

Stopping SARS-CoV-2 Transmission and Combating COVID-19 Pandemic

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The global leaping of the deadly novel coronavirus that got the name SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), is still looking unstoppable since its origin in Wuhan city (Hubei province, China) in December 2019 and the countries worldwide have implemented strict health measures in the containment of COVID-19 (coronavirus disease 2019), a respiratory infection caused by the virus, SARS-CoV-2 [1,2]. Notably, the WHO (World Health Organization) declared COVID-19 a pandemic, on March 11, 2020, following an alert with the recognition of the disease as PHEIC (Public Health Emergency of International Concern), due to its rapid spread within and outside Wuhan, China, the primary epicenter of the pandemic, on January 30, 2020 [3]. The COVID-19 pandemic has affected nearly every country of all continents, with ~3.35 million global cases and ~0.239 million deaths, as of May 3, 2020, and has created secondary epicenters: Europe, and the US being the 3rd epicenter [3].

There is no specific treatment or vaccine for COVID-19, but, those are of imperative need in combating the COVID-19 pandemic, where-in everyone, from who are newborn to the old people are being the victim [3]. Considering the disease severity, which is in terms of escalating number of infected persons (even though the global case fatality is around 4%) and the speed of the viral transmission, the WHO urges countries to be prepared with stringent actions in suppressing and controlling the ongoing COVID-19 pandemic, and hence to follow the 'isolate-test-treat-trace' strategy, in an aggressive manner [3].

The first strategy is, therefore, to go with the containment measures aiming to prevent the disease from taking hold around early case detection and case isolation (CDCI) with care of infected patients, and treatment, and contact tracing and quarantine of the contacts (CTQ) with careful screening [4,5]. Also, social distancing measures (closure of academic institutes, cancellation of conferences and other mass gatherings, and restriction of non-essential use of public transport) [6], by subsidizing the direct and close contacts among persons, help limit the acquisition (from both asymptomatic and symptomatic people) as well as spread (to susceptible people) of the SARS-CoV-2 infection via respiratory droplets due to sneezing and coughing, and talking [7]. The measures of the containment strategy that necessitates CDCI and CTQ in slowing down the spread of deadly viral particles, and, thus, disrupting the chain of transmission, might overlap the mitigation strategy that aims to public health measures, and protect the people (such as old people and persons with underlying medical conditions) most susceptible to COVID-19; this could be achieved also by physical distancing combined with self (home)-isolation and upkeep of good hygiene (such as hand washing and respiratory etiquettes).

Quarantining (for the contacts of infected individuals and the family members), combined with school closure and workplace distancing, might be effective to mitigate local secondary transmission by restricting the reproductive number (R) to < 1 [8]. However, public

awareness, effective case management (with the development of serological diagnosis complementing RT-qPCR), and treatment (with experimental as well as existing drug therapies) and preventive measures such as vaccines are needed, when at higher asymptomatic transmission rates, in blocking the outbreak resurgence concerning COVID-19 [9].

Finally, what will aid in blocking transmission from seemingly healthy infective sources is mass masking, in the community settings, and that might be with 'cloth masks' alternative to disposable one, fighting the deadly coronavirus, SARS-CoV-2 [10]. But could the asymptomatic people seed new outbreaks of COVID-19? Countries need to tackle the crisis comprehensively and robustly maintaining the global solidarity, to fight the next pandemic, experiencing the current COVID-19 pandemic trajectory.

Conflicts of Interest

We declare no competing interests.

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