



Emergence of COVID-19 (formerly 2019-novel Coronavirus): a new threat from China

Tauseef Ahmad ¹, Alfonso J. Rodriguez-Morales ²

¹Department of Epidemiology and Health Statistics, School of Public Health, Southeast University, Nanjing (210009), China.

²Public Health and Infection Research Group, Faculty of Health Sciences, Universidad Tecnologica de Pereira, Pereira, Risaralda, Colombia.

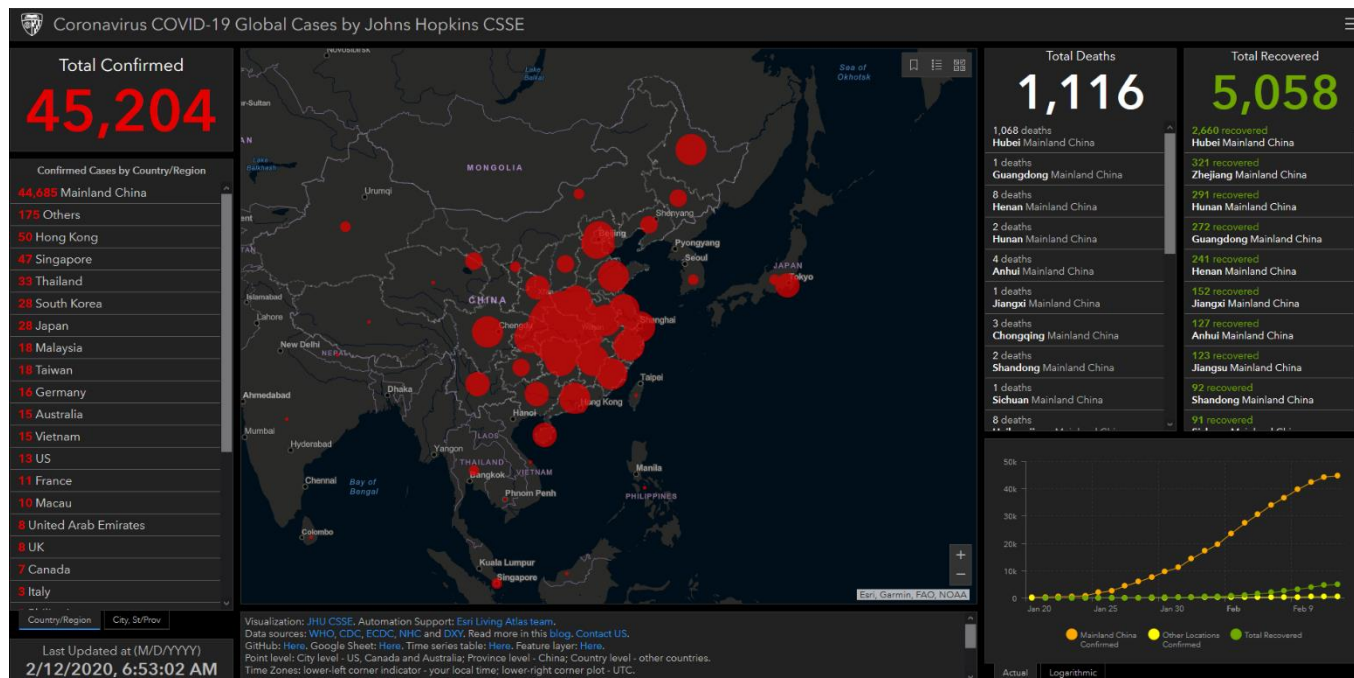
Rev Panam Enf Inf 2019; 2(2):37-38. doi 10.13140/RG.2.2.25239.93607

Published online 12 February 2020.

Copyright © 2020 Ahmad & Rodriguez-Morales. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Coronaviruses (CoV) cause diseases in birds, mammals, and humans, and were first identified in the mid-1960s (Lee, 2015; Bande et al., 2015; CDC, 2020). These viruses are named for the crown-like spikes on their surface (CDC, 2020). Based on the classification of the International Committee for Taxonomy of Viruses (ICTV) coronaviruses are from order Nidovirales, family Coronaviridae and subfamily Coronavirinae. The viruses contain a positive sense, single-stranded Ribonucleic acid (RNA) genome ranged from 26 to 32 kilobases (kb) in length and thus have the largest genomes for RNA viruses (van Regenmortel et al.,

2000). These viruses are further divided into four main subgroups named alpha, beta, gamma, and delta. There are seven human coronaviruses cause infection in humans including HCoV-229E (alpha coronavirus), HCoV-NL63 (alpha coronavirus), HCoV-OC43 (beta coronavirus), HCoV-HKU1 (beta coronavirus), Middle East Respiratory Syndrome, or MERS-CoV (beta coronavirus), Severe Acute Respiratory Syndrome, or SARS-CoV (beta coronavirus), and the newly identified 2019 Novel Coronavirus (2019-nCoV) (CDC, 2020), defined as SARS-CoV2, causing the Coronavirus Virus Disease of 2019 (COVID-19).



Common symptoms of the disease include fever, cough, respiratory symptoms, shortness of breath and breathing difficulties (WHO, 2020), but patients can complicate and even evolve to fatal outcomes.

In December 2019, the Wuhan city, Hubei province of China, reported several cases of pneumonia of unknown etiology (Wuhan Municipal Health Commission, 2019). In January 2020, the causative agent was confirmed as 2019-nCoV (Xinhuanet, 2020). The number of cases has been increased in the last few weeks. As of February 12, 2020, a total of 45,204, confirmed cases of 2019-nCoV had been reported globally. Of the reported cases, 44,685 cases were from mainland China. The number of deaths increased and reached to 1,116 (Figure 1). The infection was spread beyond the border and 25 countries have been reported cases of 2019-nCoV including the United States, Singapore, Japan, Thailand, Australia, Republic of Korea, Malaysia, Germany, France and other countries (WHO, 2020a).

Thus, it is imperative to strengthen the public health system, disease surveillance, and control suspected cases of 2019-nCoV, early detection and diagnosis, to avoid and control further spreading of 2019-nCoV. More joint efforts from the World Health Organization (WHO), the Chinese government, health institutes, researchers are needed in addition to regional efforts to provide and establish policies, guidelines and proper surveillances. There are more elements of concern in the current 2019-nCoV, such as cross border movement, and regional cooperation. Therefore, some strict actions should be taken to curb the disease and prevent further spreading. 2019-nCoV can be transmitted from person to person and should be considered an emerging human pathogen and a new threat to the world.

References

1. Centre for Disease Control and Prevention (CDC). Human Coronavirus Types. National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases, January 10, 2020. Available from: <https://www.cdc.gov/coronavirus/types.html> (accessed on 09 February 2020).
2. World Health Organization (WHO). Coronavirus. WHO. 2020. Available from: <https://www.who.int/health-topics/coronavirus> (accessed on 09 February 2020).
3. van Regenmortel MHV, Fauquet CM, Bishop DHL, Carstens EB, Estes MK, Lemon SM, et al. Coronaviridae. In: MHV v R, Fauquet CM, DHL B, Carstens EB, Estes MK, Lemon SM, et al., editors. Virus taxonomy: Classification and nomenclature of viruses Seventh report of the International Committee on Taxonomy of Viruses. San Diego: Academic Press; 2000. p. 835–49. ISBN 0123702003.
4. Lee C. Porcine epidemic diarrhea virus: An emerging and re-emerging epizootic swine virus. *Virol J.* 2015;12(1):193.

5. Bande F, Arshad SS, Hair Bejo M, Moeini H, Omar AR. Progress and challenges toward the development of vaccines against avian infectious bronchitis. *J Immunol Res.* 2015;2015. <https://doi.org/10.1155/2015/424860>.
6. XINHUANET. New-type coronavirus causes pneumonia in Wuhan: expert. Released on 9 Jan 2020. Available from: http://www.xinhuanet.com/english/2020-01/09/c_138690570.htm (accessed on 09 February 2020).
7. Report of clustering pneumonia of unknown etiology in Wuhan City. Wuhan Municipal Health Commission, 2019. Available from: <http://wjw.wuhan.gov.cn/front/web/showDetail/2019123108989>: In Chinese (accessed on 09 February 2020).
8. Novel coronavirus (2019-nCoV) situation as of 09 February 2020, 16:00 (CET). World Health Organization. Available from: <http://who.maps.arcgis.com/apps/opsdashboard/index.html#c88e37cfc43b4ed3baf977d77e4a0667> (accessed on 10 February 2020).

Corresponding Author: Prof. Alfonso J. Rodriguez-Morales, Public Health and Infection Research Group, Faculty of Health Sciences, Universidad Tecnológica de Pereira, Pereira, Risaralda, Colombia. Email: arodriguezm@utp.edu.co

Conflict of interest: None, all authors.