Chapter 12
The Relationship Between COVID–19 and Urban Features in the Light of Recent Quantitative Studies

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ABSTRACT

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has profoundly impacted urban environments globally. The virus's dependence on physical proximity for transmission and the necessity for individuals to congregate in urban spaces to meet various needs accelerated its spread. Therefore, as with many other epidemic diseases, investigating the urban factors behind contact and spread has become an important issue for the COVID-19 pandemic as well. This study investigates the relationship between COVID-19 and various urban features by synthesizing recent quantitative research. The review revealed that it is possible to conceptualise urban factors which are influencing COVID-19 spread as socio-demographic characteristics, healthcare services, infrastructure, tourism activities, economic activities, and urban conditions. Understanding these urban determinants is essential for developing targeted strategies to control the spread of COVID-19

and enhance urban resilience against future pandemics.

INTRODUCTION

Coronaviruses (CoV) are a large family of viruses known to cause various diseases ranging from the common cold to acute respiratory infections (Keni et al., 2020). It is known that coronaviruses lead to colds characterized by sore throat, dry cough, runny nose, malaise, and fatigue during the fall and winter months each year (COVID-19 Pandemic Assessment Report, 2020). Although coronaviruses are generally known as an RNA virus family that shows symptoms at the level of the common cold in humans, viruses such as SARS-CoV and MERS-CoV, which belong to the same family, have caused more serious diseases (Budak & Korkmaz, 2020). Indeed, these viruses infect certain respiratory cells in humans and cause lung damage, turning into a threat to human life due to the lack of specific treatment. To date, seven different coronaviruses (HCoV-OC43, HCoV-HKU1, HCoV-229E, HCoV-NL63, SARS-CoV, MERS-CoV, SARS-CoV-2) that are respiratory pathogens have been identified (Solomon & Liang, 2022). The SARS-CoV-2 virus first emerged in 2019 in the city of Wuhan, China. This new coronavirus began to spread to humans via respiratory transmission and quickly disseminated to other countries and cities. Despite being declared a "Public Health Emergency of International Concern" by the World Health Organization (WHO) in January 2020, it was reclassified as a "Pandemic" in March 2020 (Ribeiro et al., 2020). As of August 2020, more than 20 million COVID-19 cases had been confirmed worldwide, and the death toll had exceeded 761,000 (COVID-19 Pandemic Assessment Report, 2020). The virus's high transmissibility contributed to it becoming one of the deadliest pandemics in history within this short period (WHO, 2023).

During this period, the measures implemented to control the spread of the epidemic led to significant changes in the dynamics of urban areas. Schools, workplaces, and recreational facilities were closed, and strategies such as social distancing, isolation, and quarantine were implemented. However, these measures conflicted with individuals' needs for social interaction and the design and configuration of urban spaces. The virus's dependence on physical proximity for transmission and the necessity for individuals to gather in urban areas to meet various needs accelerated its spread. It has been reported that 1,430 cities in 210 countries were affected by COVID-19, with 95% of confirmed cases occurring in urban areas (WHO, 2020), which serves as evidence of how critical cities became during the pandemic period. During this time, cities faced challenges such as economic and social congestion due to the restriction measures taken to control the outbreak, as well as issues like high population density, unevenly distributed healthcare systems, inadequate housing, and

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