LETTER TO THE EDITOR

Is It Possible to Control the Outbreak of COVID-19 in Dharavi, Asia’s Largest Slum Situated in Mumbai?

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Dear Editor,

SARS-CoV-2 is a new strain of coronavirus believed to be originated from bats and making COVID-19 pandemic. It is a pathogenic viral infection initiated from Huanan Seafood wholesale market of Wuhan (Hubei province, central China) on 31st December 2019, where seafood and live animals were sold [1, 2]. This recent outbreak of novel coronavirus has expanded throughout China and spread rapidly worldwide due to onward transmission [3]. The exact route of transmission is not clear yet. But the spike protein (S) of virus may bind to ACE2 as an entry receptor for viral entry into the human host and infects lung alveolar epithelial cells [4-6]. These viruses are very dangerous for immunosuppressed individuals suffering from diabetes, and cardiovascular diseases and lead to pulmonary failure. It may be transmitted through respiratory droplets and even via fectal-oral transmission [7, 8]. That means the human coronaviruses are transmitted from one infected person to another mainly by direct contact through saliva, coughing or sneezing (within a range of about 1-1.5 meters). But, whether its transmission can be forwarded by touching a surface (i.e., a fomite) is uncertain. Moreover, the hospital-related transmission was also suspected in 41% of patients [9]. The most common symptom for COVID-19 is fever, pneumonia followed by cough. After originating from Wuhan, this zoonotic virus has spread rapidly to nearly 210 countries and territories around the globe and causing human-to-human transmission in nearly 17 lac cases with more than 1 lac deaths as on 13th April 2020 [10]. Initially, the mortality rate was reported to ~3% [11]. It was too early to conclude the mortality rate. From the closed cases, the recent mortality rate has reached at ~21%, which may vary depending upon the current cases. Furthermore, the outbreak has destroyed the global economy and stock market. Due to an unclear mechanism for COVID-19 transmission, it is difficult to develop evidence-based infection control protocols to prevent community transmissions.

Dharavi is the most crowded slum situated in Mumbai and is considered as Asia's largest slum which is home to about eight lac people in 2.25 sq kms area. It is also believed that more than 15 lac people may live here. Such types of slum areas are commonly seen in south Asian subcontinents. Nearly 50 positive cases of novel COVID-19 have been reported from Dharavi with the first registered positive case on 1st April 2020. Considering the population density, we may expect more and more positive cases in such areas like Dharavi in the future. Meanwhile, India has reported 8,356 positive cases with 273 deaths as of 13th April 2020, according to WHO. The Indian government announced a lockdown across the country last month and extended again till 3rd May 2020, ordering citizens to stay home, which may prevent spreading the virus. A number of people have travelled to their native places situated in different states. It is believed that the virus may have reached throughout the country with them. According to the epidemiologists, India is in between stage II and stage III transmission. That means not reached the community transmission stage yet. From the WHO data, it seems that Indians are getting infected slower as compared to other countries. This may be because most of the Indians have taken BCG (Bacille Calmette Guerin) vaccine, which is effective against tuberculosis. This vaccine is believed to prevent coronavirus infections. Also just 4 to 6 percent COVID-19 positive cases are found from the total performed tests. But according to WHO, 95% of deaths were of individuals aged above 60 years. And in India, such people have not taken BCG probably.

After the first positive case reported on 1st April 2020, Mumbai Police has barricaded the Dharavi area and police personnel have also been deployed to keep a close watch. As per city authority, containment measures are taken to control the outbreak. BMC has identified some containment zones and taking steps to control the crowd. It is also reported that food packets, grocery packets, vegetables and medicines were distributed to residents in this area. An empty sports stadium is repurposing into a 300-bed quarantine facility. Moreover, a private hospital is taken over to treat coronavirus patients. The patients are staying in a building constructed under the Slum Rehabilitation Authority scheme. Dharavi is one of the most congested areas of the metropolis, where 10-12 people live in 10×10 feet tin hutsments. In such crowded areas, isolation and social distancing is nearly impossible for the people. People are afraid and not supporting to establish contact tracing. Here, another thing is the people living in such slums may not have taken BCG vaccine. So, they are in high-risk category. In that case, government officials and health workers should focus on intensive care. Still the fight against COVID-19 pandemic in Asia’s largest slum is going on. It is the real challenge to stop community transmission in such slums. Let’s hope for the best.

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