

A Seminar paper on
PANDEMIC COVID-19: PRESENT STATUS AND CHALLENGES IN BANGLADESH

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PANDEMIC COVID-19: PRESENT STATUS AND CHALLENGES IN BANGLADESH

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ABSTRACT

An outbreak of pandemic (COVID-19) has become a global concern in 2020 which is caused by Severe Acute Respiratory Syndrome (SARS-CoV-2) and possess a serious threat to human health and the economy of the whole world. Healthcare systems of most of the countries have failed to combat against this pandemic disease. Bangladesh is one of the most densely populated countries in the world and outbreak of this COVID-19 continues to evolve very rapidly in this country. Bangladesh is struggling with this novel viral disease with inadequate resources. Here, we aimed to describe the present status of COVID-19 and challenges to combat this dreadful disease in Bangladesh. The first case of COVID-19 patient in Bangladesh was detected on March 8, 2020. Bangladesh is the 108th country to declare this case. As of June 30, 2020, a total of 145,483 peoples are officially reported as COVID-19 infected with 1,847 deaths. COVID-19 patients were found in all 64 districts in of the country. Again, print, electronic and social media have reported a series of the cases about suspicious deaths of patients with COVID-19 symptoms which weren't counted nationally. Among the infected patients 69.2% were male and 31.1% were female. Many challenges are remained to be addressed to fight against this fearsome disease like limited number of test, lack of safety equipment, limited number of health service providers, lack of treatment facilities, community transmission, lack of public awareness, effects of economy of the country, disparity in education, large number of rohingya refuges, struggling of transgender, impact on tourism, fall down restaurant business etc. Though the country has limited resources, the government has taken various steps to control this pandemic the epidemic such as travel bans, remote office activities, regional lockdown, diagnosis of the suspected cases, quarantine of doubted people isolation of infected patients, increase public awareness and enforce social distancing. Moreover, the government has announced several financial stimulus packages. Along with the government, private, autonomous, non-government organizations, researchers, scientists, doctors, industrialists and international organizations have to work together to mitigate this highly contagious disease.

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CHAPTER I

INTRODUCTION

In the last six months, the people across the globe are struggling against a novel coronavirus. The coronaviruses were first identified from the nasal cavities of patients suffered from common cold on mid-1960s (Geller *et al.*, 2012). Coronaviruses are classified under the family Coronaviridae. Coronaviruses have enveloped virions that measure 120nm in diameter. Coronaviruses got their name from the way that they look under a microscope. The virus consists of a core of genetic material enclosed by an envelope with protein spikes. This gives it appearance of a crown. The word Corona means “crown” in Latin (Masters P *Set al.*, 2013).

A group of patients of pneumonia with unknown cause were reported for the first time in the Wuhan city of Hubei Province in China in December, 2019 (Zhu *et al.*, 2020; Huang *et al.*, 2020; Wang *et al.*, 2020; Lu *et al.*, 2020; Peeri *et al.*, 2020; Kraemer *et al.*, 2020). The primary symptoms were fever, cough, dyspnea, myalgia or fatigue, headache, hemoptysis, diarrhea and acute respiratory distress syndrome (ARDS) (Haunget *et al.*, 2020; Jiang *et al.*, 2020). Chinese health authorities identified that those cases were caused by a novel coronavirus (Lu *et al.*, 2020). The Chinese Center for Disease Control and Prevention (CDCC) has confirmed the causative agent from throat swab samples on January 7, 2020 and named the pathogen as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) (Shohrabiet *et al.*, 2020). Again, World Health Organization (WHO) named this disease as coronavirus disease (Shohrabiet *et al.*, 2020). It has been reported that the virus could have spread from an infected animal to humans through unlawfully trafficked pangolins, prized in Asia for food and medicine (Lu H, Stratton CW *et al.*, 2020). Experts have pointed to either bats or snakes as possible sources (WHO, 2020).

The WHO declared the virus a pandemic on March 11 and assumed it was "deeply concerned by the alarming levels of blowout and cruelty" of the outbreak. Outside of China the same kind of disease were reported in Thailand, Japan and South Korea in the same month. The WHO recommends basic hygiene such as regularly washing hands with soap and water, and covering the mouth with elbow when sneezing or coughing. Maintain "social distancing" - keeping at least 1.8 meters (six feet) between person to person and avoid touching face, eyes and mouth with

unwashed hands. Avoid unnecessary, undefended contact with animals and be sure to carefully wash hands after contact (WHO, 2020b).

Common symptoms of COVID-19 include fever, cough, fatigue, shortness of breath, and loss of sense of smell. Difficulties may include pneumonia and acute respiratory distress syndrome (Moses R. COVID-19). The time from exposure to onset of symptoms is typically around five days but may range from two to fourteen days (CDC, 2019). There is no known vaccine or specific antiviral treatment for this pandemic disease.

Bangladesh is one of the most densely populated countries (170 million people in 147,000 sq.km), with limited health care systems and the poor economy. Recently, Bangladesh's economy is growing well with a GDP growth rate of more than 7.5%. However, about 20% of the total population is poor. Because of the rapid spread of the COVID-19, Bangladesh's economy has started taking a big hit. Regional shutdown has already suspended all economic activities except agriculture and made thousands of employments at risk. International trade orders, mainly in ready-made garments industries, are being greatly canceled.

The Institute of Epidemiology Disease Control and Research (IEDCR) used to carry out all the tests. But presently about 68 other laboratories are performing coronavirus tests in and outside the capital. An estimated 20% of cases lead to clinically in serious 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 group (WHO, 2020b).

Keeping these considerations in view, the present study was aimed to focus on the following objectives:

- ✚ To investigate the present status of COVID-19 in Bangladesh
- ✚ To find out the major challenges for combating against pandemic COVID-19

CHAPTER II

MATERIALS AND METHODS

This seminar paper is exclusively a review paper. All data and information are adopted as a secondary data. It has been prepared by reviewing the various articles published in different books, proceedings, abstracts, review papers, journals etc. available in the library of Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur. For collecting recent information, I visited different websites through internet. The necessary thoughts, ideas, facts and findings has been collected through internet searching and incorporated with the body of the seminar. I prepared this paper in consultation with my learned major professor, and other concerned experts. After collecting necessary information, it has been compiled and arranged chronologically for better understanding and clarification.

CHAPTER III

RESULTS AND DISCUSSION

The pandemic COVID-19 is describing the global health crisis of our time and the highest challenge we have faced since World War Two. The pandemic is much more than a health crisis, it's also an unprecedented socio-economic crisis. As of June 30, 2020, it affected 10,573,959 people with 529,127 deaths and 6,125,486 people were recovered within the whole world.

In the South Asian region, the pandemic COVID-19 continues to spread, with most countries reporting many cases now. Currently the growth rate of cases in India is the highest among the countries of South-East Asia, secondly Pakistan and Bangladesh is in third position till 30 June (Table 1).

Table 1. Coronavirus cases in South Asia

Country	Affected no
India	5,86,956
Pakistan	2,13,470
Bangladesh	1,45,483
Nepal	13,564
Myanmar	306
Srilanka	242
Bhutan	77

(Source: Wikipedia, 2020)

3.1 SURVEILLANCE OF COVID-19 FROM MARCH 2020-JUNE 2020

Between 9 March and 30 June 2020, rendering to the Institute of Epidemiology, Disease Control and Research Centre (IEDCR), there were 1,49,258 COVID-19 confirmed cases by rt-PCR, including 1,847 related death and 59,624 recovered (Figure 1).

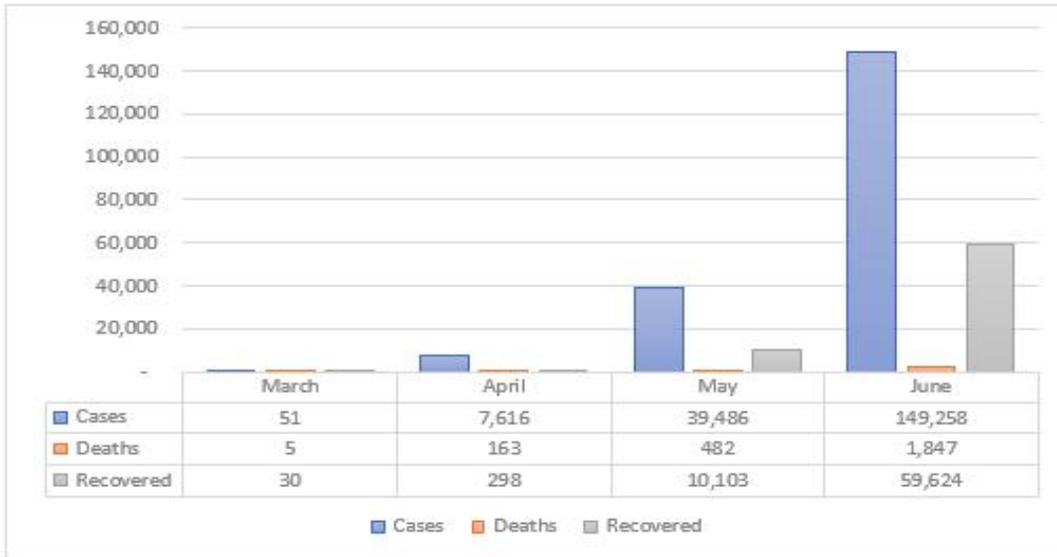


Figure1. Monthly distribution of reported confirmed COVID-19 cases, deaths and recovery

(Source: IEDCR, 2020b) There has been an increasing trend in the number of confirmed cases and deaths since March 2020. But, the recovery rate is increasing day by day.

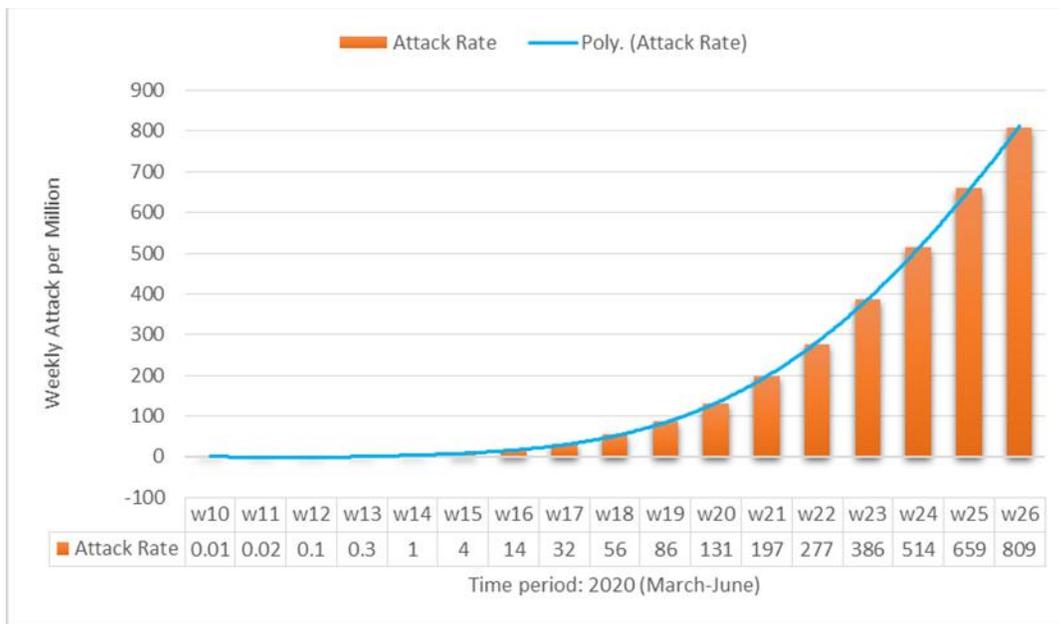


Figure 2. Weekly COVID-19 attack rate, deaths and recovery (08 March-30 June)

(Source: WHO, 2020c)

In the current week (epidemiological week 26), the number of COVID-19 confirmed cases increased by 2.8% in comparison to the previous week (25,481 and 24,786 and respectively **(Figure 2)**).

The overall rate of COVID-19 has been increasing day by day and the increasing rate start since 4 May 2020.

Table 2. Division wise distribution of reported confirmed COVID-19 cases

Division	Confirmed cases
Dhaka	20,851
Chattogram	19,620
Sylhet	4,208
Khulna	3,887
Mymensingh	2,953
Rajshahi	2,719
Rangpur	2,501
Barishal	2,416

(Source: IEDCR,2020b)

The highest affected case continues to observe in the Dhaka division (20,851). Within the Dhaka division, Naryanganj has the highest confirmed cases (5,021), followed by Gazipur (3,270), Dhaka city (3,106), Munshigonj (1,944), Faridpur (1,827), Narsingdi (1,280), Kishoregonj (1,083), Madaripur (666), Tangail (628), Gopalganj (609), Manikganj (576), Shariatpur (472), Rajbari (369).

The second highest confirmed case is reported from Chattogram division (19,620). Within the division, Chattogram reported the highest (8,035), followed by Comilla district (3,074), Noakhali (2,092), Cox's Bazar (2,506), Chandpur (856), Lakshmipur (823), Feni (786), Brahmanbaria (733), Bandarban (312), Khagrachari (287), Rangamati (116).

The third highest affected case is observed from Sylhet division (4,208). Followed by Sylhet (2,250), Sunamganj (959), Habiganj (585), Maulovibazar (414).

The fourth highest COVID-19 confirmed cases reported from Khulna division (1,786). Followed by Jessore district (555), Kushtia (535), Chuadanga (212), Bagerhat (166), Jhenaidah (165), Satkhira (159), Narail (153), Magura (97), Meherpur (59).

Mymensingh division reported over all confirmed cases (2,953), with the highest confirmed cases in Mymensingh (1,656), Jamalpur (542), Netrokona (511), Sherpur (244).

The sixth highest total affected cases reported from Rajshahi division (2,719). Followed by Rajshahi district(610), Naogaon (452), Pabna (447), Sirajganj (439), Joypurht (366), Natore (167), Bogra (137).

Rangpur division reported confirmed cases (2,501). Followed by Rangpur district (835), Dinajpur (563), Nilphamari (327), Gaibandha (236), Thakurgaon (196), Kurigram (136), Panchagarh (132), Lalmonirhat (76).

Barishal division reported confirmed cases (2461), followed by Barishal district (1,378), Bhola(286), Barguna (245), Patuakhali (204), Jhalokathi (193), Pirojpur (155)(**Table 2**).

(Source: WHO, 2020c)

Figure 3. Gender and age distribution wise COVID-19 confirmed cases (June 30, 2020)

From the following data, mostly affected COVID-19 confirmed cases is (31-40) age group, whereas male is (20.20%) and female is (7.40%). In case of female, (21-30) age group are mostly affected, including female is (7.90%) and male is (15.20%). All age group males are more reported of COVID-19 cases rather than female(**Figure.3**).

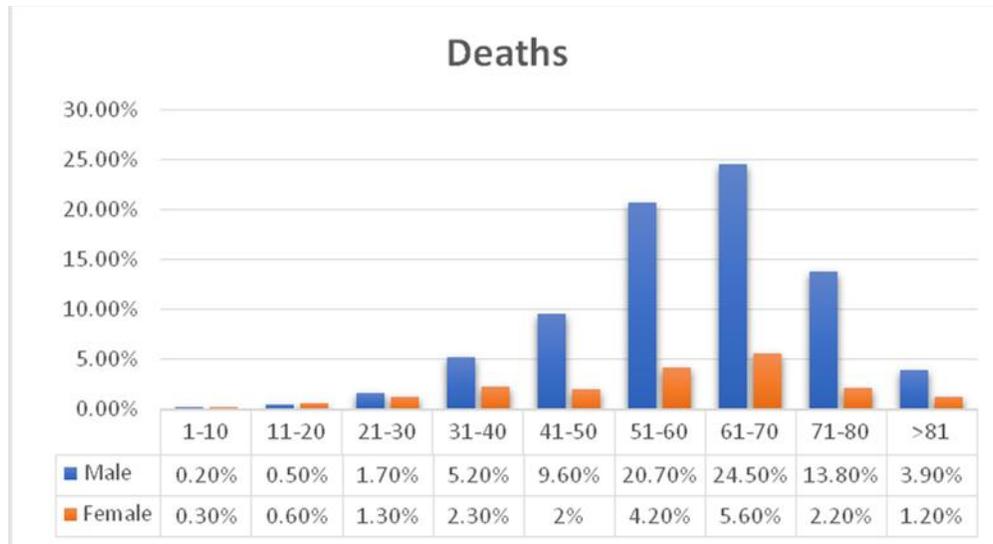


Figure 4. Death rate of COVID-19 by age and gender distribution(June 30,2020)

(Source:WHO, 2020c)

This figure showing the following data, mortality rate of male is higher than female. And the male of (61-70) ages are highly vulnerable to death (24.50%) where the mortality rate of female is (5.60%) on the same age group. Mortality rate is lower in (1-10) age group(**Figure 4**).

Table 3. Isolation and quarantine parameter of COVID-19 patients from March,2020 to June, 2020

Parameter	Quarantine	Isolation
Present	64,667	15,145
Released from hospital	2,99,199	11,440
Total	3,63,866	26,587

(Source:IEDCR,2020b)

According to IEDCR, as of 30 June, the current quarantine capacity in the country is represented by 629 centres across 64 districts. A total of 363,866 individuals were placed in quarantine facilities and of them 299,199 have been already released. By 30 June 2020, in total 26,587

individuals were isolated in designated health facilities all over the country, of them 11,440 have been released, and 15,145 are presently in isolation facilities(**Table 3**).

3.2 CHALLENGES OF COVID-19 IN BANGLADESH:

Although the government has taken several steps for controlling COVID-19 likely, increasing public awareness, quarantine and isolation of suspected people, area or regional lockdown, restrictions on travelling and social distancing and nominate the army to motivate people and also declared some packages to help in the economy but still now many challenges are facing by the people. Many challenges of COVID-19 in Bangladesh are briefly described as below:

3.2.1 Limited Number of Test:

Extensive testing has been one of the crucial measures to limit coronavirus infection since the outbreak started. Concerns continue to develop in Bangladesh over the country's inadequate coronavirus testing ability, with experts controlling the government to focus on increasing daily tests to admire a successful fight against the pandemic. As per government data, Bangladesh had tested 769,460 people on June 30, over 100 days since the country's first COVID-19 case was reported on March 8. A total of 1,45,483 people have tested positive so far, 1208 of whom have died and 1,847 have recovered (IEDCR, 2020b).

Rendering to (IEDCR), which activates under the Health Organization, there are 68 laboratories in Bangladesh, containing 44 in the capital Dhaka, which can carry out coronavirus tests (IEDCR, 2020b). The combined ability of these 68 labs is about 25,000 samples per day, but authorities have been guiding only on average 18,000 tests over the past few days.

Bangladesh, which has a population of over 160 million, has the second lowest number of tests in Asia with just 90 per one million people, according to data compiled by World meter. An extremely low number of tests may have chance to leave a higher number of cases undetected in Bangladesh.

Fig 5. Month wise total COVID-19 test

(Source: IEDCR, 2020b)

This graph is showing the month wise COVID-19 test from March 2020 to June 2020. A total of (769,460) test has been done within these three months(**Figure 5**). On June 30, 2020(18,426) test was performed by 68 laboratories and on June 15, 2020(15,773) test was performed by 58 laboratories (IEDCR, 2020b). The laboratory facilities for testing for SARS-CoV-2 has increased from 58 to 68 in numbers, but comparing with increasing laboratory number the test volume is very poor.

Table 4. Division wise laboratory number for COVID-19 test

Division	Number
Dhaka	44
Mymensingh	2
Sylhet	2
Chattogram	9
Barishal	1
Khulna	3
Rajshahi	5
Rangpur	2

(Source:WHO, 2020c)

In Barishal division only 1 laboratory performed COVID-19 test. But only 1 laboratory is not sufficient for a 1 division. Whereas the laboratories for COVID-19 test in other divisions including in Dhaka city-44, Mymensingh-2, Sylhet-2, Chattogram-9, Barishal-1, Khulna-3, Rajshahi-5 and in Rangpur-2. It is necessary to increase the number of laboratory outside the Dhaka division (Table 4).

3.2.2 Lack of Safety Equipment:

Inadequate supply of medical equipment likely PPE, hand gloves and masks is one of the major problems to provide treatment facilities. A significant lack of this safety equipment is fuelling the concern of doctors and nurses (WHO, 2020a).

Table 5. PPE stock from 22 June to 29 June

PPE Stock	Number
PPE and face shields	1,235,772
Masks	3,033,530
Hand sanitizer	187,924
Gloves	550,471

(Source: WHO, 2020c)

This table is showing the total PPE stock of last 22 June - 29 June. This stock is very poor for all of our doctors, nurses and health workers. However, exposure and a substantial lack of safety equipment are now operating concerns for the safety of these healthcare personnel in Bangladesh (Table 5).

3.2.3 Lack of Public Awareness:

Selling the concept of social distancing to the urban Bangladeshi is difficult, to say the least -- this is not simply based on the citizens' reluctance to stay home, but rather the financial inability of most to do so. But for rural Bangladeshi citizens, not working indefinitely and without explicit support from the state is a literal matter of life and death. The absence of adequate social safety mechanisms and the prevalence of unsustainable industrial markets means that the collective socio-economic effects of Covid-19 on the middle class, marginalized, and daily laborers. Some

people do not conscious about the fatal effect of COVID-19 mainly the young people. But now a day's public awareness is the most important part to combat the effect of COVID-19.

3.2.4 Limited number of health service provider:

Comparing with other country the number of doctors and nurses is very few in Bangladesh. On average per 1000 people Bangladesh has 0.4 doctors whereas Italy has 4.1doctors (Lorenzo GD, and Rossella DT *et al.*, 2020). On the other hand some doctors show unwillingness to treat the COVID-19 affected people, because of their insufficient protective equipment. The doctors and nurses who will provide fight against COVID-19, government should give them incentives and health insurance. Besides, the government has also declared to give training for the community health worker to support the rural people.

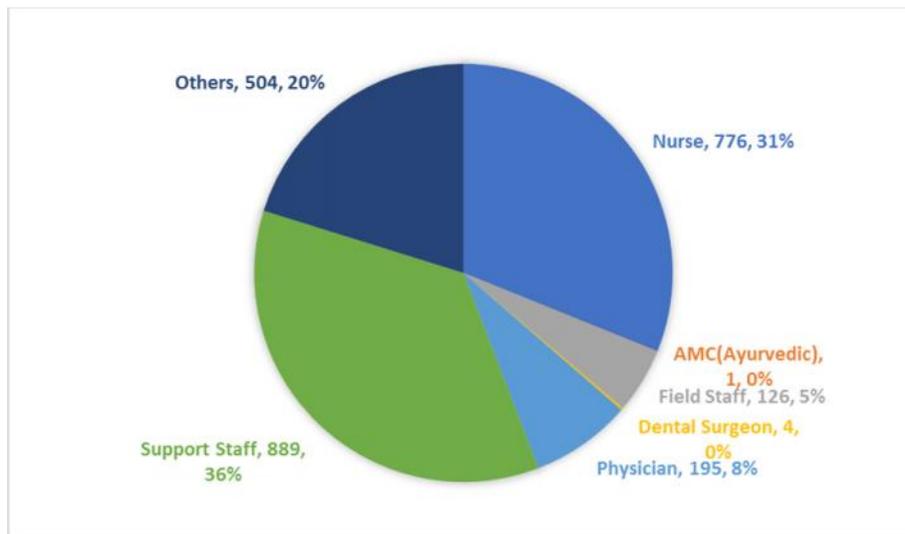


Figure 6. Medical team

(Source:IEDCR, 2020b)

This figure showing the limited number of health service provider to treat this COVID-19 pandemic, whereas physician include only (8%), nurse (31%), support stuff (36%), field staff (5%)(**Figure 6**).

3.2.5 Effects of economy on the country:

Bangladesh is facing a major economic crisis caused by the Covid-19 pandemic. After a brief renewing of the economy, the country now has returned to 'hard' lockdowns in various places to deal with the Covid-19 pandemic. Lockdowns are not possible for a country like Bangladesh if people cannot be provided with the rudimentary requirements of life. More importantly, it would bring the economy to an almost crushing halt which will cause a significant shock to the economy having crippling effects on the lives of people, especially working people and business enterprises across the country. Actually, the economy is now almost coming to a grinding halt with incapacitating effects on all sectors of the economy thus threatening millions of livelihood in Bangladesh.

3.2.6 Large number of Rohingya refugees:

Across Bangladesh, many insolvent societies face a dangerous existence in crowded environments, making them primarily vulnerable to COVID-19. Many Bangladeshis live in densely populated urban and slum areas and Rohingya refugees are stuck in cramped, squalid shelter. Retaining physical distance in these locations is near impossible. In the migrant camps, around 860,000 Rohingya live in just 26 square kilometers of plot in Cox's Bazar. They rest on common distributions for drinking water, food and fuel, which mean they must wait for hours in large groups to receive these. "People feel frustrated with the constant advice to wash their hands because they have only 11 liters water per day, this is not enough to wash the hands all time (Richard Galpin, 2020, MSF water and sanitation expert).

3.2.7 Universities, research and funding:

Universities of Bangladesh have not enough fund for research, and it is reflected on the amount of scientific papers published in International open access scientific journals (Scopus, 2020). With an inadequate opportunity and absence of modern laboratories Bangladeshi scientists struggle to work intensively on issues like COVID-19. Although the western world is investing billions of dollars for COVID-19 research, Bangladeshi scientists are relying on their limited resources and working on this virus from theoretical positions.

3.2.8 Challenges for journalists:

The pandemic COVID-19 that has become a global health concern appears to have made work challenging even for journalists, along with people in other professions, as much around the world as in Bangladesh.

A number of journalists, who are working at the front line in the fight against COVID-19 along with other professionals, have already contracted COVID-19, prompting a few prominent mainstream newspapers to allow journalists to work from home. More than 80 journalists of 40 media houses have so far infected with the pandemic disease, more than 10 of them have already recovered. Most of the journalists who contracted the disease are from television and newspaper correspondents. The novel coronavirus infection and the related quarantine of colleagues have prompted a couple of television channels to accomplish news bulletins through alternative means. A few of the newspapers have momentarily discontinued with their print versions amidst a declining circulation.

Journalists may not have been able to maintain social distancing when they discharge their duties. They have crowded places where they then have enclosed events. And this happened with journalists of media houses of repute. They have largely gathered together when they covered press briefings in some cases. This speaks of a failure of the media house management and the journalists to go by the health safety protocol that is required during COVID-19 emergencies.

The COVID-19 crisis has, however, raised media houses in a position so as to think about new techniques to run the state of affairs in the media industry. This all might set out a new path in the post-COVID-19 period for the better (Ahmed Shatil Alam, 2020).

3.2.9 Fall down restaurant business:

The coronavirus outbreak has severely affected the restaurant business. The number of customers has been falling at an alarming rate since the first case of the coronavirus was identified. The whole industry is in danger of collapsing as party bookings are being cancelled. People are limiting their movement to avoid public gatherings lest they get infected by coronavirus. Industry insiders said a large number of restaurants in the capital have closed their operations. A large

number of restaurant owners are youths and they fear collapse of business due to the coronavirus outbreak (Wikipedia,2020).

3.2.10 Impact on tourism:

Bangladesh tourism is not publicized much in overseas markets but millions of people are involved in it with about 10 million domestic tourism and around 35 million in turnover a year. Hundreds of transportable and excursion companies are being closed; a significant number of small hotels, motels, resorts and restaurants will shut down and thousands of people will be jobless due to the impact of COVID-19 (Wikipedia,2020).

3.2.11 Lack of treatment facilities:

In Bangladesh the diagnosis and treatment facilities for COVID-19 are very poor. Bangladesh has 8 hospital beds for every 10,000 persons; by way of evaluation, the US has 29 beds per 10,000 people while China has 42. Only 17 districts of Bangladesh have ICUs with total 173 ventilators for Covid-19 patients. There is no ICU support for those patients who may be infected by Covid-19 in the rest of the 47 districts. Patients of those 47 districts would have to either transfer to other districts or shift to capital Dhaka where there are 147 ICUs with 3,190 beds (Wikipedia,2020).

At the private level, there are 654 beds for corona patients, 21 ICUs and one dialysis facility. But now private entities have also come forward. Bashundhara group, for illustration, are using the Bashundhara Convention Centre galaxy to build a 2000-unit hospital which will also have 71 Intensive Care Units (ICU). Likewise, Akij Group has also decided to set up a 301-bed hospital in the Tejgaon area (Wikipedia,2020).

Table 6. Division wise coronavirus treatment facilities

Division	ICU beds	Isolation beds
Dhaka	79	2,247
Chattogram	0	848
Mymensingh	26	1,030
Khulna	05	690
Sylhet	02	346
Rajshahi	0	1200
Rangpur	0	787
Barishal	0	545

(Source:IEDCR,2020a)

This table shows Division wise ICU and Isolation beds. In Rajshahi, Rangpur and Barishal division no ICU bed is available. So, in case of critical patient, it needs to move other division for better treatment(**Table 6**).

3.2.12 Shortage of skilled human resources:

To diagnose COVID-19 it requires skilled human resources and sophisticated laboratory facilities for the use of real-time RT-PCR-based-assay. The government is not allowing all hospitals, and organizations to perform the test to avoid contamination, false-negative results and risks of biological hazards. For diagnose the COVID-19 in Bangladesh no rapid test protocol has yet to be used.

3.2.13 Community transmission:

Community transmission is evinced by the incapability to relate positive cases through chains of blowout for a large number of cases. Many positive cases of COVID-19 has also been found in the places where the infected person neither came from abroad nor any family members have returned from abroad, which suggests that community transmission has taken place. The report about suspicious deaths of patients with COVID-19 symptoms has been published gradually by different print, electronic and social media. Some of the people also died in COVID-19 isolation

centers, hospitals at the district level. Only IEDCR was centralized for COVID -19 samples test facilities in the capital Dhaka for a long time, although patients with ambiguous symptoms of COVID-19 were reported throughout the country. At present, the government is now extending the test facilities for COVID-19 at district level, mainly based on the government medical colleges in Bangladesh. Apparently, the number of the test must be extended across the country. At the earliest possible time, test facilities should be available in different areas of the country.

3.2.14 Large number of disadvantaged and vulnerable people:

The elder and the disadvantaged people, including day-laborers, patients with comorbidities have a higher risk of getting infected. Because of their low immunity the elder people are more susceptible to fight against the disease and so that; they need more intensive care-based treatment which would require an increased number of ventilators. Day-laborers are also vulnerable and may cause mass transmission of COVID-19 because they need to go outside to earn their daily food items. For maintaining daily life the working aged people also go outside and they might get infected. To reduce the sufferings of disadvantages and vulnerable people providing essential support to them.

3.2.15 Impact on agriculture sector:

Agriculture sector has been weak for a long time in Bangladesh, which has multiplied due to the pandemic. Agricultural activities across the country are being hindered during the harvesting seasons of the boro rice, potato, onion and maize for the scarcity of laborers and diesel as well as limited marketing opportunities amongst the coronavirus situation.

After the outbreak of COVID-19 in Bangladesh, some illiterate people is saying that corona virus can spreading through transmit from the livestock and poultry and their products (meat, milk, and egg) and it also may spreading through consuming tilapia fish through different social media like Facebook. However, this meat, milk, and egg are essential to humans for disseminate their immunity which might play a vital role in fighting against COVID-19. This kind of harmful activity, through social networks such as Facebook, has already made a negative impact on the poultry and livestock industry of the country. The price of milk, meat, and eggs has been decreased. Approximately 20% of the people of Bangladesh is depend on the livestock and poultry sector for their livelihoods. The government has taken some necessary steps to increase

public awareness through television, social media, print, and electronic media to eat more meat, fish, and eggs for becoming healthy which is very important to increase body immunity.

3.2.16 Disparity in education:

COVID-19 already left a hostile influence on the education of likely five crore students from the primary to university level. All educational institutions have been declared closed since 17 March 2020 and shall stay closed till September 2020 if the situation continues unabated. For continuing education at schools, colleges and universities during this general holiday the government and private institutes declared for continuing online classes and lessons for students from class six to ten are ventilated on the public broadcaster Bangladesh Television (BTV). Children of the rich families have access to online and TV-based alternative means of education introduced by since 44 per cent households in the country had no TV and even a greater number of people had no contact to the internet, a huge number of children from the poor families would miss interest in ongoing education. And there is no electricity in most houses among the hills, so TV or online classes mean nothing for the students. Individuals who don't have contact to the net- and TV- based another means were at the risk of dropping out from schools for which the number of child laborers, early marriage and early pregnancy would surge again. The private universities, mostly run by tuition fees, seem to have been doubly affected by the pandemic. They are anticipating huge financial losses to be sustained by nonpayment of tuition fees caused by the postponement of academic activities. Similarly, the teachers of non-government institutions face a big problem because they can't get their salary timely. All of the coaching centers also being closed from 17 March to till now because of COVID-19; it is also a great impact on the owner of coaching centers.

3.2.17 Struggling of transgenders:

Transgender communities are in desperate need of support as they are not entitled to any fixed income, have been struggling without jobs and daily incomes, much like other members of vulnerable and minority groups across the country due to the current coronavirus situation. The coronavirus epidemic has locked down them in their home and put them in a financial hazard. Many from these societies live hand to mouth, depending completely on income from their daily work. But under the lockdown many will lose their basic income from such means as collecting

alms, participating in religious rituals, or sex work and so that they have been facing shortage of food and daily needs (Wikipedia-2020).

3.2.18 Restrictions on religious gatherings:

Bangladesh has been a place of religious harmony for centuries. The massive displays of cultural and religious belongings on show here have been shaped over the last 5,000 years, following various political regimes including those of the Pal (Buddhist), Sen (Hindu), Mughal (Muslim), and British (Christian). The centuries-long peaceful existence of different religious groups and sects has led Bangladesh to be a place of various religious beliefs and practices, associated with the life cycle. But the COVID-19 pandemic has obstructed religion in various ways, including the termination of the worship services of various faiths. The Ministry of Religion has issued a notice that orders everyone to perform their religious activities at own homes to curb the spread of the deadly novel coronavirus. In case of Muslims it also states that this year any people from Bangladesh and also other countries can't attend the hajj in Mecca because of the pandemic COVID-19, because this pandemic disease also attacks a large number people in Saudi Arabia. In case of death of COVID-19 patients, it forces all religious people to alter rituals for grieving. Relatives and friends are not allowed to touch or kiss the body to prevent germs from spreading. The body treated according to medical service, applying powder instead of bath, prayers and burial preparation takeplace at the hospital and the body should be buried in air-tight pouch.

3.2.19 Impact on remittance:

The Covid-19 pandemic has left its effects on foreign jobs, and the inflow of remittance earning for Bangladesh. The incoming remittance from expatriates is one of the main pillars of the Bangladesh economy and also considered as the life-line for many rural families. The country is the third-largest recipient of remittances within the South Asian region (Bangladesh Bank, 2019). But the Covid-19 pandemic has set to deal a substantial blow to the country's overseas job market and the amount of remittance inflow. By now a large number of Bangladeshi migrants have lost their jobs or received low wages or no pay, which caused low remittance income. Besides, numerous Bangladeshi workers who came home on leave and those who were waiting to fly after getting work visas could not join work abroad(Wikipedia,2020).

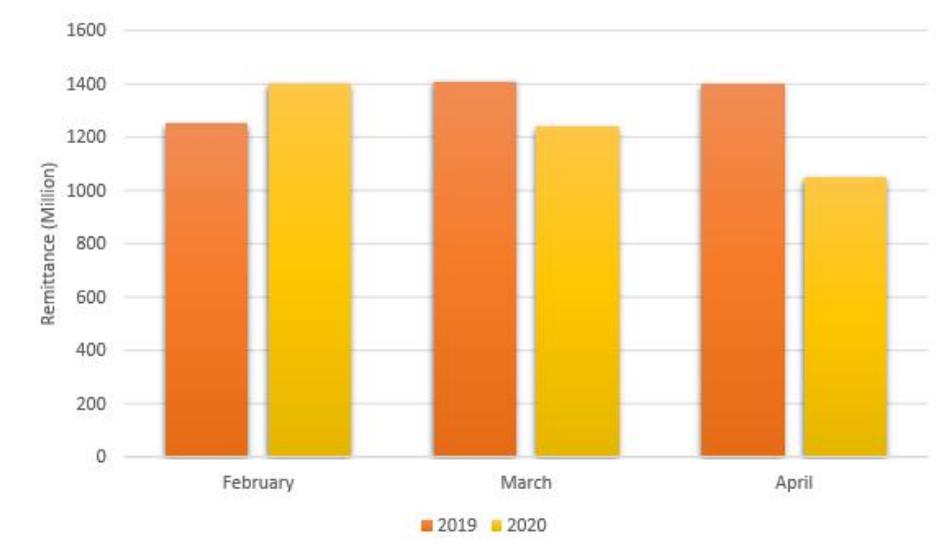


Figure 7. The remittance inflows

(Source: Wikipedia,2020)

This figure describes the comparing of remittance of 2019 and 2020. However, in February 2019 the remittance was more than 1200 million and in February 2020, it was increasing up to 1400 million. In April, the total remittance inflow was \$1.08 billion compared to \$1.43 billion through the same month in 2019(**Figure 7**).

3.2.20 Flying business among hardest hit:

The worldwide portable bans amid the COVID-19 outbreak has severe opposing effects on the international aviation industry. The number of air travel has drastically dropped after the lockdown as almost all the airlifts were suspended.

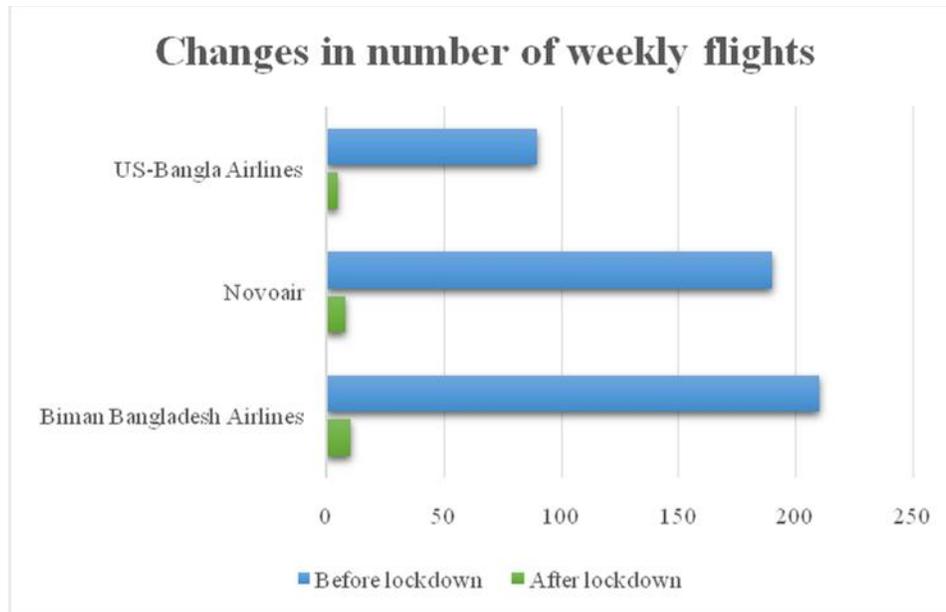


Figure 8. COVID-19 impact on weekly flight numbers

(Source:Wikipedia,2020)

The native airlines Biman Bangladesh, NOVOAIR, US-Bangla combined have sustained losses of BDT 3.5 billion. Biman Bangladesh has cut (70%) of flights on international routes and the number of passenger on domestic routes fell by (25-30%)(**Figure 8**).

3.2.21 Staggering joblessness number:

Due to economic termination in place, millions of people are at unparalleled risk of losing jobs in numerous economic zones such as readymade garments, dairy, poultry, transportation, tourism etc.

Low morbidity in the capitals has resulted in a loss of jobs in the transportation sector paying more than 5 million people (The Independent). And more than 50 million workers in the formal sector will face even terrible consequences of the lockdown among the pandemic (Weforum, 2020) (**Figure 9**)

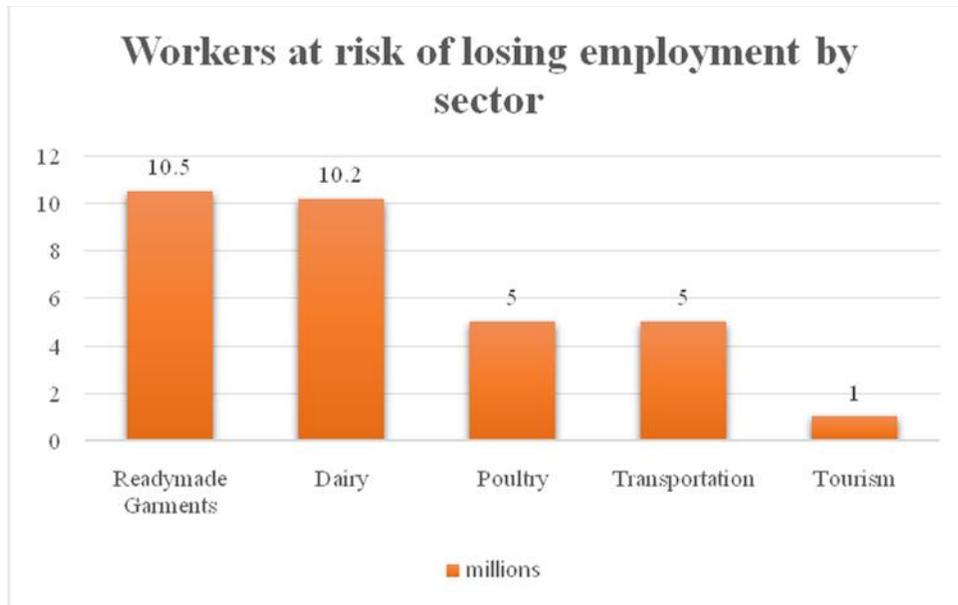


Figure 9. Number of employees at risk of losing service by sector (in millions)

(Source:Wikipedia, 2020)

CHAPTER IV

CONCLUSIONS

The pandemic COVID-19 has distressed people's lives worldwide and brought about extensive social change. A total of 11,193,565 were affected, 6,331,335 recovered and 529,127 deaths occur within the whole world, whereas in Bangladesh 149,258 people were found COVID-19 positive, 59,624 recovered and 1,847 deaths till June 30,2020. Highest confirmed cases were found in Dhaka division (20,851). Male of all ages were vulnerable to COVID-19 by comparing with female. In our country, young people (31-40 years of age) were affected in large amount but the mortality rate was the highest within < 60 age groups. Almost 363,866 people were placed in quarantine facilities and 26,587 individuals were isolated in designated health facilities

The government has taken many steps such as diagnosis of doubted cases, quarantine of suspected people and isolation of infested patients, local or regional lockdown, increasing public awareness and social distancing with the declaration of many financial benefits for businesses, agricultural manufacture, and daily workers. Though, testing the narrow number of samples, lack of diagnostic kits and insufficient PPE, ICU, and ventilators in the hospitals along with public ignorance are the major challenges for fighting against the situation. Hence, the government should take the necessary activities to bring the COVID-19 identifying device from abroad. Simultaneously, the government also needs to import PPE, face masks, ventilators, and ICU beds on an critical basis to fight against lethal COVID-19. Furthermore, the government needs to allot sufficient research funds to conduct research on COVID-19. Along with the government, people also must need to keep social distancing, personal awareness, personal hygiene, self-quarantine condition and to follow the rules of the country and WHO as well.

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