

## Public Tourist Bus, Tourist Bus Driver, and COVID-19 Infection: A Note

Dear Editor,

COVID-19 is a new emerging coronavirus infection that becomes global public health problem in year 2020. This disease first appeared in China in 2019<sup>[1]</sup> before the spreading worldwide occurred. At present (3 March 2020), more than 45 countries around the world are already affected by COVID-19 Thailand is a tropical country in Southeast where COVID-19 was first imported from China and became the second country in the world that disease emerged.<sup>[2]</sup> Regarding disease transmission, importation of disease via air travel is the first route of disease migration. Then local transmission occurs and causes nationwide problem.

Focusing on transportation, tourist bus is considered as an important possible of disease spreading. Here, the authors would like to share observations from Thailand on tourist bus related COVID-19. At present (3th March 2020), there are accumulated 43 COVID-19 cases in Thailand. Of these 43 cases, there are four tourist bus related COVID-19 cases (9.30%, 95% confidence interval = 3.66% - 23.65%). These four cases are 23.53% of 17 non-foreigner Thai COVID cases.

All have fever and pneumonia and still hospitalized for isolated respiratory care. All are local transmission cases within Thailand. Regarding these tourist bus related COVID-19 cases, three male patients are bus driver gotten infection from bus transportation service to foreign tourists. From history tracking due to surveillance system, all three cases gave the common history of giving service to foreign tourists who have coughing symptom. All of these four cases take long duty for driving tourist bus and have no history of travel aboard or contact with other sick person before developing of disease. All have the long travel, living and eating, with the tourist group. The left one case is a female patient is a closed contact person to a COVID-19 infected bus driver and disease was identified after active case searching and quarantine of risk persons.

Based on this report, it can show that tourist bus is considered an important site that infection occurs in Thailand and it is also the spreading site for local transmission. Preventive strategies for COVID-19 for tourist bus transportation are urgently required. In the present situation, it is likely that the driver who works full day shift with tourists should get infection from tourists. Although it is no possible to confirm evidence based on saying that tourist bus drivers served foreigners who are coughing. One might set a simple question whether the drivers could have met someone else or somewhere with a person, or they could have caused this

to each other at coffee time and one of them contacted it from a local. Since these data are an observation in the early phase of disease outbreak in Thailand when there is still no local transmission and all cases are imported and there is still no local transmission among local Thai people. In addition, further disease investigation showed that there is no COVID-19 positive among other persons that these tourist bus drivers contact before getting disease, including to tour guides of those tourist buses. Some tourists from the tourist buses are also further confirmed for COVID-19 positive. At that period, it can conclude that there are some under-detected infected foreigners from airport that spread the disease in Thailand and the common site for spreading of disease is the tourist bus. As a lesson learnt, infectious disease control for transportation system, especially for those serving foreigners, during the early phase of new emerging disease is very important. Finally, this report is also the first report addressing the incidence of tourist bus related COVID-19 infection.

In fact, it is usually difficult to confirm for an actual incidence showing interrelation between disease acquiring and contact on transportation, the present report shows some interesting evidences. It is possible that the transfer of the COVID-19 virus may occur on public transport. It can conclude that disease transmission might occur during onboard on any transportation and there is a requirement for appropriate infection control during transportation. Further studies are required to get additional concrete evidence and further drawing on further researches in this field with virus and public transport.

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### Conflicts of interest

There are no conflicts of interest.

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Letter to Editor

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