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COVID-19 : Face Masks and Human-to-human Transmission

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Dear Editor:

In December 2019, transmission of the novel coronavirus (SARS-CoV-2) that causes coronavirus disease 2019 (COVID-19) occurred in Wuhan, China¹. And later the virus began to be transmitted from person to person². Face masks are a type of personal protective equipment used to prevent the spread of respiratory infections, it may be effective at helping prevent transmission of respiratory viruses and bacteria³. Here, we

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share a case of face masks are be used to prevent the transmission of COVID-19 infection.

We report a typical case of cluster outbreak caused by public transportation exposure, during the outbreak of COVID-19 epidemic, one patient from Chongqing, China, didn't wear a face mask in the first vehicle while wore a face mask in the second vehicle he took. One male patient with COVID 19 found himself coughing. Unaware of the fact that he might have been infected with COVID-19 and in a hurry, he didn't manage to get a face mask before he took the coach bus from the city back to his county. Many passengers didn't wear face masks on the same coach bus. The duration of this bus was 2 hours and 10 minutes, there were 39 other passengers on the same coach bus. According to epidemiological survey, 5 other passengers on the same coach bus were infected. Upon arrival in the county, this male patient bought a face mask and took a minibus to his final destination wearing the mask. The duration of minibus was 50 minutes, there were 14 other passengers on the same minibus. The Center for Disease Control and Prevention conducted an epidemiological investigation and close contact tracing management. The passengers on the minibus that were screened and treated as suspected cases. A 14-day medical observation period was conducted. During the observation period, passengers were taken temperature twice a day and were asked if they had respiratory symptoms such as fever, dry cough, or digestive symptoms such as diarrhea. All the passengers did not have fever, cough or other abnormal symptoms, two quantitative reverse-transcriptase-polymerase-chain-reaction (qRT-PCR) test results were negative. No passengers were infected COVID-19 in the same minibus.

During the outbreak of COVID-19, one patient from Chongqing, China, has transmitted the COVID-19 to 5 people in one vehicle when he didn't wear a face mask while no one was infected later in the second vehicle he took when he wore a face mask. Indicating the importance of wearing face masks for everyone in a closed space. Previous news reported that The Australian Federal Government has released 500000 face masks to general practitioners and other health workers across the country to protect them from infection by COVID-19⁴. Wearing face masks protects yourself and others. Use of face masks are therefore likely to play a vital role in mitigating disease spread⁵.

When taking long-distance public transportation, one should first evaluate his/her own health conditions. Avoid the trip if any symptoms like fever or coughing are present and go to fever clinics as soon as possible, wearing a face mask. Wear a face mask during the entire trip. It is advised that you bring 1-2 extra face masks

and wear a new face mask immediately if the old one is deformed or contaminated. Face masks are recommended for diseases transmitted through droplets and respirators for respiratory aerosols and may prevent infection in public settings⁶. The potential of face masks to reduce the spread of respiratory infections and could be useful⁷. In the study⁸ of attitudes of influenza-vaccinated health care workers toward masks, 65.7% of the participants agreed with infection control recommendation “wearing a mask” to prevent influenza transmission. The lack of research on face masks, further research should focus on assessing the efficacy of face masks against COVID-19, investigating reuse of face masks and assessing compliance.

Competing Interests

The authors declare that they have no competing interests

References

- 1 Zhu N, Zhang D Y, Wang W L, et al. A novel coronavirus from patients with pneumonia in China, 2019[J]. N Engl J Med, 2020, doi: 10.1056/NEJMoa2001017.
- 2 HUANG CL, WANG YM, LI XW, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China[J]. Lancet, 2020, doi: 10.1016/S0140-6736(20)30183-5.
- 3 Desai AN, Mehrotra P. Medical Masks. JAMA. Published online March 4, 2020. doi:10.1001/jama.2020.2331
- 4 Kirby T. Australian Government releases face masks to protect against coronavirus[J]. Lancet, 2020, doi: https://doi.org/10.1016/S2213-2600(20)30064-3.
- 5 Seale H, Dwyer DE, Cowling BJ, et al. A review of medical masks and respirators for use during an influenza pandemic[J]. Influenza and Other Respiratory Viruses, 2009, 3(5):205-206.
- 6 Macintyre C R, Chughtai A A. Facemasks for the prevention of infection in healthcare and community settings[J]. BMJ, 2015, 350(apr09 1):h694-h694.
- 7 Jefferson T, Foxlee R, Del Mar C et al. Physical interventions to interrupt or reduce the spread of respiratory

viruses: systematic review. BMJ 2008; 336:77–80.

8 Brandt et al. (2010) Attitudes of influenza-vaccinated health care workers toward masks to prevent nosocomial transmission of influenza. . Influenza and Other Respiratory Viruses 5(1), 61–66.