

COVID-19 Pandemic: A Global Emergency

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Abstract

The rapid outbreak of COVID-19 caused by Novel Coronavirus started sometimes in the third week of December 2019 became a serious pandemic disease due to lack of common awareness, sufficient infrastructures and lack of management strategies. As a symptom, it attributes life-threatening respiratory failure and quick outspread as per Public Health Emergency of International Concern (PHEIC). World Health Organization (WHO) provides huge guidelines as mitigation measures to control the community transmission of the disease. Different research institutes across the globe in collaboration with international research organisations are continuously warnings and instructions to prevent community transmission and simultaneously involved to invent the most suitable vaccine for the purpose of COVID-19 prevention. Accordingly, the government of India released additional funding for establishing the modern equipment and infrastructure to fight against this pandemic COVID-19 collapse. Different countries across the globe adopted different mitigation measures to treat COVID-19 infected patients in hospitals, public nursing homes, quarantine centres as well as home quarantine to stop the COVID-19 transmission.

Keywords: COVID-19; Transmission; Prevention; Diagnosis; Treatment.

Introduction

The Novel Coronavirus disease 2019 (COVID-19), a viral infectious disease was first identified in the wet local fish market in Wuhan city, Hubei province in China (H. Lu et al., 2020). Wuhan is one of the most congested cities in central China with 11 million populations. Initially, the most notable clinical symptoms were fever, dry cough, body

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pain, headache, dyspnea, viral infection in lung and respiratory failure. The first COVID-19 symptoms in Wuhan was identified to those people who are directly involved in trading of fish and a variety of live animals' meat in the wholesale Seafood market.¹ Chinese Centre for Disaster Control and Prevention (CCDC) agency collected the swab samples of affected people of Wuhan to identify the disease type on January 7, 2020 and demonstrated that disease was caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Later on, WHO (WHO, 2020a) named the disease as COVID-19.

World-wide Emergency in Health Sector

WHO declared the COVID-19 outbreak as International Concern of Public Health Emergency, a higher risk to vulnerable health system across the different countries on January 30, 2020. The concerned committees of disease prevention across the globe have stated that the outbreak of the pandemic COVID-19 can only be prevented by quick detection followed by isolation including self-home quarantine for at least 14 days and finally providing proper treatment to the affected people (WHO, 2020b). In this context, different government and non-government organisations/bodies have dedicated to produce scientific articles regarding safety and preventive measures to fight against its transmission COVID-19, and to overcome the pandemic situation. They are devoted to consolidate and disseminate the information through different open access journals by giving their best effort to aware the global people and scientific community (Wellcome, 2020) at large.

Transmission and Spread of COVID-19

Till today, a few numbers of studies are currently able to define the patho-physiological characteristics of COVID-19 and the spreading mechanism. At the present situation, it is believed that the numbers of increasing COVID-19 cases are generally due to human transmission through respiratory fomites (CDCP, 2020). Normally, a COVID-19 patient is more vulnerable, symptomatic when the 'respiratory viruses' become more contagious and possesses higher transmissibility/transferability. Typically, it is proved that the patients belonging to asymptomatic COVID-19 infection with incubation periods between 2 to 10 days become more prone to re-infection through the human body to human body transmission (Rothe et. al, 2020; Li et. al, 2020).

Prevention of COVID-19

US Centers for Disease Control and Prevention (CDC) and WHO recommended to avoid the movement at high-risk areas and not to come in close contact with symptomatic COVID-19 individuals to prevent the COVID infection. They have recommended to maintain the personal hygiene and frequent hand washing by the shop or liquid shop, use of sanitiser, use of PPE and face mask for the medical attendee.

Diagnosis of COVID-19

In general, the COVID-19 symptoms include fever, dry cough, body pain, headache, dyspnea; and this viral infection affects the lung and also causes acute injury of the kidney. The laboratory test must be required for the suspected COVID-19 patients by using two types of test namely viral tests and antibody tests.

Treatment of COVID-19

Nowadays, no proper antiviral or vaccine is available for the treatment of COVID-19 positive patients. So, different countries have adopted their own multi-centre clinical trials to control the spreading and treatment of the COVID-19 positive patients in the current situation. Generally, during the initial stage of treatment medical attendee provides first-aid treatment as antibiotic therapy such as paracetamol for fever, azithromycin for fever and dry cough of COVID-19 patients. Simultaneously, during this stage of treatment, they are provided with healthy food, personal hygiene, isolated medical hospital treatment rooms and beds, and continuous monitoring. The COVID-19 patients having a severe acute respiratory infection or problems are to be provided with immediate oxygen therapy. In the worst situation as a broad spectrum, the antibiotic treatment should also be administered within 1 hour of patient admission for the initial assessment (Rhodes et al, 2017).

Prognosis of COVID-19

So far up to, July 27, 2020, a total 654,181 numbers of death have been reported globally. The total 16,546,775 number of confirmed COVID-19 positive and 10,131,737 number of recovered COVID-19 patients have been reported in different countries, viz., US, Brazil, India, Russia, South Africa, Japan, Italy, China, Iran, France, Philippines, Thailand and Australia (Worldometer, 2020). However, nowadays, the positive COVID-19 cases and death are increasing in different countries. The current mortality rate of COVID-19 is 3.4 percent in the world (Li, 2020). The patients aged ≥ 70 years are recorded to have a too shorter duration of medical duration, i.e., 11.5 days (from initial symptoms to death), highlighting the vulnerability of COVID-19 pandemic.

Methods of Reduction of Transmission

All types of public transportation including long-distance bus routes, railways, metros and all types of national or international flight are totally stopping for controlling the outspread of COVID-19. All local types of markets shopping mall are closed for controlling the outspread of COVID-19. Finally, to stop the transmission and outspread of COVID-19 in the different countries across the globe announced a nation-wide lockdown. Only the emergency services are allowed in lockdown situations.

Conclusion

The COVID-19 outbreak has emerged as a health crisis of international concern. Globally, COVID-19 cases are growing rapidly day-by-day. Quarantine alone is not sufficient enough to prevent COVID-19 transmission primarily world-wide. Further, future more research are required to find out the exact mechanisms of COVID-19 outbreak and its transmission routes, i.e., from human-to-human or animal-to-human and finally the invention of a vaccine against COVID-19. However, the mode of pandemicity and spreading of COVID-19 are changing the speculations and statistics day-by-day and constantly impregnating to think on the different dimensions to figure out the limitations of this COVID-19 pandemic.

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