

The new Coronavirus diseases (COVID-2019): A global Public Health Emergency

Dr. Lumturi MERKURI

EUROPEAN UNIVERSITY OF TIRANA, ALBANIA

lumturie.merkuri@uet.edu.al

Abstract

Public health is facing threats from diseases that are periodically emerging, many with the potential to cause pandemic with social and economic impact worldwide. World Health Organization (WHO) in 2015, has compiled a list of top diseases with potential to generate a public health emergency, and need urgent attention. According to WHO, the list will be reviewed annually or when new diseases emerge. WHO has compiled a list of top 10 threats to global health to focus in 2019. The list contains a number of serious issues but emerging infectious diseases dominate WHO's list. On 31 December 2019, WHO was informed of cases of pneumonia detected in Wuhan City, China which identified as a novel (new) type of coronavirus that has not been previously identified in humans. WHO has confirmed COVID-19 (a shortened version of coronavirus disease 2019) as the name of the disease that CoV infection causes. Coronaviruses are a zoonotic viruses that cause illness from the common cold to more severe diseases such as MERS&SARS. The situation of Covid-19 is rapidly evolving with case counts and deaths increasing each day. On January 30, WHO announced that COVID-19, was a public health emergency of international concern, as latest figures show that 9,826 people have been infected and 213 have died and rates the global risk assessment as high. Cases have been reported and in 26 countries outside of China. On February 20, globally 75 748 cases are confirmed, and 2121 deaths. WHO is working with researchers and other experts to coordinate global work to provide advice and to support countries to prevent the spread of this current

outbreak. Countries have shared information with WHO under the International Health Regulations -IHR 2005, to prevent, protect, control and provide a public health response to the international spread of disease.

Key words: Emerging diseases, coronavirus, covid-19

Introduction

Public health is facing threats from emerging diseases due to the evolution / adaptation of microbes and the re-emergence of old diseases due to the development of antimicrobial resistance. Infectious diseases are periodically emerging and re-emerging in nearly every corner of earth, many with the potential to cause pandemic [1,2].

The impact of the emerging and re-emerging diseases has been enormous at socio-economic and public health levels and it presents a great challenge for the future [3,1].

While the world is facing many public health threats, the World Health Organization (WHO) in 2015, has compiled a list of top emerging pathogens likely to cause severe diseases with potential to generate a public health emergency, and for which no, or insufficient, preventive and curative solutions exist.

WHO's initial list of diseases needing urgent attention includes: 1. Crimean Congo haemorrhagic fever; 2. Filovirus diseases (Ebola); 3.4. *Highly pathogenic emerging Coronaviruses* relevant to humans (MERS CoV- Middle East respiratory syndrome coronavirus & SARS- Severe acute respiratory syndrome); 5. Lassa Fever; 6. Nipah virus disease; 7. Rift Valley Fever. Also listed were three other diseases were designated by WHO as "serious," requiring attention "as soon as possible": 8. chikungunya, 9. severe fever with thrombocytopenia syndrome, and 10. zika [4].

WHO said that other diseases with epidemic potential – such as HIV/AIDS, tuberculosis, malaria, avian influenza, and dengue – were not included in the list because there are major disease under control. According to WHO, the list will be reviewed annually or when new diseases emerge.

So, World Health Organization has compiled a list of the top 10 threats to global health to focus on in 2019. The list contains a number of serious issues from climate change to inadequate health care facilities: 1. Air pollution and climate change, 2. Noncommunicable diseases, 3. Global influenza pandemic, 4. Fragile and vulnerable settings, 5. Antimicrobial resistance, 6. Ebola and other high-threat pathogens (MERS- Co V & SARS, etc.), 7. Weak primary health care, 8. Vaccine hesitancy, 9. Dengue and HIV [5]. As can be seen, infectious diseases dominate WHO's list of 2019 health threats-more than half of the list is made up of emerging infectious diseases.

An emerging infectious disease (EIDs) is one that has appeared and affected a population for the first time, or has existed previously but is rapidly increasing, either in terms of the number of new cases within a population, or its spread to new geographical areas. Also grouped under emerging infectious diseases are those that have affected a given area in the past, declined or were controlled, but are again being reported in increasing numbers. Sometimes an old disease appears in a new clinical form that may be severe or fatal and these are known as re-emerging diseases [6, 7].

Emerging and re-emerging infectious diseases are a significant threat to global health security. Experiences shows that outbreak of these diseases could not only potentially cause a large number of human deaths, but also have huge social and economic impact worldwide. Many of these diseases do not yet have any cure [8].

There has been an extensive progress in the prevention, control and even elimination of some emerging infectious diseases, but however, they still remain a major public health concern, in view of the associated high morbidity and mortality [1].

On 31 December 2019, WHO was informed of cases of pneumonia of unknown cause detected in Wuhan City, Hubei Province of China [9]. From 31 December 2019 through 3 January 2020, a total of 44 case-patients with pneumonia of unknown etiology were reported to WHO by the national authorities in China. During this reported period, the causal agent was not identified [10]. On 11 and 12 January 2020, WHO received further detailed information from the National Health Commission China that the outbreak is associated with exposures in one seafood market in Wuhan City. The Chinese authorities identified a novel (new) type of coronavirus, which was isolated on 7 January 2020. On 12 January 2020, China shared the genetic sequence of the novel coronavirus for countries to use in developing specific diagnostic kits [11].

The World Health Organization has confirmed COVID-19 (a shortened version of coronavirus disease 2019) as the name of the disease that CoV infection causes. Prior to this, the virus and/or disease was known by various names including novel coronavirus (2019-nCoV), 2019-nCoV, or variations on this [12].

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV), that was first identified in Saudi Arabia in 2012 and Severe Acute Respiratory Syndrome (SARS-CoV) [13]. A novel coronavirus (nCoV) is a new strain that has not been previously identified in humans.

Coronaviruses are zoonotic, meaning they are transmitted between animals and people. Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even

death. Standard recommendations to prevent infection spread include regular hand washing, covering mouth and nose when coughing and sneezing, thoroughly cooking meat and eggs. Avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing [14].

On 13 January 2020, the Ministry of Public Health, Thailand reported the first imported case of lab-confirmed novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China. On 15 January 2020, the Ministry of Health, Labour and Welfare, Japan (MHLW) reported an imported case of laboratory-confirmed 2019-novel coronavirus (2019-nCoV) and on 20 January 2020, National IHR Focal Point (NFP) for Republic of Korea reported the first case of novel coronavirus in the Republic of Korea [11]. Person-to-person spread has been confirmed, but it is uncertain how easily the virus spreads between people. Clinical trials and investigations to learn more about the virus, its origin, and how it affects humans are ongoing.

As of 20 January 2020, 282 confirmed cases of 2019-nCoV have been reported from four countries including China (278 cases), Thailand (2 cases), Japan (1 case) and the Republic of Korea (1 case). Cases in Thailand, Japan and Republic of Korea were exported from Wuhan City, China [10].

The situation of Covid-19 is rapidly evolving with case counts and deaths increasing each day. WHO assesses the risk of this event to be very high in China, high at the regional level and high at the global level [15]. On January 30, the World Health Organization announced that the novel coronavirus disease, COVID-19, was a public health emergency of international concern, as latest figures show that 9,826 people have been infected and 213 have died [15].

Cases have been reported and in 26 countries outside of China. On February 20, globally 75 748 cases are confirmed, and 2121 deaths. On this period, outside of China are confirmed 1073 cases infected and 8 deaths [16].

WHO is working with researchers and other experts to coordinate global work on surveillance, epidemiology, modelling, diagnostics, clinical care and treatment, and other ways to identify, manage the disease and limit onward transmission. WHO is working with global experts, to rapidly expand scientific knowledge on this new virus, and to provide advice to countries and individuals on measures to protect health and prevent the spread of this current outbreak. WHO prepared disease commodity package for supplies necessary in identification and management of confirmed patients; provided recommendations to reduce risk of transmission from animals to humans; updated the travel advice for international travel in health in relation to the outbreak; utilizing global expert networks and partnerships for laboratory, infection prevention and control, clinical management and mathematical modelling; activation of R&D blueprint to accelerate diagnostics, vaccines, and therapeutics. WHO has been in regular and direct contact with country authorities since the reporting of these cases [10].

WHO is also informing other countries about the situation and providing support as requested and countries have shared information with WHO under the International Health Regulations. The SARS outbreak in 2002 led to the formation of new International Health Regulations-IHR 2005, with purpose and scope to prevent, protect against, control and provide a public health response to the international spread of disease [17].

In the first days after the coronavirus outbreak became known, a lot of international scientific journals, publishers, funders and scientific societies signed a joint statement that confirmed that all articles and resources relevant to the coronavirus are made immediately open access, or freely available at least for the duration of the outbreak. This based on WHO Statement on developing global norms for sharing data and results during public health emergencies [18]. Scientists and medical professionals around the globe have been relying on freely available studies, resources, and datasets to quickly inform treatment strategies, public health initiatives, etc. Research findings are made available via preprint servers before journal publication, or via platforms that make papers openly accessible before peer review, with clear statements regarding the availability of underlying data.

References

1. Shrivastava SR, Shrivastava PS, Ramasamy J. Emerging and Re-emerging Infectious Diseases: Public Health Perspective. *Int J Prev Med*. 2013;4 (6):736–737.
2. Jones KE, Patel NG, Levy MA, Storeygard A, Balk D, Gittleman JL, et al. Global trends in emerging infectious diseases. *Nature*. 2008; 451:990–3. [PMC free article] [PubMed] [Google Scholar]
3. Kilpatrick AM, Randolph SE. Drivers, dynamics, and control of emerging vector-borne zoonotic diseases. *Lancet*. 2012; 380:1946–55. [PMC free article] [PubMed] [Google Scholar]
4. WHO meeting report on prioritization of pathogens, 8-8 December 2015. Available from:
5. <https://www.who.int/blueprint/what/research-development/meeting-report-prioritization.pdf?ua=1> Accessed 12 January 2020.
6. World Health Organization. Ten threats to global health in 2019. Available from: <https://www.who.int/news-room/feature-stories/ten-threats-to-global-health-in-2019>
7. Accessed 18 January 2020.
8. WHO, Regional Office for South-East Asia. A Brief Guide to Emerging Infectious Diseases and Zoonoses. New Delhi: WHO-SEARO; 2014. Available from: <https://apps.who.int/iris/bitstream/handle/10665/204722/B5123.pdf?sequence=1&isAllowed=y> Accessed 12 January 2020
9. World Health Organization, Regional Office for South-East Asia. Combating emerging infectious diseases in the South-East Asia Region. New Delhi: WHO-SEARO, 2005. Available from: <https://apps.who.int/iris/bitstream/handle/10665/204878/B0005.pdf?sequence=1&isAllowed=y> Accessed 12 January 2020

10. World Health Organization, Regional Office for South-East Asia. (2014). A brief guide to emerging infectious diseases and zoonoses. WHO Regional Office for South-East Asia. Available from: <https://apps.who.int/iris/handle/10665/204722> Accessed 15 January 2020
11. World Health Organization. Coronavirus disease (COVID-19) outbreak. Available from:
12. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/> Accessed 17 January 2020
13. World Health Organization Novel Coronavirus (2019-nCoV) Situation report - 1 21 January 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf?sfvrsn=20a99c10_4 Accessed 26 January 2020
14. World Health Organization Novel Coronavirus (2019-nCoV) Situation report- 8 28 January 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200128-sitrep-8-ncov-cleared.pdf?sfvrsn=8b671ce5_2 Accessed 30 January 2020
15. World Health Organization. WHO Director-General's remarks at the media briefing on 2019-nCoV on 11 February 2020. February 2020 [internet publication]. Available from:
16. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>
17. World Health Organization. Health topics/coronavirus. Available from: <https://www.who.int/health-topics/coronavirus>
18. World Health Organization. Health topics/ Middle East respiratory syndrome coronavirus (MERS-CoV). Available from: [https://www.who.int/en/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-coronavirus-\(mers-cov\)](https://www.who.int/en/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-coronavirus-(mers-cov))
19. World Health Organization. Situation report 11, Novel Coronavirus (2019-nCoV) – 11 31 January 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200131-sitrep-11-ncov.pdf?sfvrsn=de7c0f7_4
20. World Health Organization. Situation report 31, Novel Coronavirus (2019-nCoV) – 31 20 February 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200220-sitrep-31-covid-19.pdf?sfvrsn=dfd11d24_2
21. World Health Organization. International Health Regulations (2005) 3rd ed. Reprinted. Geneva: WHO;2016. Available from: <https://www.who.int/ihr/publications/9789241580496/en/>
22. World Health Organization. Developing global norms for sharing data and results during public health emergencies, available from: https://www.who.int/medicines/ebola-treatment/blueprint_phe_data-share-results/en/