

Spreading from Hot Foci of COVID-19 to another Country: Observation from Thailand on Disease Importation by Foreigner

Dear Editor,

COVID-19 is an important new disease. It firstly appeared in China and spread to more than 60 countries at present (9th March 2020).^[1] The dynamicity of disease spreading is very interesting in clinical epidemiology. Thailand is a country in Southeast Asia and it is the second country that the disease existed in.^[2] Until present, there are 50 accumulated cases in Thailand and there are still continuous importations of disease from countries with outbreak to Thailand. Of those 50 cases, there are many importations by foreigners from main hot foci of COVID-19, either China in Asia and Italy in Europe.^[3]

Here, the authors reappraised on the scenario of importation of COVID-19 from China and Italy to Thailand. From 50 cases of COVID-19, there are 26 Chinese tourists and 1 Italian tourists that imported disease from China and Italy, respectively. To characterize the pattern of spreading hot China and Italy to Thailand, the authors summarize data on date of first disease appearance, statistical number of foreigners to Thailand (referred to most update data 2019; provided by Thai Ministry of Tourism and Sport), accumulated number of infected COVID-19 cases at origin (foreign countries with outbreak) [Table 1].

For determining the spreading pattern from origin hot foci, China and Italy, to Thailand, it can be characterized

according to this formula “accumulated COVID-19 at origin/statistical number of foreigners to Thailand/period until importation to Thailand.” The results show that the spreading patten is 3.22×10^{-13} and 1.35×10^{-11} case/day. This can show that the spreading from China is more serious than from Italy. This result is concordant with a recent report that the spreading from China is more risk for nearby Asian country.^[4] We suggested that the determination of characterization of spreading from foci of outbreak and should be performed to plan for preventive actions against COVID-19.

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Conflicts of interest

There are no conflicts of interest.

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Table 1: The pattern of spreading hot China and Italy to Thailand

Parameters	Number of cases from origins, countries with hot foci of COVID-19	
	China	Italy
Accumulated COVID-19 at origin (case)	80,735	7,375
Imported COVID-19 to Thailand (case)	26	1
Date of first outbreak	8 December 2019	31 January 2020
Period until importation to Thailand (day)	91	37
statistical number of foreigners to Thailand (person)	10,994,721	272,289

*Present date for reference is 9th March 2020

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