

The Impact of Infectious Disease on Densely Populated Urban Area: In Terms of COVID-19

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Abstract : In terms of the COVID-19 pandemic, lots of mutations in the urban system, which have systemic impacts, have clearly appeared. COVID-19 not only had a direct impact on health but also caused significant losses to other departments, including the economy, education, tourism, environment and the construction industry. Therefore, the pandemic caused a disruption in the whole urban system. Particularly, today's large urban areas are not designed in order to be compatible during a pandemic. Hence, cities are more vulnerable to infectious disease threats according to the population density, built environment and socioeconomic aspects. Considering the direct relationship between population and rate of infection, higher rates are given to those individuals located in areas with high-density populations. Population density can be a factor that seems to have a strong impact on the spread of infectious diseases. Thus, the preliminary hypothesis can be related to a densely populated areas which become hotspots for the rapid spread of the pandemic due to high levels of interaction. In addition, some other indicators can be effective in this condition, such as age range, education and socio-economy. To figure out the measure of infectious disease risk in densely populated areas in Istanbul is an objective of this study. Besides, this study intends to figure out Vulnerability Index in the case of COVID-19. In order to achieve the proper result, the considered method can be Analytic Hierarchy Process (AHP) by involving the mentioned variables. In the end, the study represents the COVID Vulnerability of densely populated areas in a metro city and the gaps that need to be identified and plugged for the pandemic-resilience city of tomorrow.

Keywords : infectious disease, COVID-19, urban system, densely populated area

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