



## LETTER TO THE EDITOR

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# Food delivery rider and COVID-19 as a preventive measure – increased safety or risk?

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### Dear Editor,

During COVID-19 pandemic, a decreased social contact is recommended as a basic principle for prevention of disease. Nevertheless, there are many activities that requires going out from home. Seeking food is a basic necessary activity. To support staying at home concept, food delivery service is widely used in many countries during COVID-19 pandemic. It is believed that having food delivery rider to buy and send food directly to home can decreased risk from social contact. However, a little mentioned issue is safety and risk of using food deliver rider system. Prado et al. concluded that “*The self-employed food delivery riders have a high incidence rate of SARS-CoV-2 infection in relation to the national average.*”<sup>1</sup> During COVID-19 outbreak, limitation of transportation is a common public health recommendation. In many countries, the control of population movement by curfew is used. A common prohibition usually focused on going out from home. Many settings promote using food delivery rider and claim for an effectiveness in reducing chance of disease spreading by direct buying and selling food between customer and food shop owner. From a logistic study, ordering of food delivery service was associated with perception on disease prevention among local people during outbreak.<sup>2</sup> However, it is usually neglected for the possible risk due to food delivery rider.

it can confirm that some riders have silent COVID-19 and can be a silent disease spreader. A rider has to wander around and meet several people, hence,

the policies for allowing on food delivery during outbreak might not be a correct solution for pandemic containment. A common reason for supporting food delivery is social distancing.<sup>3</sup> If we consider a basic concept for disease spreading, the spreading is mainly related to contact time and distance. If a rider is a silent COVID-19 carrier, the contact time with food shop owner might be much and the wandering distance of rider can imply a very wide radius of possible disease spreading area and a very long period that the rider can spread disease to external environment comparing to a simple infectious consumer who go to buy at food shop directly. Also, there will be many contact risk persons to a common infectious rider.

**Table 1.** Estimated risk for using and not using food delivery rider service

	Using food delivery service	Not using food delivery service
Overall number of situation that a person contact with another person who is a silent carrier	30.4	1.8
Overall distance of carrier wandering	45.6D	3.6D

Here, a simple simulation model can help clarify the scenario. For primary assumption, it is assumed that food shop is a clean disease free area and an average inter-place distance among food shop, a customer home

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and food rider station within the same community is equal to “D” and the incidence rate of silent COVID-19 among rider and general population, based on previous publications are equal to 15.2% and 1.8%, respectively.<sup>1,4</sup> Based on an amount of 100 food orders per day, the estimated risk for using and not using food delivery rider service is presented in Table 1.

It can show that if the prevalence of asymptomatic COVID-19 among food delivery rider is still high, using a delivery service can increased risk. A higher overall distance that a COVID-19 wandering around and number of situation that a person contact with another person who is a silent carrier is expected. If food delivery policies will be implemented, there must be a measure to confirm for disease-free status of the food delivery rider. Regular disease screening and vaccination for food riders should be mandatory requirements.

## Declarations

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### Author contributions

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### Conflicts of interest

The authors declare for no conflict of interest.

### Data availability

Data sharing not applicable.

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