

Spreading of COVID-19 in a Common Place: Medical Architecture Analysis

Dear Editor,

COVID-19 is an important emerging infection that WHO already declared as global public health emergency after its worldwide pandemic in March 2020. This disease started from China and spread rapidly worldwide.^[1] Spreading of disease is similar to other contagious respiratory infection. Living in crowded environment is known as an origin of mass outbreak. However, there are limited data and knowledge on the dimensional relationship of common crowded place and COVID-19 outbreak. Here, the authors use a medical landscape architecture analysis for assessment on an outbreak of COVID-19 in a sport center in Thailand, the second country with report of the new disease.^[2]

In early March, there was an observation of mass COVID-19 infection among people grouping during a sport match in a sport center. First week after match, the first case of COVID was detected, then there were at least 27 COVID-19 cases following the first case. Regarding the sport center, the overall area was 6,000 m². Therefore, the case incidence per area was 0.004 case/m². Regarding the density during the match, around 5,000 sport attendants flocked in the sport center during the sport match that COVID-19 started. Therefore, the case incidence per population per area is 0.00004 case/100 population/m². Focusing on the infected cases, all are the watcher in the ring side grandstand which is next to the sport competition square ground that has area equal to 53 m², which is equal to 41.8 m² in radius circular area. Everyone in this foci center got infection.

This is the first world report that estimates the landscape dimensional analysis of the common outbreak place. It can see than the crowded rate more than 1 person/400 m² and less than 42 diameter in contact implies high risk for disease spreading if there is an infector in that area.

Authors' contribution

Both authors have equal contribution and approve for final submission.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Received: 19 Mar 20

Accepted: 22 Mar 20

Published: 23 Apr 20

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Quick Response Code:



Website:

www.ijpvmjournal.net/www.ijpvm.ir

DOI:

10.4103/ijpvm.IJPVM_134_20

How to cite this article: Sookaromdee P, Wiwanitkit V. Spreading of COVID-19 in a common place: Medical architecture analysis. *Int J Prev Med* 2020;11:52.

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