

Covid-19 pandemic- A global concern

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ABSTRACT:

The world faces a severe and acute public health emergency due to the coronavirus pandemic COVID-19. On 31st December 2019, a new coronavirus causing pneumonia emerged in Wuhan, China, which was confirmed by the World Health Organization (WHO)¹. After the identification of the first case, till the 1st week of March 2022 448,175,126 confirmed cases and 6,027,357 deaths were reported by WHO globally. As the virus is highly contagious and due to its rapidly spreading in nature, on March 11, 2020, WHO declared the disease a pandemic. In Bangladesh, the first case was confirmed on March 8, 2020. Initially, it was named 2019-nCoV but later officially it was named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the Coronavirus Study Group of the International Committee on Taxonomy of Viruses (ICTV) and the disease caused by this virus was named COVID-19 by the WHO. Complete genome sequencing confirms the virus belongs to the beta coronavirus genus. Delta variant spread in the community having more pathogenic and responsible for a large no of death. Subsequently, new variant B.1.1.529 named as omicron variant came into the community which spread more but was less pathogenic. Although now treatment and vaccine are available, there are many infected patients with no symptoms and slight illness, who spread the virus into the society insidiously. In addition to effective personal protection measures, the vaccination can prevent the disease and limit the spread of infection.

KEY WORDS:

Covid-19, Delta variant, Omicron variant, Vaccination, Personal Protection.

INTRODUCTION

Coronaviruses are enveloped non-segmented RNA viruses belonging to the family Corona viridae and the order Nidovirales and are broadly distributed in humans and other mammals. The name "coronavirus" is derived from the Latin corona, meaning crown. SARS-CoV-2 made it seven¹. Although most human coronavirus infections are mild, the epidemics of the two beta coronaviruses, severe acute respiratory syndrome coronavirus (SARS-CoV)² and Middle East respiratory syndrome coronavirus (MERS-CoV), have caused more than 10 000 cumulative cases in the past two decades, with mortality rates of 10% for SARS-CoV and 37% for MERS-CoV.^{2,3} The third zoonotic human coronavirus of the century emerged in December 2019, with a cluster of patients with a connection to Hunan South China. Seafood Market in Wuhan, Hubei Province, China. The suspicion of the emergence of a new virus arose when a cluster of people in a sea-food market in Wuhan City, China developed pneumonia without any clear cause³. The WHO notified the first suspected cases on 31st December 2019 and decided against declaring the outbreak a public health emergency of international concern on 30th January 2020⁴. Examining the whole genome, SARS-CoV-2 maintains ~80% nucleotide identity to the original SARS epidemic viruses. Reservoirs for SARS-CoV-2 are bats⁵, but it is believed that the virus jumped the species barrier to humans from another intermediate animal host. The WHO reported that environmental samples taken from the marketplace have come back positive for the novel coronavirus, but no specific animal association has been identified. An initial report suggested that snakes might be the possible source based on codon usage, but the assertion has been disputed by others. It is now quite clear that efficient human-to-human transmission by respiratory droplets exists and is a requirement for the large-scale spread of SARS-CoV-2. Emerging evidence suggests that it may also be transmitted through contact and fomites. Similar to SARS-CoV, a recent study confirmed that Angiotensin-Converting Enzyme 2 (ACE 2), a membrane

exopeptidase, is present in humans in the epithelia of the lung and small intestine is the receptor used by SARS-CoV-2 for entry into the human cells⁶. The asymptomatic incubation period for individuals infected with SARS-CoV-2 is estimated to range from 1 to 14 days. Symptoms may include fever, dry cough, shortness of breath, sputum production, sore throat, chills, and diarrhea. Further Mutation there is an emergence of Delta variant which can lead to severe pneumonia, acute respiratory distress syndrome, sepsis, septic shock, and death. Among those who died, many had preexisting conditions, including hypertension, diabetes, or cardiovascular disease, and the median time from initial symptoms to death was 14 days (range 6-41 days). Men had a death rate of 2.8% while women had a death rate of 1.7%. In those under the age of 50, the risk of death is less than 0.5% while in those over the age of 70 it is more than 8%. No deaths had occurred under the age of 10. The basic reproduction number has been estimated to be between 1.4 and 3.9 which means each infection from the virus would typically be expected to result in 1.4 to 3.9 new infections. Laboratory testing uses real-time reverse transcription-polymerase chain reaction (rRT-PCR). The test can be done on respiratory or blood samples and results are generally available within a few hours to days⁷.

The new variant of Corona Virus is omicron (SARS-CoV-2 variant: B.1.1.529) which affected the whole world including Bangladesh. Bangladesh is affected badly. Every day the rate was increasing. At the end of January, the diagnostic rate is about 30-33% and it has come down to 0.89% in the last week of March 2022. The Omicron variant can spread 4 times more than the delta variant. But the pathogenicity is less than the delta variant. So hospital admission is less than the Delta variant. Preliminary data suggest that Omicron may cause more mild disease than infection with prior variants. Although some people may still have more severe disease⁸. The two most common areas affected by Omicron feeling pain in the legs and shoulders. Most people experience came with complaints of respiratory symptoms with muscle aches, chest pain, backache, running nose, and fatigue. So the solution is again wearing the mask. Hand sanitization and maintaining distance.

CONCLUSION

Currently, vaccination is going on globally and in Bangladesh on a mass scale to prevent COVID-19. Vaccination prevented complications of COVID-19 successfully. The best way to prevent illness is to avoid being exposed to this virus. However, as a reminder, CDC always recommends every day to prevent the spread of respiratory diseases, including

1. Face Mask should be used by everyone when going out of the home. 'No Mask No Service' should be a theme. Even law enforcement can be imposed to save the nation by wearing the mask.
2. Wash your hands often with soap and water for at least 20 seconds & must before eating; and after blowing your nose, coughing, or sneezing sanitizer can be used for hand cleaning.
3. Distance should be maintained from one person to another by at least 6 feet.
4. People should not be allowed to go in-crowd like meetings, any fair, wedding or festival.

5. Avoid close contact with people, stay home & cover your face when going out of the home.
6. Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.

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