of spreading the virus (BBC News 2020). The administration failed to stop people attending the gathering as such action would have been seen to contradict the assertion that religion shapes the everyday lives of Muslims, and that those afflicted by disease should pray to the Almighty for forgiveness. Following the event, the government banned all socio-political, cultural, and religious public gatherings, fearing that such events may spread the virus into communities (The Business Standard 2020h). A similar religious event in Malaysia in February was reported to have been the source of more than 500 new coronavirus cases (BBC News 2020), also leading to confirmed cases in neighboring Brunei, Singapore and Cambodia, as attendees travelled home. As a consequence, the Malaysian government banned all public gatherings across the country and strictly sealed its borders to prevent further spread of the virus (BBC News 2020). The government advised people to wear face masks, wash their hands, and maintain physical distancing, but such measures were not strictly adhered to. As the majority of the populations live in rural areas, they remain unaware about the nature of the virus. In the absence of a comprehensive campaign in rural areas, the government’s actions to close mosques and madrasas to prevent the spread of the disease did not receive a warm welcome from Muslims, with people choosing to still regularly attend religious gatherings, especially that of Jum’ua Salah (the congregational prayerheld every Friday) leading to further spread of the virus.

The regulatory bodies and administrative authorities failed to stop the gathering of around 100,000 Muslims in Sylhet on 18 April 2020 who had gathered in mourning and funeral prayer following the demise of an Islamic religious scholar (The Business Standard 2020f). The Officer-in-Charge at the local police station in Sylhet said "we couldn't apprehend that so many people will gather for the funeral. We had nothing to do after the crowd started flooding in” (The Business Standard 2020f). A single incident like that has the potential to infect millions, since the trajectory of the virus is rapid and strong. *Eid-ul-Fitr* and *Eid-ul-Azha*, two of the most celebrated religious festivals in the Muslim calendar, prompted people to cease physical distancing among almost all sections of the population. The government of Bangladesh eased the countrywide lockdown that was started in March 26 in order to observe *Eid-Ul-Fitr* (a religious festival celebrating the breaking of a month-long fast) at the end of May on the condition that physical distancing and other preventative measures would be strictly maintained. In reality, the public descended on the markets for shopping and on the village center to observe the festival, thus violating physical distancing and other guidelines, increasing the risk of spreading the virus. Many people even travelled to their home town for the events, thus further propagating the spread of the virus into the community.

***Inconsistent Policy Directives for Garment Factories***

Inconsistent policy implementation with regard to reopening garment factories undoubtedly caused a spike in cases amid the strict lockdown across Bangladesh. Garment sector workers were the victims of selfish business owners and inconsistent policy. In order to mitigate the economic and social burden of the disease and to ensure economic recovery, the government announced stimulus packages accounting for around 3.7% of Bangladesh’s GDP, comprising BDT 50 billion for export-oriented industries to pay the wages of garment workers (Raihan 2020). However, in the fifth phase of lockdown, the government allowed garment factories to reopen with a limited number of workers after ensuring COVID-secure practice, accommodation, and transportation (The Business Standard 2020d). A large number of apparel factories also reopened during that period (The Business Standard 2020d). As a result, thousands of garment workers returned to work even before receiving COVID-19 test results, often travelling across the country for work, due to concerns over receiving wages. However, without adequate safety measures for workers, this reopening of garment factories in the name of preventing the cancellation of orders resulted in nearly 100 garment workers receiving a positive COVID-19 diagnosis (The Financial Express 2020c). Even following strict lockdown instructions from the government, garment factories were reopened, leading to the creation of COVID-19 hotspots such as the Narayanganj district in Dhaka division. Thousands of garment workers had to walk back to their factories on foot in order to save their jobs, in fear that they would be discharged from their duties. According to the Department of Inspection for Factories and Establishments (DIFE), by 31st May, 2020, a total of 17,579 garment workers had been dismissed from their jobs despite the stimulus package offered by the government for paying their wages (The Financial Express 2020e).

***Confusion and Conspiracy***

As confusion and conspiracy theories are globally widespread (Litewka and Heitman 2020), such theories were prevalent among public and government officials, thereby contributing to the spread of the virus in Bangladesh. On March 11, key officials in Bangladesh, namely the ruling party general secretary, urged their opponents, the Nationalist Party (BNP), to refrain from engaging in politics over the pandemic (The Financial Express 2020a). In their response dated March 12, the secretary general of the BNP retorted by saying that “coronavirus has become pandemic around the world and it has no relation with politics. But can’t we identify the shortcoming of the government? If we say anything about it, they (AL) tell us not to do politics with the issue” (UNB 2020a). Misjudgments and overconfidence often distorted the message of being prepared to tackle the pandemic. For example, in mid-August the Health Minister was quoted as saying “we are very happy that the number of COVID-19 patients has already decreased in Bangladesh, and the death rate has also come down. Bangladesh will be coronavirus-free very soon. I don’t know if we’ll even need vaccines. Nevertheless, we have taken all the preparations; we have also made preparations for the vaccine” (Dhaka Tribune 2020d). These confusing claims, misjudgments and overconfidence acted to confound public understanding, even when facing the risk of a second wave.

***Lack of Personal Protective Equipment and Training for Healthcare Professionals***

Inadequate Personal Protective Equipment (PPE) for front-line healthcare professionals resulted initially in an increased infection risk and subsequently in reduced capacity to care for COVID-19 patients (Khalil et al. 2020). Inadequate protective gear left healthcare professionals at high risk of infection, with more than 1,200 physicians in Bangladesh having been infected, and 39 physicians having died of the virus in the initial first two months alone (Arab News 2020). Front-line healthcare professionals are discouraged from providing treatment to virus-affected patients. Further, lack of training among front-line healthcare professionals around how to handle the negative impact of COVID-19 on patients’ lives acts to increase the death toll. An expert medical team from neighboring China visited Bangladesh in the first week of June for two weeks to guide and train healthcare professionals. The team expressed concern in regard to the diagnosis of COVID-19 patients (Sayeed Al-Zaman 2020), pointing out that the general public and to some extent the health officials lack awareness of the necessary physical distancing and hygiene practices (The Daily Star 2020a).

***Ineffective Accountability and Transparency Mechanisms***

Lack of effective accountability and transparency measures, and irregularities in providing healthcare services for COVID-19 patients acted as barriers. Allegations of purchasing substandard face masks, PPE, and medical equipment for front-line healthcare professionals treating COVID-19 patients surfaced in March 2020. By tender, different companies supplied generic masks labeled as N95, substandard gloves and PPE, for distribution to public hospitals for use by front-line healthcare professionals (Dhaka Tribune 2020f). This substandard medical equipment caused infections and deaths of front-line healthcare professionals. Allegations of organized tender manipulations and the supply of poor-quality medical equipment, devices and disposable items by a syndicate who also allegedly bribed health sector officials to continue unethical practice even amid the pandemic. The Anti-Corruption Commission (ACC) of Bangladesh reported the emergence of several syndicates of suppliers working in the health sector during the last few years, who also maintain close ties with dishonest health officials in the MoHFW, Directorate General of Health Services (DGHS), Central Medical Stores Depot (CMSD) and the Drug Administration (Bangladesh Post 2020). In July 2020, there were reports of ‘fake certificates’ being offered by Regent Hospital, a private hospital. Staff at the hospital had issued results for nearly 10,500 COVID-19 tests, of which nearly 6,500 had disastrously been provided without ever conducting the test (Dhaka Tribune 2020c). Many other private hospitals were involved with charging higher fees for treating COVID-19 patients, giving rise to mass hysteria, fear among healthcare personnel, refusal of treatment, and social boycotts against patients. There were several reports of patients dying, even without COVID-19, after being denied treatment due to the fear that they may be carrying the virus. Many Bangladeshis expressed their dissatisfaction toward the extreme corruption and irregularities in the healthcare sector during the pandemic (Shammi et al. 2020) reducing public trust in the healthcare system and laboratory testing (Dhaka Tribune 2020e).

***Poverty***

Nearly 24% of people in Bangladesh live below the poverty line (Asian Development Bank 2020), and the rate of poverty is set to rise to 40.9% due to the pandemic (Shammi et al. 2020). The poor in developing countries are less likely to receive vital healthcare services than the rich (O’Donnell 2020). The COVID-19 pandemic adds extra burdens and vulnerability on the poor in Bangladesh, discouraging them from wearing masks and maintaining lockdowns and physical distancing. Despite the government declaring a plan to provide a one-time cash sum of BDT 2,500 to each of five million families, and food assistance among the most vulnerable sectors of society, there was a failure of the government to effectively administer the cash transfer program. This resulted in 3,000 government employees and 7,000 pensioners who were not eligible for the cash assistance program appearing on the list (Riaz 2020). Two further months of extreme lockdown procedure pushes many of the poor into extreme poverty. The daily search for food puts them at risk of infection. Often, the poor are so busy with the search for food and managing their day-to-day lives that they remain unaware of updated government guidance, public policies, and their implementation, such as the need to wear a mask and maintain physical distancing.

**COVID-19 Pandemic Preparedness and Healthcare Response Plan**

In response to the COVID-19 outbreak (WHO 2020c), the government set out the ‘Bangladesh preparedness and response plan’ on 05 March on the basis of the WHO global COVID-19 preparedness plan and the WHO Country Readiness Checklist (Shammi et al. 2020), outlining the activities required by the health sector to prevent, rapidly detect, and characterize disease (GoB 2020). Pandemic preparedness and response planning for health emergencies aims to reduce the burden associated with the health threat in terms of the mortality and morbidity rate, hospitalizations and the demand for healthcare services, to maintain provision of essential goods and services, protect vulnerable people, minimize the economic burden and social disturbance, and enable a punctual return to normal life (GoB 2020). The aim of pandemic preparedness and response planning was to prevent and control COVID-19 in Bangladesh to reduce the impact on the health, wellbeing and economy of the country (GoB 2020). According to the plan, the infection status was categorized into 6 stages of COVID-19 infection. Stage 1 signifies there are no COVID-19 cases in the country; stage 2 signifies imported cases; stage 3 corresponds to limited local transmission; stage 4 represents widespread community transmission; stage 5 represents a decrease in transmission and stage 6 concludes the recovery phase (GoB 2020). As at 28th February 2020, there were no reported COVID-19 cases in Bangladesh; the country maintained health screening of foreign returnees arriving from countries with COVID-19 cases to ensure the identification of suspected patients. The provisions of the plan prescribed that suspected patients would be kept in institutional quarantine and provided food and necessary supplies with regard to maintaining human dignity and integrity as prescribed by the WHO (GoB 2020).

The government updated the ‘Bangladesh Preparedness and Response Plan for COVID-19’ in July 2020 to effectively tackle transmission into communities and address the possibility of a second wave. As the general holiday restrictions had been eased for economic activities to restart, COVID-19 was expected to spread more quickly (GoB 2020). The Government of Bangladesh, with technical advice from the MoHFW, continues to take measures that will limit spread the virus and reduce pressure on the national healthcare system (GoB 2020). Key response strategies include the enforcement of compulsory wearing of face masks and practicing safe hygiene outside the home, a zoning approach to contain the virus, community-based preventive practices, the identification and quarantine of people with COVID-19 through the use of a digital platform, and maintenance of physical distancing regulations. A further strategy involved the empowerment of front-line healthcare professionals and other essential workers through communications and behavioral change to make them agents of change, thereby working to allay their fears around personal exposure (GoB 2020).

It should be recognized that success cannot solely rely on the preparedness and response plans, but must effectively implement widespread straightforward yet unpopular measures such as the wearing of masks and maintaining physical distancing (Schwartz and Yen 2017). Despite administrative and healthcare authorities making the wearing of face masks and practicing physical distancing while outside the home compulsory, there has been no parliamentary strategy aiming to make the public aware and encourage compliance altruistically. As a result, very few people often wear masks and physical distance while in the urban street, shopping mall and other public places. Those who do comply with the measures are mostly doing so out of fear of fines and punishments from administrative authorities. People are not habituated to wear face masks, and many find it creates discomfort and breathing problems (Santos-Silva, Greve, and Pedrinelli 2020). Therefore, people in rural areas are often unaware of the need for face masks and physical distancing. Maintaining physical distancing is unrealistic as on average more than 1,200 people live in each square km(The World Bank 2018). This figure is higher in urban localities, especially in the district and divisional areas. The capital city, Dhaka, is more crowded, with more than 2,300 people per square km. A recently conducted online opinion survey of 320,071 Bangladeshi respondents from 31 July to 18 August, 2020, found that 61.10% of respondents said that they were unable to maintain safe physical distancing in public places during the pandemic (The Business Standard 2020b). Respondents said that even if they had wanted to, it was not possible to maintain physical distancing as others around them do not comply with guidelines. The study also found that 67.40% of respondents viewed wearing face masks as causing discomfort and heat stress, while 20.90% reported stuffiness and breathing difficulties (The Business Standard 2020b). Jeremy Howard and his colleagues see public mask wearing as “most effective at stopping the spread of the virus when compliance is high. The decreased transmissibility could substantially reduce the death toll and economic impact while the cost of the intervention is low” (Tufekci et al. 2020, 1). Wearing face masks and maintaining physical distancing reduce the probability that an infected person spreads the virus (Dehning et al. 2020; Feng et al. 2020; Leung et al. 2020). The global community became familiar with the use of masks as a non-medical intervention to control viral transmission during the 2009 H1N1 pandemic. Researchers and healthcare experts emphasize the importance of people using face masks in containing the spread of COVID-19 (Li et al. 2020). China and South Korea have widely recommended the use of face masks to contain the spread of the SARS-CoV-2 virus (Li et al. 2020). Hong Kong has officially recognized that the practice of wearing face masks helped to control the spread of the virus (Cheng et al. 2020). Taiwanese authorities also recommended the use of face masks, and managed to control the spread of the virus so as to further encourage their use (Cheng et al. 2020).

To ensure the successful implementation of widespread straightforward yet unpopular measures such as wearing masks and maintaining physical distancing (Schwartz and Yen 2017), the public must comply with the measures. Despite the Act empowering the government to impose fines on individuals who do comply with guidance, the imposition of fines and restrictions should only be used for policy the general public has been made sufficiently aware of. People may need to be coerced or forced to follow guidelines for their own protection, but it is the responsibility of the ruling powers to provide awareness about the nature of the disease and about the mechanism by which face masks and physical distancing prevent its spread. Despite the government launching telephone hotlines, awareness messages termed ‘caller tunes’, promoting the use of sanitizers/sprays in public and private offices, and the use of roadside bill boards in urban localities to make people aware about masks and physical distancing, there has been no comprehensive campaign strategy across the country. Timely implementation of COVID-safe measures requires public awareness and government advocacy and policies (Li et al. 2020). The government is thus actively working with various national and international institutes exploring alternative response models with regards to containing the pandemic. However, the people are becoming desensitized to the messages of the government and healthcare agencies, leading them to attribute COVID-19 to ‘the will of God’ while the healthcare system crumbles. The lesser-educated communities in villages and semi-urban spaces of Bangladesh, for example, are also prone to neglecting the scientific reasoning behind wearing masks, staying under lockdown or avoiding mass political or religious gatherings.

In order to create a mass awareness program to curtail the spread of the virus, the government launched the ‘No Mask, No Service’ policy on 25 October 2020, which stipulating that public services will only be provided if service recipients wear masks (The Business Standard 2020g). However, the general public does not have a thorough understanding of who should wear a mask, how to wear it, and how it offers protection from COVID-19. The general public must be informed how to use a face mask correctly, including washing one’s hands before picking it up, not touching the material, and only picking it up by the straps to prevent cross-contamination (Aloui-Zarrouk et al. (2020)). Bangladeshis must be encouraged to use face masks and also be made aware of how to use masks safely without the risk of cross-contamination. The WHO updated their guidelines in December 2020 to include using clean hands before to put the mask on, washing the hands after touching the mask, ensuring the mask covers the nose, mouth and chin, hygienic storage and disposal of the mask, and even selecting an appropriate design of mask (WHO 2020b). The guidelines aim to contain the spread of viral transmission and respond to the healthcare challenges of the COVID-19 pandemic (Huynh et al. 2020). Even people living in the district, divisional and city areas who do commonly use face masks typically do not wash their hands before or after adjusting their mask, and many do not dispose of their masks properly after use.

Without access to a vaccine, how can the government mitigate the spread of the virus amid a possible second wave? The pandemic preparedness and response plan was designed with the aim of solving this problem by making the public aware of the nature of the disease and the various preventive measures, as well as mitigating the spread of the virus. Usually pandemic preparedness and healthcare response plans are designed to provide directions to the government to adopt measures ethically that can inspire people to protect themselves from infection using protective measures such as face masks and physical distancing. Effective epidemic preparedness and response planning encourages the health authorities to make people use face masks and maintain physical distancing while outside the home. Further infected patients should be kept isolated and quarantined. Further, the Act was designed to legitimize imposing restrictions on individuals who do not follow guidelines. It empowers the authorities to impose restrictions on the public to use masks and physical distance while outside. According to section 11(1) of the Act, the DGHS issued a circular on 06 May 2020, which was updated on 30 May, declaring that people must wear face masks, maintain physical distancing and other health measures while they are outside the home. The Act warns that violators can be prosecuted under section 24, 25 and 26 of the Act, imposing a maximum sentence of six months, or a BDT 1 lakh fine, or both (Section 24). If a person obstructs or impedes the Director General, the Civil Surgeon or the authorized officer in discharging any of the duties assigned to him and refuses to comply with any directives of the Director General, Civil Surgeon or authorized officer for the purpose of prevention, control and eradication of infectious diseases, such an act would be a crime. Violators also carry a prison sentence of three months or a maximum fine of BDT 50,000, or both (Section 25). Section 26 also warns that if a person intentionally gives false or incorrect information, despite knowing the correct information about the infectious disease, it would be a crime to do the same to that person. Such person shall be punished with imprisonment for a term not exceeding two months, or a maximum fine of BDT 25,000, or both. Bangladeshis who do not follow health guidelines have received fines for not wearing face masks (The Financial Express 2020b; The Business Standard 2020). But why do the public not follow health guidelines? The strict measures introduced to contain the virus, as stipulated in epidemic preparedness and response planning, and policy directives cannot function effectively as there are no parliamentary guidelines on how to conduct a public awareness program. The extent to which people follow the measures altruistically is based on their understanding and ability to follow the health guidelines. The parliament should produce guidelines for the government to increase public awareness around how face masks work, how to effectively use them, how physical distancing works, and why it is important. Only then will the public embrace the measures altruistically. This altruism will increase public motivation to wear face masks more effectively than the perception of vulnerability. A recently published modeling study suggests that individual adoption of health protective measures (hand washing, mask wearing, and physical distancing) can be effective strategies to contain COVID-19 (Teslya et al. 2020). Kraaijeveld (2020) argues that an altruistic approach is fundamental to harm prevention and to flattening the transmission curve, which is morally preferable because it preserves basic freedom of movement.

In Western liberal societies, individuals are considered as autonomous, rational and moral agents, where one belongs to oneself (Fan 1997). Individuals have rights to make free choices in healthcare, but one’s health status is determined by those personal behavioral choices (Laskar 2014). The right to health determines that the individual has an obligation to behave in a way conducive of maintaining one’s health, and is consistent with the restriction of unhealthy choices as an autonomous body (Laskar 2014). Moreover, individuals are provided proper education and made aware about how to mitigate viral transmission using masks and physical distancing so as to protect themselves from COVID-19. Furthermore, individual personal control over health choices is fundamentally a moral question of right and wrong (Laskar 2014). When the individual makes a choice to adopt a “wrong” health habit or lifestyle, the legal authority in the West carefully imposes restrictions on individual freedom and liberty. Therefore, an individual who does not make the “right” health choices therefore has the room to improve their health habits, modify their lifestyle, and to exert control over it. Thus, the altruistic approach is primarily adopted in the Western liberal societies to mitigate COVID-19 transmission; they only apply restrictive measures when necessary. But the general public in Bangladesh is not as aware about their health as those in Western societies. Kraaijeveld (2020) argues that when an altruistic approach is adopted; the general public is left free to choose to act responsibly. People can be aware about using masks and physical distancing without the need for imposing robust restrictions or fines. The 1966 International Covenant on Civil and Political Rights stipulates that restrictions on individual rights to protect public health are not needlessly harmful (Sekalala et al. 2020). Imposing heavy restrictions on individuals often creates mistrust in the government policies, healthcare measures and interventions. Government should assist the public, not for acting as restrictive authorities. If an altruistic approach is found to be insufficient to contain the spread of the virus and protect the vulnerable, i.e. if individuals do not take personal responsibility and fail to adopt appropriate measures, then more restrictive measures (termed by Kraaijeveld as lockdowns) may be warranted, or even necessary (Kraaijeveld 2020).

**Concluding Remark**

Bangladesh has put in place mandatory wearing of face masks and practicing of physical distancing to mitigate the spread of the virus and allow the healthcare systems to fight COVID-19. Imposing extensive measures are counterproductive, as people are not willing to follow the restrictive measures, especially in semi-urban and rural areas. If the government fails to effectively intervene by introducing non-medical measures to contain COVID-19, healthcare systems may not be able to tackle the full swing of the pandemic. Furthermore, new clusters of infection have been identified, intensifying the expectation of a second wave of COVID-19 in countries across Europe and elsewhere (The Guardian 2020). The outcome will be dire for people in countries where healthcare systems lack the involvement of institutional ethics committees in the provision of providing clinical care (Siraj et al. 2020). As a result, poor and middle-class people will be unfairly prevented from receiving healthcare services, and thus more human lives will be lost. Until an effective vaccine or reliable treatment has been invented, there is no other solution but for governments globally to revise pandemic preparedness and healthcare response plans and produce parliamentary guidelines to improve public understanding about the nature of the disease. Only through improved public understanding will the altruistic use of protective measures be sufficient to flatten the curve of the second wave of the COVID-19 pandemic in Bangladesh.

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