Editorial:

**Crisis in Availability of Medicine and Healthcare Facilities during the COVID-19 Crisis:
Reality or Manipulation in Bangladeshi Market?**

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Abbreviations:

COVID 19/Covid 19 - Corona-virus Disease 2019

IEDCR - Institute of Epidemiology, Disease Control and Research, Bangladesh

NCDs - Non-Communicable Diseases

nCoV2 - Novel Corona Virus 2

TRIPS - Trade-Related Aspects of Intellectual Property Rights

Introduction:

Since Corona-virus outbreak quickly surges globally, the countries adopted non-therapeutic preventive care and customs, which include the travel bans, remote office activities, country lockdown, and most importantly, social distancing. However, all these measures face lots of the challenges in Bangladesh, a lower-middle-income economy with one of the world's densest populations. There are great concerns also with increased prices and drug shortages for the pertinent medicines and personal protective equipment (PPE) to prevent and treat COVID-19 enhanced by misinformation. Community pharmacists and drug stores play a significant role in the disease management in Bangladesh due to high co-payments. Consequently, there is a need to review the prices and availability of the essential medicine and healthcare facilities in this pandemic.

Social distancing is very difficult in many areas of the country, and with most minimal resources the country possesses, it would be an extreme optimum challenge to implement the mitigation measures. The mobile sanitization facilities and temporary quarantine sites and healthcare facilities help

to resolve the impact of the pandemic at the local level. A prompt, supportive, and empathic collaboration between the government, citizens, and healthcare experts, along with the national and international collaborations, enable the country to minimize the impact of the pandemic.

With the outbreak of novel Corona-virus-2 (nCoV-2) announced a pandemic and an international public health emergency by the World Health Organization (WHO), the entire world is working to address on this crisis. It has been a rapidly evolving and emerging situation. In the last 9 months after the first emergence of the virus in December 2019 in China, and as on 25 September 2020 (Evening - Bangladesh time), near about 32,507,809 people in 215 countries/territories around the globe have been identified as the confirmed cases of Corona-virus Disease 2019 (COVID-19). Among them, a total of 989,235 persons are already died¹⁻². Researchers across the world are working hard to understand better biology of the nCoV-2 and also the epidemiology of novel Corona-virus disease-2019 (COVID-19). The estimated basic reproductive number of the virus is significantly higher than that of many other infectious diseases, and this can potentially result in the capacity of health facilities becoming the overwhelmed, even in the countries that have the most developed healthcare systems. An estimated 20% of cases lead to clinically serious and in complex conditions. With some sporadic cases of serious illness in younger individuals, adults >60 years of age and with the co-morbid conditions make up the most vulnerable group.

In this write-up, we briefly articulate the current

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scenario of COVID-19 in Bangladesh and provide some recommendations on how the country can combat the pandemic.

Bangladesh announced the first confirmed Coronavirus cases in the country after three people tested positive for the infectious virus in the capital Dhaka on 08 March 2020³. With almost every country adopting the aggressive non-therapeutic measures to control the spread of COVID-19, 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.

On 25 March 2020, the Government of Bangladesh (GoB) declared the enforcement of lockdown for 10 days effective from 26 March 2020. With the enforcement of this lockdown travel on water, rail, and air routes was banned and road-transportation was also suspended. All of the non-essential organizations, business concerns, and educational institutions remained closed, except for the pharmacies, groceries, and other unavoidable necessities. Following the declaration, lots of 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 instructions⁴.

On 12 June 2020, the government of Bangladesh introduced the concept of risk zones for prevention of the COVID-19 into Red, Yellow, and Green zones based on the prevailing risks. On 14 June 2020, 11 Red Zones were declared in Chittagong City. And, from 16 June 2020, all shops including pharmacies, in that remained closed for a certain period. This includes addressing issues of availability, access, and adherence to medicines in patients with chronic NCDs during the pandemic. Potential activities also include giving guidance on prevention and possible treatments of COVID-19 based on evidence rather than misinformation as well as reinforcing 'Government Messages' to prevent the spread of COVID-19, including purchasing personal protection equipment (PPE). Suggested activities also include appropriate referral of patients with the severe symptoms. This is important as it can be difficult in practice to differentiate respiratory tract infections from COVID-19 in the patients presenting with cough and fever. Pharmacists and others could also offer online or phone counseling services for patients, promote the rational use of medicines, and potentially offer vaccination services. However,

this may require improved professionalism among the pharmacists and store owners. Pharmacists and others also need to balance demand and supply of the medicines, which is essential in countries with high patient copayments and existing concerns with the availability of medicines in healthcare facilities.

Consequently, we believe that there is acute need in Bangladesh with its high rate of both infectious and communicable diseases, considerable concerns with over-crowding and sanitation, as well as catastrophic consequences for families when members become ill, to assess the impact of COVID-19 on the availability and prices of suggested medicines and other technologies to prevent and treat COVID-19 among pharmacies and drug stores. We have noted that previous research in Bangladesh showed limited increases in the prices of antibiotics over the time, although there were also concerns with the prices of some medicines to treat patients with NCDs. However, we believe there are likely to be shortages of the suggested medicines to treat COVID-19 in Bangladesh with considerable importing of the raw materials potentially affecting the medicine prices. Consequently, we wished to assess the current situation to provide future guidance.

We have some specific/ key questions to Community Pharmacists and Drug Store Owners in Bangladesh regarding prevention and treatment for the COVID-19.

- What changes in the medicine purchasing patterns have you noticed from the beginning of March until the end of May 2020 for anti-malarial (hydroxychloroquine), antibiotics (e.g. Doxycycline, Azithromycin and co-amoxiclav), analgesics, and multivitamins/ immune boosters, based principally on invoices or the other information sources were available. In addition, in some pharmacies, details regarding cold remedies and allergy medicines (some pharmacies). Similarly for the PPE, e.g., face masks, hand sanitizers/antiseptics.

- What shortages/availability concerns have you noticed from the beginning of March until end of May 2020 for pertinent medicines, vitamins, face masks, hand sanitizers and thermometers (based on stock levels or other information sources/ impressions).

In a recent study administered by Professor Mainul Haque & others, where 170 pharmacies and the drug store owners took part, giving 63.9% response spontaneously. Encouragingly, there is

no change in utilization of anti-malarial medicines in 51.2% of stores despite global endorsements. However, the increased utilization of the antibiotics (70.6%), analgesics (97.6%), vitamins (90.6%) and PPE (over 95%) was present. There is no increase in the prices among 50% of the stores for anti-malarial with the similar situation for antibiotics (65.3%), analgesics (54.7%), and vitamins (51.8%). However, the price increases typically for PPE (over 90% of stores). The shortages are also seen for the medicines and PPE, again greater for the PPE⁵.

Doha Declaration:

Further legislation such as Doha Declaration of 2001 worked to rectify the negative impact of TRIPS Agreement. The Doha Declaration on the TRIPS Agreement and Public Health, effective November 2001, was adopted by WTO Ministerial Conference of 2001. Many argued that the TRIPS Agreement hindered the developing countries from implementing measures to improve access to affordable medicines, especially for diseases of public health concerns, such as HIV, Tuberculosis, and Malaria. The Doha Declaration responds to concerns of the developing countries that patent protection rules and other IPRs were hindering access to affordable medicines for populations in those member countries. The Doha Declaration emphasizes flexibility of the TRIPS Agreement and highlights the right of the respective government to interpret TRIPS Agreement in terms of public health. It refers to specific parts of the TRIPS, such as use of compulsory licensing for pharmaceutical drugs only in case of a national emergency and circumstances of extreme urgency and the right to determine what constitutes this - such as to address particularly the public health issues.

Pharma Industry Braces for the Raw Material Crisis: A Hint for Unavailability or Price Hiking of Essential Drugs:

As the supply chain disruption, caused by the ongoing Corona-virus crisis, has triggered fears of a shortage of the pharma raw materials among drug manufacturers. The country's pharmaceutical industry is heavily dependent on India and China, with 70 percent of raw materials coming from those two countries. But the import of active pharmaceutical ingredients used to make drugs has almost remained suspended since the beginning of January this year amid the outbreak of Corona-virus. The country's medicine manufacturing companies have opined that they will face acute crisis of raw materials in the next two or three

months with a minimum amount of stocks left for now⁶⁻⁷.

According to industry insiders, some companies have already begun to experience shortage of the raw materials used to produce the medicines for hepatitis, blood pressure and acidity. The Bangladesh Association of Pharmaceutical Industry (BAPI) has made it known that over 97 percent of raw materials meant for manufacturing drugs are import-dependent. Some (near about) 40 percent comes from China, 30 percent from India, 10 percent from South Korea and the rest is imported from Europe, the United States and Japan. Drug manufacturers think if the Corona-virus crisis lingers, the pharma industry will plunge into a crisis.

Mad Rush for Corona-virus Drug in Dhaka:

Dexamethasone, a cheap and widely used steroid, has become the first drug shown to be able to save lives among COVID-19 patients. Within one hour of media report saying Dexamethasone was found to be first life-saving drug against COVID-19, people were seen purchasing the drug from different medicine stores in some parts of Dhaka. In a visit to some medicine stores in capital's Dhanmandi area, the medicine was found out of stock within an hour. However, none was allowed to purchase more than one box. Even a drug store at Jigatola was selling not more than 20 pieces of tablets to a customer.

Dexamethasone, being cheap and widely used steroid, has become the first choice among the drugs to be able to save lives among COVID-19 patients in what scientists hailed as a "major breakthrough". The drug has shown benefit only on severe COVID-19 patients, who needed respiratory or ventilator support in the hospital. It should not be taken without proper advice from any doctor⁸.

Some Scenarios of High pricing in obtaining Healthcare Services in Bangladesh:

Distressing tales of COVID-19 patients or the suspected patients being charged exorbitantly by the private healthcare facilities have started surfacing.

Mr. M Hossain (A changed name for publication), having tested positive for Covid-19, was brought from Chattogram to the capital city Dhaka. After being turned away by several public hospitals when admission was sought for him, he managed to get admitted in a Private Hospital. The patient was charged Taka 3,83,000/00 for 14 days of treatment, while government hospitals treat

the virus patients free of costs. Additionally, M Hossain had to buy everything he required - ranging food to tissue paper from outside during his stay in the hospital. He had to pay the hospital separately for the two tests to confirm that he had recovered from the infection.

The patient's son, W Hossain (Changed name for publication), said his father did not have any symptoms. The elderly man was admitted to the medical facility so that the doctors could attend to him promptly if any situation arose. He (s) also told that his father was put on oxygen support only for 30 minutes and the hospital charged Taka 86,000 for that. He said his father used to clean the room on his own as no cleaner turned up during the entire period of his stay. And, yet the hospital charged him Taka 45,400 for "hospital service". "Obviously private hospitals will charge for their services, but the billing should be logical. If they make patients pay through the nose amid the pandemic, middle-income people will have to prefer dying at home without treatment instead of availing medical care at private clinics," noted a visibly angry son of the patient (M Hossain).

In another case, Mr SH Islam (Changed name for publication), a businessman in Dhaka's Tejgaon area, got admitted into a Private Hospital on 17 June 2020. His younger brother S Islam said the hospital took Taka 2,00,000/00 in advance when Mr SH Islam was admitted. The hospital authorities told him with a straight face that the treatment at normal isolation would cost Taka 4,00,000/00 per week. Besides, we would have to pay for the intensive care unit, the high-dependency unit and other charges separately, said the patient's sibling. Without known need the patient was placed in a high-dependency unit after admission, which alone costs more than Taka 70,000 per day. "They did lots of tests which I (S Islam) think was not necessary," he claimed.

It is not only overcharging the patient that is the issue. There are more serious allegations against private clinics, like keeping dead bodies as families fail to clear hospital bills immediately.

A fisheries and livestock official at a private organization, died at a private Hospital in Dhaka on 18 June 2020. The hospital billed his family Taka 2,56,000/00 for his three-day treatment. The hospital kept the body for a day as the family failed to clear the payment immediately.

At the beginning of the Corona-virus spread in Bangladesh, private hospitals used to provide Covid-19 patients with free-treatment under a deal

with the government. The health ministry on 24 May 2020 ordered all private and public hospitals to have more than 50 beds to treat Covid-19 patients as the country started witnessing a spike in virus cases.

The private hospitals drew back from the free-treatment contract on 01 June 2020. As the government is yet to fix virus treatment rates at the private healthcare facilities, allegations of overcharging are rife. Health experts have termed the treatment cost a mismatch between public and private hospitals and have called it "discriminatory".

"Corona-virus treatment at private hospitals is difficult for the middle class. If there is any criminalization, availing the facility for limited income people is merely impossible," said Professor Dr Rashid-E-Mahbub, former President, Bangladesh Medical Association (BMA).

He believes the government should intervene immediately, and all the private facilities should be brought under government requisition. "It is the responsibility of the government to provide relief to people in the lower income bracket," added Dr Rashid-E-Mahbub

Spain nationalized nearly all private clinics in the country to combat the pandemic. Even in India, the government brought 80 percent of the private hospital beds under requisition in Maharashtra. Besides, the Indian government fixed rates for private hospitals to treat Covid-19 patients in Delhi.

"The government must step in to cap the treatment charges. The hospitals cannot act like the profit-mongering East India Company while there is a pandemic out there claiming more and more lives every day," said Professor Nazrul Islam, member of the technical advisory committee of Bangladesh Government (GoB) on pandemic management.

Director for hospitals and clinics at the DGHS, GoB told The Business Standard that they were aware of the allegations of private hospitals were over-charging Covid-19 patients. "The DGHS is looking into the matter and legal action will be taken against such hospitals and clinics," he added⁹. Mr Ahmed, a leading epidemiologist in Dhaka who works for Johns Hopkins and Edinburgh Universities, said his friend's death illustrated the need to increase hospital capacity and train more medical staff as case numbers rise.

The country has one of the lowest ratios of the hospital beds to patients in the world. There has been an acute shortage of ICU beds during

the coronavirus outbreak - figures vary but it is estimated that there are just over 1,000 beds for a population of more than 160 million.

"I think we missed an opportunity," said Dr Romen Raihan, a public health expert in Bangladesh. He also added, "I think the so-called lockdown didn't work properly." As time progressed, exemptions were made to the lockdown, with the thousands of garment workers allowed back to work to fulfill the orders for Western brands, and places of the worship reopening. According to him, "A curative approach is suicidal in Bangladesh," and "Our health system is not prepared¹⁰."

As Bangladesh opens up, frontline workers will continue to be affected, but there are fears the virus will sweep the population at large. Some areas with high numbers of cases are being contained to control the spread, but with a healthcare system already bursting at the seams, Bangladesh could slide into a crisis it cannot control.

Conclusions:

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. 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. As the situation intensifies, the world is closely watching how Bangladesh will navigate this crisis.

COVID-19 will only add to these concerns. Consequently, retail drug stores, both licensed and unlicensed in equal numbers, are important in Bangladesh as they are often the principal source of healthcare for patients given their financial circumstances. A key concern though has been

a lack of formal counseling within stores unless pro-actively sought by patients, with currently more than 80% of the population in Bangladesh preferentially seeking care from drug stores as well as untrained or poorly trained village doctors. However, there have been recent steps of address concerns with the publication of standards for drug outlets in the country. Under this system, in a Model Pharmacy (Level I), the service should be provided, managed, or supervised by an A grade pharmacist, with B or C grade pharmaceutical personnel assisting with dispensing under supervision. In a Model Medicine Shop (Level II), the service should be performed at a minimum by a C graded professional.

We are very much concerned to make any great remarks on these issues right now since we could not move forward as of our planning and resources permit because there are some unknown and unseen barriers. Our market leaders are so united as well as organized to protect their interest at the cost of anything what not. It is really an unbelievable and unrealistic situation prevailing thereof in the market as of their will and wish.

The pandemic has impacted on the supply and prices of medicines and PPE in Bangladesh. Key stakeholder groups can play a vital role addressing misinformation, with the enhanced local production helping address future shortages and prices.

Author Contributions:

Aminur Rahman and Professor Abu Kholdun Al-Mahmood conceived the write-up. Mr Rahman prepared first draft. Professor Kholdun commented on the draft and contributed to writing this manuscript. Authors approved final version of the manuscript.

Conflict of Interest:

The authors hereby declare that the research was conducted in absence of any social, commercial or financial relationships that might be construed as the potential conflict of interest as a whole.

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