

Can COVID-19 be Controlled over the World?

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Abstract

By March 9th, 2020, the outbreak of COVID-19 caused 114 019 confirmed cases and 3831 deaths globally, more than Severe Acute Respiratory Syndrome (SARS) which recorded then (8273 cases, 775 deaths) and Middle East Respiratory Syndrome (MERS) recorded (1139 cases, 431 deaths) caused in 2003 and 2013 respectively. A new virus which called COVID-19 causes illness as well as severe symptoms has been inoculated in infected area Wuhan, Hubei, China. Data about this virus is still controversial such as rapid development, increasing cases, and unknown transplantation. However, recently, protocol of protection and prevention of COVID-19 infection has been implementing. Using specific drugs as an effective way to treat infected cases has been implementing also. Consequently, COVID-19 is in the way to be controlled over the world.

Keywords: COVID-19; Corona viruses; Severe Acute Respiratory Syndrome

Abbreviations: Centre for Disease Control and Prevention (CDC); Coronavirus Disease 2019 (COVID-19); Food and Drug Administration (FDA); Middle East Respiratory Syndrome Coronavirus (MERS-CoV); Patient Under Investigation (PUI); Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV); Severe Acute Respiratory Syndrome Coronavirus-type 2 (SARS-CoV-2); The Transplant Society (TTS); World Health Organization (WHO)

Introduction

COVID-19 Outbreaks

Definitely, in last days of December 2019, the world read reports of cases of life-threatening pneumonia in Wuhan, China. Then, new term has been announced (2019-nCoV). A novel coronavirus (COVID-19) was known as the reason of infection. Reported cases of infected individuals have increased rapidly in Wuhan, China. The mentioned virus (COVID-19) has been identified in other places over the world such as Japan, Iran, Thailand, USA, UK, and Canada. The world health organization (WHO) affirmed this disease a public health emergency over the world [1]. Suddenly, new reported cases have been infected by COVID-19 in Italy. At the first days of March, The Italian coronavirus cases surged from hundreds to thousands within two weeks, from a few hundred in the third week of February to more than 3,000 in the first week of March. Then, Italy Covid cases reached 9,172 on 09 March, marking the biggest coronavirus outbreak outside Asia. Italy has been considered the second most affected coronavirus country in the world if cases increase at the current rate. Other places of the world with close transport links to Italy, Iran, and China could also become outbreak epicenters without careful international public health joints [2].

Specific factors affecting spread of COVID-19

By far, mortality rate has been reported as 2-3.5% according to world health organization. Nevertheless, it noted that, the percent of infected cases and the number of death has been increasing since beginning of appearance of virus in Wuhan, China. As a result, there

are specific factors that affect on outbreak covid-19 such as age, sex, demographics of COVID-19 cases and deaths. The median age of infected cases outside of first infected area of China is 45 years. While, according to china's national commission (NHC), approximately 80% of those who died were over the age of 60 and 75 who have medical history disease such as cardiac and diabetes. Older people and people with medical conditions are more vulnerable to becoming severely ill with COVID-19 according to reports of NHC. Males are the biggest fraction of infected cases according to reports of china's national commission (NHC) [3].

Period of incubation

By day, the symptoms and signs are unknown clearly. Symptoms of COVID-19 may appear in different range of days. Symptoms may appear in less than 2 days 0 more than 14 days. Estimation of symptoms varies between 2 days and 14 days which there are asymptomatic transmission [4].

COVID-19 cases and deaths

By March 09, 2020, during my reporting now, Coronavirus cases surged to 111366 based on laboratory confirmed cases according to reports of WHO, deaths 3882 whilst recovered cases have reached 62661 [5].

A paper by the Chinese CCDC released on Feb. 17, which is based on 72,314 confirmed, suspected, and asymptomatic cases of COVID-19 in China as of Feb. 11, and was published in the Chinese Journal of Epidemiology.

Background on human coronaviruses

According to genome sequencing, animal reservoirs are the reasons of human coronaviruses transmission [6]. The high rate of mutation of corona RNA virus gives these viruses a strong ability to adapt to varied hosts. There are similarities between COVID-19 and other two types of viruses, severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) both of which have generated large-scale public health responses in the last 2 decades [7,8].

The family of betacoronaviruses obtains The COVID-19, SARS-CoV and MERS-CoV, and Bats are considered the same reservoirs to them [9]. An unconfirmed but likely mammalian the source of pathogenic strains of (COVID-19) is likely mammalian but still an unconfirmed [10]. These betacoronaviruses typically produce respiratory and gastroenteritis symptoms in human and animal hosts, respectively. The remaining identified human coronaviruses (HCoV-229E, HKU1, NL63, OC43) are limited in their severity of disease and often fail to produce symptoms greater than the common cold in immune-competent hosts [11].

How can it be transmitted?

There are many reports of studies resulted that the modes of transmission of novel coronavirus are human to human and animal to human [12]. Generally, the COVID-19 can be transmitted through close contact between person to person within about 6 feet and through respiratory droplets which are produced by infected person coughs or sneezes. These droplets can land in the mouths or nose of individuals and then inhaled to lungs [13]. Moreover, Infection can be made by contaminated surfaces or objects according to reports of CDC. The virus that causes COVID-19 seems to be highly contagious.

Clinical features and control

To date, over 109 countries have had confirmed cases of COVID-19, although most cases have been in Wuhan, China, with reported cases in all provinces. Approximately one third of patients had complications such as acute respiratory distress syndrome, acute renal injury, septic shock, ventilator-associated pneumonia, but no studies proved that there are clear symptoms of COVID-19 [14,15].

How to diagnose?

Due to strong similarity between COVID-19 symptoms and other types or respiratory viral, detailed travel history is the major base of diagnosis or suspect of coronavirus infection. Any patient with flu like symptoms and travel to China or close contact with a person with confirmed COVID-19 in the past 14 days should be considered a patient under investigation (PUI) [16]. Diagnosis confirmed by Polymerase chain reaction for Coronavirus RNA withdrawing blood sample and swabs for nasopharyngeal or oropharyngeal.

Can we prevent infection?

Currently, depending on reports of CDC and WHO, transmission and mode of infection are still not understood [17]. Thereafter, triage and out of hospital protocols should identify a PUI before or upon emergency department arrival to minimize exposure to other patients and providers. Screening questions and respiratory and hand hygiene are vital system which should be firmly applied. A surgical mask

should be given to any PUI and placed in a private room or negative pressure room if available [18].

National protocol against COVID-19

Some specific countries followed strong protocol to limit and make control on spread of COVID -19 [19]. Fortunately, according to reports of WHO, the recovered cases reached 70 % of infected cases by following this protocol in China. This protocol can be concluded in short points such as, restriction of travel from and to broad, people with symptoms of respiratory diseases and fever over 37.5 Celsius are strongly encouraged stay at home, gathering is avoided, all schools and universities must be closed, any place can lead to gathering must be closed, all event and ceremonies are suspended, shopping centres must be remained closed, every person should wear mask if he needs to contact other and let at least one meter between others, education can be continued online, washing hands must be followed continuously and be always updated by news. Most importantly, international scientists over the world are firmly working on producing vaccine and effective drugs as a treatment of infected cases.

Conclusion

In conclusion, by taking all previous points under consideration, following a firm protocol of protection and prevention of spread the infection of COVID-19 is the only way for our remaining on the earth. Quick production of vaccine is vital matter. Also, detection of effective drugs by scientists is important to limit the infected cases. Eating healthy diets, washing hands Continuous and staying at home as long as possible are vital ways to avoid infection of COVID-19. Engagement joint between individual and governments in implementing the health and safety protocol must be allowable. Learning from another infected countries trials how they control the infection of COVID-19 and made the recovered cases jumped 70% such as great China.

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