

*Commentary*

# Urban environments: Mental health resilience and non-communicable disease epidemiology

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Received: 13-Nov-2023, Manuscript No. IJMSA-23-123765; Editor assigned: 16-Nov-2023, PreQC No. IJMSA-23-123765 (PQ); Reviewed: 01-Dec-2023, QC No. IJMSA-23-123765; Revised: 08-Dec-2023, Manuscript No. IJMSA-23-123765 (R); Published: 15-Dec-2023

## DESCRIPTION

Urbanization, the process of population concentration in cities and the expansion of urban areas, has been a defining feature of human development. While it brings about economic opportunities, cultural exchange, and technological advancements, urbanization also exerts profound effects on public health. As more individuals migrate to cities in search of better livelihoods, the dynamics of urban living introduce a myriad of challenges and opportunities for the health of urban populations. One of the most immediate impacts of urbanization on public health is air pollution. Rapid industrialization and increased vehicular traffic in urban areas contribute significantly to the release of pollutants into the atmosphere. These pollutants, including particulate matter, nitrogen dioxide, and volatile organic compounds, have detrimental effects on respiratory health. Conditions such as asthma, Chronic Obstructive Pulmonary Disease (COPD), and other respiratory disorders are on the rise in urban settings due to prolonged exposure to poor air quality.

Moreover, long-term exposure to air pollution has been linked to cardiovascular diseases, including heart attacks and strokes. The World Health Organization (WHO) estimates that millions of premature deaths occur annually worldwide due to urban air pollution, underscoring the urgent need for comprehensive strategies to mitigate this public health threat. Providing proper sanitation services becomes difficult when there is an unexpected increase in population that puts a strain on the infrastructure already in place. In many developing cities, a significant portion of the population lacks access to proper sanitation facilities and clean water. This lack of basic amenities increases the risk of waterborne diseases, such as cholera and dysentery, contributing to the burden on public health systems.

In addition to direct health risks, inadequate sanitation

also fosters the spread of vector-borne diseases like malaria and dengue fever. The proximity of urban dwellings, coupled with insufficient waste management systems, creates breeding grounds for disease-carrying vectors, amplifying the risk of epidemics. Urbanization brings with it a fast-paced and often stressful lifestyle, contributing to the growing concern about mental health in urban populations. High levels of noise, congestion, and the constant demands of city life can lead to increased stress, anxiety, and depression. The lack of green spaces and recreational areas exacerbates these issues, as residents find themselves in environments that do not support mental well-being.

Studies have shown a correlation between urban living and a higher prevalence of mental health disorders. The social isolation that can result from the anonymity of city life, coupled with the pressure to succeed in competitive urban environments, further compounds mental health challenges. Addressing these issues requires not only improved access to mental health services but also urban planning strategies that prioritize green spaces, community engagement, and a supportive social infrastructure. The shift in lifestyle that often accompanies urbanization has been linked to an increased prevalence of Non-Communicable Diseases (NCDs). Sedentary lifestyles, unhealthy diets, and a higher incidence of tobacco and alcohol consumption contribute to the rise of conditions like diabetes, obesity, and cardiovascular diseases in urban populations. Public health interventions aimed at preventing and managing NCDs in urban settings must address not only individual behaviours but also the broader environmental and structural determinants that shape health outcomes. Urban planning that encourages active transportation, promotes healthy food options, and facilitates recreational opportunities can play a crucial role in mitigating the impact of urbanization on NCDs.

Urbanization affects the dynamics of disease transmission

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even if it presents obstacles to the spread of infectious diseases due to poor sanitation and crowded living circumstances. Because of high population density and high level of connection, urban areas can serve as epicentres for the fast spread of infectious diseases. As the COVID-19 pandemic demonstrated, the likelihood of pandemics is further increased

by the worldwide interconnection of cities through travel and trade. Efficient public health responses in urban settings require robust surveillance systems, rapid response capabilities, and effective communication strategies. Collaborative efforts at local, national, and international levels are essential to address emerging infectious disease threats in urbanized environments.