



Letter to the Editor

Unknown sources of COVID-19

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Dear Editor

Corona virus disease-2019 (COVID-19) outbreak has occurred all around the world for more than ten months. This is still not finished and unstable yet up to the present. The World Health Organization (WHO) estimated that about a tenth of the world's population has been infected with COVID-19 [1]. Why so many people infected, and its cases are asymptomatic? Where are the unknown sources of COVID-19 come from? Does it find and identify?

The government from different countries implements several public health policies including:

- 1- Social distance rule which maintains and delays the spread of COVID-19. It's safest to avoid crowded places, limit the number of people in gatherings, and keep a distance of at least 1 m from others for preventing

cross infection as the transmission of SARS-CoV-2 is human-to-human transmission in direct contact and droplets within 2 meters [2].

- 2- Personal protective equipment e.g. face mask and alcohol-based hand sanitizers. Face mask reduces the spread of the virus from people coughs, sneezes, and speaking, also prevent who are contagious and have no symptoms, or are yet to develop them [3]. Alcohol-based hand sanitizers help to avoid getting sick and spreading germs from others. It kills 99.9% of the germ on hands 30 seconds but at least 60% purity of alcohol. Hands washing with water and soap are much better because alcohol-based hand sanitizers can't remove other types of germs such as *Cryptosporidium*, *Clostridium difficile* and Norovirus [4].
- 3- Hold a universal community COVID-19 virus testing program to find the transmission chain and reduce the risk of community outbreaks which focus on the three specific aspects, (i) epidemiological surveillance; (ii) specific cluster testing plan, and (iii) suddenly detection. It's essential to identify the asymptomatic infected people by the early "detection", "isolation", and "treatment" [5].

In fact, these policies are taken already. The infection cases still maintain, or a little bit increase and seem to not decrease gradually. What are the possible reasons? It's regarding the unknown sources of COVID-19 and also would be 1) the leakage of premature testing for incoming travelers and lax hotel quarantine measures [6]; 2) the virus of COVID-19 is mutated; 3) seasonal change affecting COVID-19 infection; 4) the psychological burden for an indoor captivation and an outdoor distancing with the heavy feeling of life for a face mask on the personal attitude in rejecting the logic control measures. This is the most factor in the battle failure against COVID-19. Thus, these unknown sources of COVID-19 infection cases are important signals for reminding the "Fourth wave" of the COVID-19 outbreak, so it must stay vigilant to cope with it. Meanwhile, there is a common upper respiration flu infection that would be appeared in the coming December since the temperature drop. "Flu" combines with "COVID-19" which double attacked people in the world.

At this moment, it's difficult to find and identify the unknown sources of COVID-19 even with all of the public health policies implemented. However, personal hygiene and protection must be done to prevent infection. Probably, it needs to wait for vaccine development or the COVID-19 virus to become a common flu and 60% above people self-produce antibodies to combat the COVID-19 virus.

Author contributions

All authors contributed to the concept, acquisition, and analysis of data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

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