

## SOME URBANISATION HEALTH FACTS AND TRENDS

**Vani Mamillapalli<sup>1\*</sup>, Praneetha Kanajam<sup>1</sup>, Padma Latha Khantamneni<sup>2</sup>**

<sup>1</sup>*Department of Pharmacognosy and Phyto Chemistry, Vijaya Institute of Pharmaceutical Sciences for Women, Enikepadu, Viayawada, Pin: 521108, Krishna District, Andhra Pradesh, India.*

<sup>2</sup>*Department of Pharmacology, Vijaya Institute of Pharmaceutical Sciences for Women, Enikepadu, Viayawada, Pin: 521108, Krishna District, Andhra Pradesh, India.*

### ABSTRACT

Urbanization refers to the population shift from rural to urban areas, "the gradual increase in the proportion of people living in urban areas", and the ways in which each society adapts to the change. Urbanization leads to many challenges for global health and the epidemiology of infectious diseases. New megacities can be incubators for new epidemics, and zoonotic diseases. Urbanization is one of the main cause for the spread of disease in a more rapid manner. The diseases become worldwide threats. The present review deals with city environment responsible for the spread of diseases, and solutions to prevent the spread of diseases. Government should educate people and implement preventive steps to overcome the spread of diseases due to urbanization.

**Keywords:** Urbanisation, disease, prevention

### \*CORRESPONDING AUTHOR

**Mrs. Mamillapalli Vani,**

Dept. of Pharmacognosy & Phytochemistry,  
Viaya Institute of Pharmaceutical Sciences for  
Women, Enikepadu, Viayawada- 521108, Andhra  
Pradesh, India.

### INTRODUCTION

Worldwide cities are developing as urbanized species. Urbanization is defined as, the process of human movement into cities and urban areas, associated with industrialization, urban sprawl and lifestyle. Urbanization leads to natural increase of population in the urban areas. "Revision of the UN World Urbanization Prospects report 2005" describes urbanization in the twentieth century.

The proportion of urban population globally increased suddenly, 13%-29%-49% during 1900, 1950, 2005, and it may rise to 62% by 2015. UN State of the World Population 2007

report, referred to as the arrival of the "Urban Millennium" or the 'tipping point' where the majority of people worldwide will be living in towns or cities <sup>[1;2]</sup>.

It is estimated that 93% (36 megacities, more than 8 million residents) of urban growth will occur in developing nations, with 80% occurring in Asia and Africa with 23 of them in Asia. With the growing human populations, we can imagine two futures how cities are pleasing and livable, use resources from outside the city in a sustainable way. Pollution should be minimized and resources like wilderness, agriculture and forestry be given attention adequately, otherwise in the other future, cities become environmental negatives and spoil from the inside. People flee them to grander and more expansive suburbs that occupy much land, and the poor who remain in the city live in an unhealthy and unpleasant environment <sup>[2]</sup>. Cities appears to its

inhabitants to grow stronger and more independent. With growing needs, without care for the city, it pollutes more. A city grows at the countryside, destroying surrounding landscape. Areas are ruined for agriculture, the transportation network extends, the use, misuse and destruction of the environment increases. Urbanization first began in ancient Mesopotamia in Uruk period (4300-3100BCE); it continues from 18 centuries and until now. Urban areas are areas with high population of humans, infrastructure, build environment and resource availability. These are categorized by urban morphology such as cities, towns, suburbs or conurbations. Urban areas are areas that offer employment, food, shelter, good transport services, commercial services, medical services and education to their inhabitants. Because of human population, urbanization of rural land has become a necessity along with the accompanying developing of infrastructure to it <sup>[1]</sup>.

### **Urban environment**

A city changes the landscape, and changes the relationship between biological and physical aspects of environment to create an environment that is different from surrounding areas. It changes local climate which is cloudier, warmer and rainier than surrounding areas. City environment accumulates higher concentration of pollutants. City dwellers are exposed to more kinds of toxic chemicals in higher concentrations and to more human produced noise, heat and particulates than are their rural neighbours. In general, life in a city is riskier because of higher concentrations of pollutants and pollutant-related disease. Lives are shortened by an average of one to two years and early deaths in the most polluted

cities, Los Angeles, New York Chicago, Philadelphia <sup>[3]</sup>.

Urban expansion will affect global climate as well. It causes changes in land use, brings direct loss in vegetation by tropical deforestation, affects CO<sub>2</sub> emission, heat budgets, circulation of water, aerosols, and nitrogen in the climate system. Urbanisation brings irreversible changes in biodiversity by modifying the environment rapidly and permanently. Urbanisation affects wildlife, causes damage to ears, changes in foraging, flight or flushing responses, post traumatic stress disorders in birds <sup>[3,4]</sup>. Serious health problems arise because of huge quantity of garbage produced by cities. The existing landfills are fully filled and most cities do not have proper arrangements for garbage disposal. These landfills are hotbeds of diseases and innumerable poisons leaking into their surroundings <sup>[5]</sup>. Adequate city planning and surveillance are powerful tools to improve the global health and decrease the risk of diseases.

### **Urban characteristics**

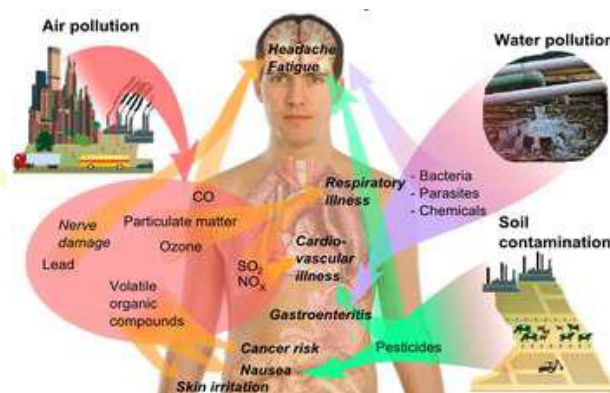
Urban areas are characterised by the development of extensive road networks, housing schemes, recreational facilities, service, and production industries. However, in low and middle income countries with rapid urbanisation, there are areas with large increases in population density, an uncontrolled increase in pollution (air and water) and improper basic infrastructure facilities such as health care, water, sewerage and waste disposal. The increasing concentration of people troubles the capacity of most governments to provide basic services. Illegal slums and settlements are one of the

common issues. One-third of the people live in slums and shanty towns. Resources are not adequate for removal or disposal of waste and provide drinking water. They are exposed much to dust, unpleasant smells, chemicals and noise pollution and suffer from the adverse affects. People living in such conditions are easily affected by cholera, viral hepatitis, typhoid fever, schistosomiasis, diarrhoea and parasitic diseases including malaria, respiratory diseases, nutritional deficiency and drug-related illness. They are carried by water or poor sanitation, overcrowding and poor diet [6]. These circumstances lead to a rise in communicable diseases, known as the 'diseases of poverty'. Zambia, and Mozambique the most urbanized countries suffer from water-borne diseases such as cholera and dysentery due to lack of clean water and sanitation. The levels of urban unemployment are also extremely high. The unhealthy conditions strain the country's health system. They suffer with consequences of social and psychological instability as the traditional support structures of rural areas steadily disappear. The social problems associated with urban societies, the traffic problems, pollution and the general anxiety about the future contributed to an increase in mental health disorders as mentioned in "Anatolian Journal of Psychiatry" in 2008, by M. Tayfun Turan and Asli Besirli [7]. Poverty causes malnutrition, illness, mental stress and loss of self-esteem especially among young people, which may lead to depression, and may further have some negative impacts on the health of adults.

### Urbanisation and health

Urbanization allows more accessibility to health services and at the same time affects

human health in many ways. In poor parts of the cities, health problems include inadequate water, sanitation, limited or no waste disposal, poor air quality, crowded living conditions [8] and general poverty [9] (Figure 1).



**Fig: 1 Health hazards of Urbanisation**

In such urban areas the air, land and water are often contaminated, spreading diseases. Air pollution is the major health hazard in developing countries. The main factors responsible for air pollution include burning of fossil fuels from transportation, industry and energy production. Other factors include crime, traffic and lifestyle.

urbanization results in rapid population in the city. Most of these cities are not properly equipped to handle large populations and their sanitation needs. In this case, it is common to find out that there are inadequate sewage facilities, poor sanitation and contaminated garbage being drained into the neighbouring streams, rivers, lakes, or seas which eventually leads to the spread of communicable diseases such as typhoid, dysentery, plague, diarrhea, and even death. Cities that experience poor sanitation are mostly those that are overcrowded, this is particularly caused by

poor and insufficient water supply, air pollution and other environmental problems which expose the urban areas to various diseases like allergies, asthma, infertility, food poisoning, cancer and even premature deaths. Another health hazard common in, but not exclusive to, the cities is connected to lifestyle and consumption patterns, including dietary changes and obesity<sup>[10]</sup>.

Ischaemic heart disease followed by stroke, lower respiratory infections, chronic obstructive lung disease, and diarrhoeal diseases were the leading causes of death worldwide in 2011. The top three causes of death in these settings are all infectious diseases: lower respiratory infections, HIV/AIDS, and diarrhoeal diseases. Urbanization promotes epidemiology of infectious diseases and challenges global health. New megacities can be incubators for new epidemics, and zoonotic diseases such as rabies, dengue, anthrax, brucellosis, Q fever, ebola, plague, swine flu, hepatitis E etc. The diseases become worldwide threats as they spread in a more rapid manner. Air pollution causes Chronic obstructive pulmonary disease, chronic bronchitis, lung infection. Noise pollution causes ischemic heart disease, sleep disturbance, hypertension, hearing impairment. Other diseases include stretched eye balls, mental stress, respiratory infections, parasitic diseases. Some of the parasitic diseases include onchocerciasis, cryptosporidiosis, schistosomiasis, hook worm infection, leishmaniasis<sup>[11]</sup>.

### **Solutions to urbanisation problems**

City planning is a powerful tool to improve the global health and decrease the burden of

communicable diseases. The problem of urbanization can be solved if government will decide to create a law guiding birth increase; these can be achieved by setting up campaigns and counselling programs to teach most especially the women on effective family planning practices to help reduce high rates of population growth in urban areas. These programs should be made accessible across the entire city and towns.

- The problem of congestion is mostly created as a result of people trying to use private vehicles instead of public vehicles. This choice is simply made for the reason of convenience and to reduce cost, along the line, the decision increases more vehicles, hence, causing air pollution and congestion, thus leading to more energy usage. The major solution to traffic congestion is - Governments should increase public transportation and encourage people to make use of the public transport, while reducing the number of private transport in the urban areas to prevent traffic congestion. By doing this, air and noise pollutions are reduced and more energy is conserved for the future generations.
- To prevent shortage of residential housing, government should make life better for the rural dwellers; an effectual way to do this is to make the economy of village and small-scale industries fully viable. This will keep the rural dwellers from migrating to the city that is already crowded, and then attract people leaving in the city to move to rural areas for a simplicity and comfort.
- Social mechanisms should be developed in cities and towns to reduce inequality and make sure the basics amenities and infrastructures like health, new roads, clean water, sanitation

and education reach those who have been underprivileged of the same opportunity.

- There should also be a development of sustainable urban sanitation facilities for the urban dwellers by converting faecal waste, sewage with other organic waste to methane to reduce the impact of pollution and poor sanitation on urban population.
- Government should create more jobs by establishing industries, supporting private investors, and should encourage entrepreneurship by providing more funds in the urban areas. This will go a long way to encourage hard while reducing the number of unemployed graduates in the city.
- Governments should develop some strict laws guiding refuse dumping in an open environment in order to prevent water pollution, air pollution and land pollution. These will help control contamination and prevent the spread of communicable diseases in the urban areas <sup>[12; 13; 14]</sup>

## CONCLUSION

Cities offer better employment, education, health care, and culture. They contribute to national economic development. However, rapid, unplanned and unsustainable patterns of urban development are centres of many emerging environment and health hazards. Urban planning can promote healthy behavior and safety. It improves urban living conditions in the areas of housing, water and sanitation to mitigate health risks. To make cities healthy, people should be educated about health hazards of urbanization. Government and public should involve in urban health planning to build healthier cities.

## REFERENCES

1. Lee, K. 1999. Globalisation and the need for a strong public health response. *Eur J Public Health*, 9(4):249-250.
2. Henderson, J.V. 2010. *Cities and Development*. *J Regional Sci*, 50(1):515-540.
3. Osinusi, K., and Oyejide, C. 1989. Morbidity pattern among Nigerian children from a poor urban community. *Afr J Med Med Sci*, 18:43-47.
4. Wilson. M.E. 1995. Infectious diseases: An Ecological perspective. *Br Med J*. 311:1681-1684.
5. Timaeus. 1988. Water supply, sanitation and housing in relation to the risk of infant mortality from diarrhea. *Int J Epidemiol*, 17(3):651-654.
6. Douglas I. 2008. Environmental Change in Peri-Urban Areas and Human and Ecosystem Health. *Geogr Compass*, 2(4):1,095-091,137.
7. Mc Michael, A., Haines, A. 1997. Global climate change: the potential effects on health. *Br Med J*, 315:805-809.
8. Tong, . *et al.*, 1998. Declining blood lead levels and cognitive function during childhood – the Port Pirie cohort study. *J Am Med*. 280:1915-1919.
9. [www.en.wikipedia.org/wiki/Pollution](http://www.en.wikipedia.org/wiki/Pollution)
10. Schell, L.M. 1991. Effects of pollutants on human and postnatal growth: noise, lead, polychlorobiphenyl compounds and toxic astes. *Yearb. Phys. Anthropol*, 34:157-188.
11. Silva, D. M. U., Agaral, V., Sohn, S., Sharma, V. 2014. Urbanisation and strategic health communication in India. In *strategic Urban health Communication*. Springer, New York, NY, USA, pp-159-172.
12. Johnson, M. P. 2001. Environmental impacts of urban sprawl: a survey of the literature and proposed research agenda. *Environ. Plan A*, 33(4):717-735.
13. [www.crawford.com](http://www.crawford.com)
14. Getachew, D., Anandakumar, P., 2018. Impact of vitamin D deficiency in the development of autism- A review. *Adv. J. Pharm. Life. Sci. Res* 6, 1-10