

## “COVID-19” Fact Sheet

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It is the most discussed pandemic in the world. Started in Wuhan province in China at the end of December 2019 & spread all over the world only in a few months claimed the lives of million people around the world. Bangladesh is no exception to that, In Bangladesh, from 3rd January 2020 to 6:30pm to 30 July 2021, there have been 1,240,115 confirmed cases of COVID-19 with 20,467 deaths, reported to WHO. As of 26 July 2021, a total of 12,334,479 vaccine doses have been administered. Our death rate (1.6%) is comparatively less than other developed & developing country.

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019. It has since then spread worldwide, leading to an ongoing pandemic. It has shaken the world. Business, communication all disrupted. Economy suffered a lot & still suffering.

Affection by the virus is variable. Mostly asymptomatic or mildly symptomatic but others are severely symptomatic & become critically ill & may even succumb to death in spite of best possible management.

Symptoms of COVID-19 often include fever, cough, fatigue, breathing difficulties, and loss of smell and taste, diarrhea, loss of appetite, malaise, fatigue. Symptoms begin one to fourteen days after exposure to the virus. Most people (81%) develop mild to moderate

symptoms (up to mild pneumonia), while 14% develop severe symptoms (dyspnea, hypoxia, or more than 50% lung involvement on imaging) and 5% of patients suffer critical symptoms (respiratory failure, shock, or multi organ dysfunction).<sup>1</sup> At least a third of the people who are infected with the virus remain asymptomatic and do not develop noticeable symptoms at any point in time, but can spread the disease.<sup>2,3</sup> Some patients continue to experience a range of effects—known as long COVID—for months after recovery and damage to organs has been observed. Multi-year studies are underway to further investigate the long term effects of the disease.<sup>4</sup>

The virus that causes COVID-19 spreads mainly when an infected person is in close contact with another person. Small droplets and aerosols containing the virus can spread from an infected person's nose and mouth as they breathe, cough, sneeze, sing, or speak. Other people are infected if the virus gets into their mouth, nose or eyes. The virus may also spread via contaminated surfaces, although this is not thought to be the main route of transmission.<sup>5</sup> The exact route of transmission is rarely proven conclusively,<sup>6</sup> but infection mainly happens when people are near each other for long enough. A person who is infected

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can transmit the virus to others up to two days before they themselves show symptoms, as can an individual who does not experience symptoms. People remain infectious for up to ten days in moderate cases, and two weeks in severe cases. Various testing methods have been developed to diagnose the disease. The standard diagnosis method is by real-time reverse transcription polymerase chain reaction (RT-PCR) from a nasopharyngeal swab. Rapid antigen test is also very specific but not very sensitive.

The immunopathology of COVID 19 is interesting. Although SARS-CoV-2 has a tropism for ACE2-expressing epithelial cells of the respiratory tract, patients with severe COVID-19 have symptoms of systemic hyperinflammation. Clinical laboratory findings of elevated IL-2, IL-7, IL-6, granulocyte-macrophage colony-stimulating factor (GM-CSF), interferon- $\gamma$  inducible protein 10 (IP-10), monocyte chemoattractant protein 1 (MCP-1), Macrophage inflammatory protein 1- $\alpha$  (MIP-1 $\alpha$ ), and tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) indicative of cytokine release syndrome (CRS) suggest an underlying immunopathology.<sup>7</sup>

Additionally, people with COVID-19 and acute respiratory distress syndrome (ARDS) have classical serum biomarkers of CRS, including elevated C-reactive protein (CRP), lactate dehydrogenase (LDH), D-dimer, and ferritin. Other than RT-PCR, HR CT scan of lung is very helpful to diagnose & to plan the management.<sup>8</sup>

Children's can also be affected but their percentage is less & symptoms are also less. Those who have comorbidities are

more vulnerable to be affected, like if having Diabetes, hypertension, malignancy, HIV, immunosuppression, Pregnancy, extreme age. Trans placental transmission is not proven. Management depends on the severity of the disease. Usually in mild cases Paracetamol, antihistamin, Vitamins specially D & anti-oxidant. Breathing exercise & home quarantine. But if there is respiratory distress & hypoxaemia admission is necessary. High flow oxygen, heparin & ICU support often needed. Those who needed ICU support their outcome was not very good.

We know prevention of a disease is better, cheaper & wiser than cure. So we should give more emphasis on prevention. Most accepted measures are – Wearing mask properly while out of home, Hand washing with soap water for 20 seconds, maintaining social distance at least three feet, avoidance of crowd or gathering. Another long desired prevention system is vaccination. Very recently vaccination has started in many parts of the world including Bangladesh.

A COVID - 19 vaccine is a vaccine intended to provide acquired immunity against COVID-19. Prior to the COVID-19 pandemic, work to develop a vaccine against coronavirus diseases like SARS and MERS established knowledge about the structure and function of coronaviruses; this knowledge enabled accelerated development of various vaccine technologies during early 2020.

By January 2021, 69 vaccine candidates were in clinical research, including 43 in Phase I–II trials and 26 in Phase II–III trials. In Phase III trials, several COVID-19

vaccines demonstrated efficacy as high as 95% in preventing symptomatic COVID-19 infections.<sup>9</sup> As of 30 January 2021, 90.44 million doses of COVID 19 vaccine had been administered worldwide based on official reports from national health agencies.<sup>10</sup>

The following 3 vaccines are mostly discussed & authorized in different countries. a) Oxford–AstraZeneca COVID-19 vaccine. b) Pfizer–BioNTech COVID-19 vaccine c) BioNTech, Pfizer, Fosun Pharma, Moderna COVID-19 vaccine. Sino pharm & sputnik vaccines are also available.

COVID has already made our life restricted, miserable & created a panic among all. Delta variant is a new comer, started its dangerous journey from India & by now spread in more than fifty countries of the world. We know by this time, Corona virus is very infectious but Delta variant is more than fifty times infectious than alpha variant & more contagious. It spreads very rapidly if health hygiene is not maintained & vaccine not given. Hope soon the infection rate & death rate will decrease to minimum & we all will be able to enjoy a normal life. Since then stay safe.

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