

Imported Wuhan Coronavirus Infection: Is there any Correlation with Number of Immigrants from Endemic Area and Period after the First Outbreak?

Dear Editor,

Wuhan novel coronavirus infection is a newly emerging viral disease that was firstly reported from Wuhan China in December 2019.^[1] The spread of the disease has become a big public health problem. The importation of infection to other new settings via air travel is a big global consideration. Thailand is the first country that the disease was imported from China.^[2] Since the first confirmation of the emerging disease on 3 January 2020, Thailand had implemented screening for immigrants from China, the origin of the infection. Until present (29 January 2020), there are totally 14 imported cases from China to Thailand.

Here, the authors try to assess the possible interrelationship between imported Wuhan coronavirus infection and the number of immigrants from an endemic area and the possible interrelationship between imported Wuhan coronavirus infection and the period after the first outbreak [Figure 1]. The local data on the accumulated number of immigrants from China from the Thai Immigration Bureau and data on the accumulated number of imported infected cases from the Thai Ministry of Public Health are analyzed for the relationship with the period after the first outbreak by correlation analysis. According to the analysis, there is a significant relationship between the accumulated number of imported infected cases and the accumulated number of immigrants from China ($r = 0.972$, $P = 0.150$) or period after the first outbreak ($r = 0.936$, $P = 0.228$). From further mathematical model construction by regression analysis, the equation for representing the relationship is

“ $Y = 0.002 X_1 + 1.124 X_2 - 13.064 - 24.009 - 5.4725$,” where Y = number of imported infected cases (person) and, X_1 = number of immigrants from China (person) and X_2 = period after the first outbreak (day). This report firstly clarifies the situation of imported cases of Wuhan novel coronavirus infection to another country.

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Conflicts of interest

There are no conflicts of interest.

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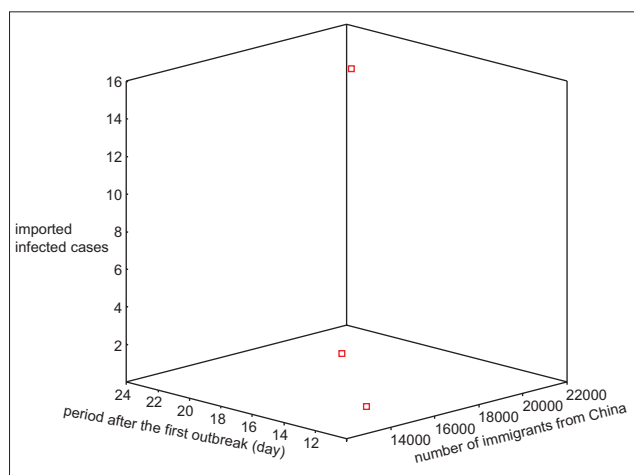


Figure 1: Interrelationship between number of imported infected cases, number of immigrants from China, and period after the first outbreak based on the situation in Thailand

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