

Nationwide restrictions to combat consecutive COVID-19 waves: Lessons learnt from a developing country like Bangladesh

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ABSTRACT

Background: Since the first documentation of COVID-19, four waves have hit Bangladesh. This study provides an insight into the scenario of the country during each wave along with the regulations enforced to combat it and it will help the national policy makers to mitigate the loss during any future wave.

Main body: Lockdowns were imposed in many phases but despite all these measures, people were reluctant to follow health guidelines, which worsened the situation. These extended restrictions hampered the country's economy, people's mental health, and the academic life of the students. To fight such a situation, alternative steps like stringent area-based lockdowns, imposing immediate restrictions, and ensuring compulsory quarantine for people coming from other countries can be taken. People need to be encouraged to follow health guidelines, wear masks, get vaccinated otherwise restrictions alone will not be enough to assist the country to overcome the loss during pandemic.

Short conclusion: The identification of the transmitting path, as well as the conduct of contact tracing, must be constantly monitored. Strict legislation, along with people's spontaneous inclination to obey health norms, can help the country overcome the epidemic and establish a positive outcome.

Keywords: Bangladesh, lockdown, economy, academic life, vaccine

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INTRODUCTION: BACKGROUND

Since December 2019, the Coronavirus disease 2019 (COVID-19) has infected the whole world, prompting the current unceasing pandemic. As of March 11, 2022, the world has seen a sum of over 450 million confirmed instances and the death of more than six million people [1]. Bangladesh, a nation of south Asia, is no different, with a total of 1.9 million registered cases along with 29,105 deaths as of March 11, 2022 [1]. Since its first documented case on March 8, 2020, four waves have hit the country. Lockdowns were implemented to limit the spread of disease in the first three waves, but these continuous restrictions disrupted the daily lives of people and they started to come out of their houses, breaching the regulations which further increased the infection rate. Lockdowns cannot be the only

solution to combat the COVID-19 waves. Restraints on movement combined with public awareness, mandatory quarantine for foreigners and immediate steps in preventing contagion spread could work in preventing any future spike in infection.

MAIN TEXT

General Holiday During the First Wave

After screening the first case in early March 2020, the government announced a 10-day nationwide lockdown, which they addressed as a 'general holiday' from March 26 and initially it was imposed till April 4 (**Figure 1**). All the public transports were suspended while the necessary services like hospitals, kitchen markets, drug stores remained open, and people were advised not to go outside [2]. All the educational institutions were closed from March 17 [3].

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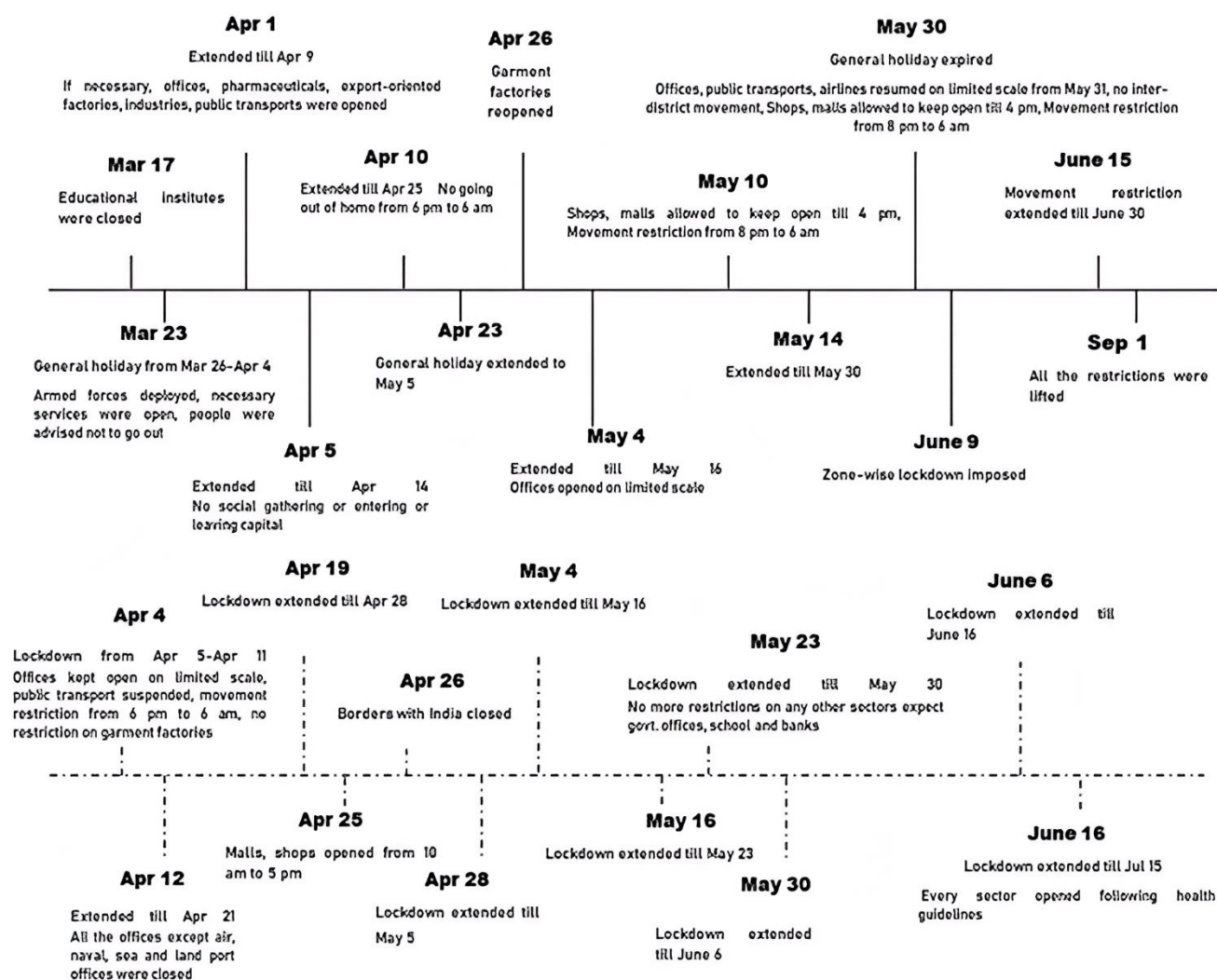


Figure 1. Timeline of restrictions imposed during first two waves of COVID-19 (March 2020-June 2021) (—Restrictions during first wave in March 2020; - - - Restrictions during second wave in April 2021; & ... Restrictions during third wave in July 2021)

The general holiday was extended in phases with stricter measures till May 30. After lifting the general holiday, a zone-wise lockdown was decided to be enforced from June 9 [4].

Since the movement regulation was termed as ‘general holiday’ people did not take it seriously at the beginning and began visiting different tourist spots considering it as a holiday. This unregulated movement spread the disease to the remote corners of the country and increased the infection rate. At that time, people living abroad travelled to Bangladesh as the COVID-19 cases in their countries were increasing but they did not follow the rules of home quarantine and kept worsening the situation in Bangladesh. Mandatory quarantine and proper imposing of movement restrictions could have helped Bangladesh in thriving the first wave.

Lockdown During the Second Wave

However, due to these restrictions and public awareness, the lowest rate of infection was observed from December

2020 to February 2021. On January 17, the infection rate dropped below 5% [5] but it started to rise in March 2021 due to the presence of beta variants among the population. But still there was not enough testing in borders for people arriving from another country. The country saw the highest death and infection rate in more than two months in mid-March. The government imposed a nationwide lockdown for the second time for a week in early April 2021 which was increased till July 15, in several phases and finally the restrictions were eased [6] (Figure 1).

Lockdown on Bordering Districts to Restrict the Delta Variant

Delta variant was first documented in India, and it created a catastrophe there. On April 26, 2021, borders with India were closed as the picture in the neighboring districts continued to deteriorate [7]. Considering the situation, the government started imposing lockdowns on the bordering districts. Still, many people travelled to and from India illegally and as a consequence, the infection kept spreading rapidly.

Nationwide restrictions to combat consecutive COVID-19 waves

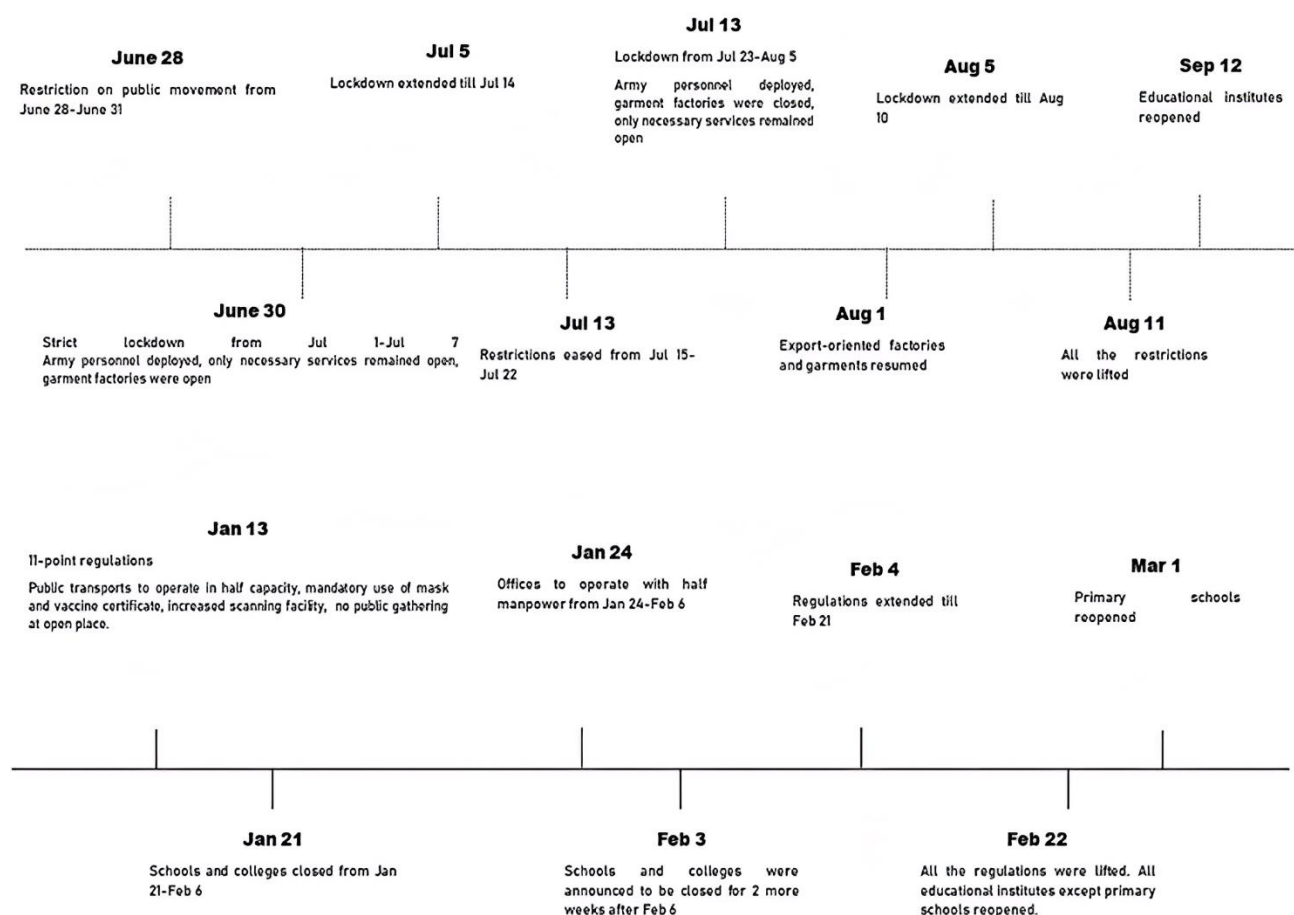


Figure 2. Timeline of restrictions imposed during first two waves of COVID-19 (June 2021-March 2022) (... Restrictions during third wave in July 2021; — Restrictions during fourth wave in January 2022)

Restrictions During the Third Wave

Despite all these measures, the delta variant spread throughout the country. On July 28, the maximum number of people were infected, and the country saw the highest death toll of 258 on July 27 [8]. The government enforced a strict seven-day lockdown from July 1 till August 10 [9] following the lifting of restrictions from August 11 [10] (Figure 2). Thus, so far the nation has already faced lockdown restrictions in several phases to fight the crisis.

Effect of Omicron Variant

The infection rate again started to increase at the beginning of January of 2022. This surge in infection was due to the presence of high spreading omicron variant among the population [11]. Since the variant did not have any severe symptoms, many people kept spreading the disease without even knowing that they were affected. The government imposed restrictions as soon as the surge was spotted (Figure 2). But the restrictions were not properly imposed as there was a trade fair going on, national book fair also took place amid the situation, public gatherings were not strictly monitored. These mismanagements further added to the spreading of the disease which resulted in a large 4th wave of COVID-19 in Bangladesh.

Effectiveness of Restrictions

Bangladesh imposed measures to flatten the infection curve and they were somewhat successful, as the country's infection rate decreased after each round of restrictions (Figure 3). But the country's infection percentage rose even while the prohibitions were in place. The delayed restrictions and for them not being so strict as were said caused this scenario. For the first wave, the regulations were in time, stringent and widely followed and it prevented the infection curve from rising high (Figure 3). However, relaxing the rigorous controls before the curve was flattened led to increased infection. During the second wave, beta variant was prevalent but there was no compulsory quarantine for people entering the country except the UK citizens. In the second and third waves, strict limitations were implemented after the infection curve had already begun to rise and so the spikes were higher than before. Even during the third wave, the restrictions were eased for a week, which increased infection rate as there were more public gatherings. Relaxed lockdowns and breaching the lockdown criteria culminated in these outcomes. During the 4th wave, the regulations were not strictly implemented, and it resulted in a higher infection rate. Instead of putting country-wide lockdowns, strict zone-wise regulations might help to reduce community spreading.

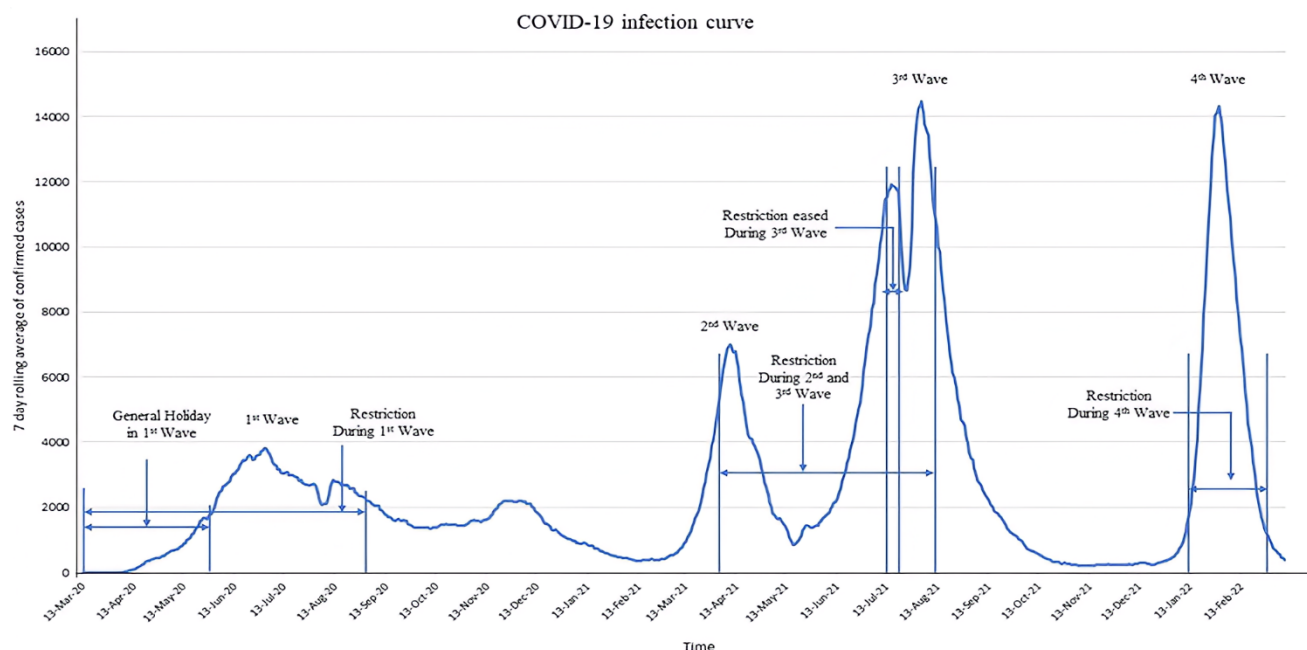


Figure 3. Infection curve of COVID-19 throughout the three waves in Bangladesh along with the restriction periods (The X-axis depicts the 7-day rolling average of confirmed cases obtained from worldometer [1] and the Y-axis indicates the timeline from March 2020-March 2022. Restriction period, general holiday in first wave, eased restrictions in third wave are marked in the curve with an arrow)

Countries that implemented strict and organized lockdowns saw a lower level of contamination, implying that lockdown is an effective way to decrease daily confirmed cases in a pandemic circumstance like COVID-19 [12]. In comparison to a prolonged lockdown with lenient standards, a strict and effective restriction for a short amount of time followed by public awareness could demonstrate the positive result in reducing infection.

Impacts on the Country's Socio-Economic Situation and Education System

Prolonged restrictions hit the economy of the country. Economic losses were estimated to be USD 64.2 million daily because of the prohibition on the daily wage-based working people [13]. The trades focusing on the time during Ramadan and Eid (two Muslim festivals) were halted. Small entrepreneurs were largely affected while many people lost their jobs and around two million people working in the industries were predicted to be affected by lockdowns [14]. Educational institutions reopened in mid-September after 18 months of closure. Stress resulting from uncertainties during this pandemic damaged the mental health of children, parents, students, teachers and resulted in psychosocial issues like suicide [15]. Online classes were conducted but there was a lot of mismanagement. Educationists claimed that this long-term shutdown caused irreparable loss to the students and country as well [16].

Public Perception Towards COVID-19 and the Restrictions Enforced

People seemed to be very reluctant in following the restrictions enforced during the lockdown. As the government extended the period of movement prohibition it

became tougher day by day to keep the people off the streets. Many people came out of their houses to earn livelihoods as the financial condition of the people kept worsening [17]. There are still many misconceptions regarding this disease among people. Many people still consider it a disease of rich or urban people while others think of it as a punishment from the Creator [18]. With a steep rise in the delta variant cases, the picture has changed as the disease has spread to the villages. Most of the patients from rural areas are not keen on coming to the hospitals in time and so it is an arduous task to save the lives of such patients, but the situation is improving with the passing time as more people are accepting vaccines with open arms [19] and this may lead to a normal life soon.

CONCLUSIONS

Bangladesh has faced four waves of COVID-19 and to tackle these waves, necessary measures like implementing lockdowns, movement restrictions were taken but due to these prolonged lockdowns, more and more people lost their jobs and found it hard to earn a living. This also affected the socio-economy and mental health of people. To prevent such situations in future, immediate action should be taken once an increased infection rate is observed. Instead of enforcing country-wide lockdown, which is difficult to maintain, a stringent zone-wise lockdown can be implemented. It would be much easier to restrict people's movement in area-based lockdowns and to provide necessary medical supplies, food to them. People would be more willing to follow lockdowns if they have food and necessary commodities. Anyone coming from another country should be thoroughly checked and for that person, quarantine should be made mandatory.

The identification of the transmitting route and the conduct of contact tracing must be monitored closely. People should be encouraged to wear masks, maintain health guidelines, avoid public gatherings. Strict laws in combination with the spontaneous willingness of people to follow the health regulations can help the country combat this pandemic and see a better future.

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