

KEYNOTE ADDRESS 3

URBANIZATION AND RESPONSIVENESS TO HEALTH:

Exploring multi- disciplinary attributes for a holistic approach

PROFESSOR SAROJ JAYASINGHE

Professor in the Department of Clinical Medicine

Faculty of Medicine, University of Colombo, Sri Lanka

Urbanization is a leading global trend. With the intensifying drift in urbanization in developing nations, 70% of global population will concentrate in the cities of Asia and Africa by the year 2030. Sri Lanka is also seeing a process of rapid planned and unplanned urbanization estimates are that close to 3 million (or 17%) of the population live in urban areas. This figure is likely to increase further with the planned ambitious Megapolis project of the government covering the whole of the Western Province.

Urbanization has the ability to widen socio-economic opportunities (e.g. trade, employment) and promote health gains (e.g. easier access to amenities and health services). However, the urban environment and the process of urbanization carry unexpected challenges to health and wellbeing. These include adverse effects on quality of life due to lack of recreation space, thermal discomfort from heat islands within cities due to anthropogenic heat generation and buildings that trap environmental heat, and the direct promotion of certain illnesses. An example of the latter is the increased prevalence of bronchial asthma and chronic obstructive pulmonary disease associated with air pollution from vehicles. Other varying examples of health impacts of the urban environment include the following:

- a. Urban living leads to higher rates of non-communicable diseases partly due to lack of opportunities for physical exercise, increased stress, and easy availability of unhealthy 'fast' food
- b. Ill-structured buildings promote illnesses such as respiratory diseases (e.g. the 'sick building syndrome') and social fragmentation (e.g. due to lack of space for community activities)
- c. High-rise apartment blocks become nuclei for drug dealers, crime and inner city violence.

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- d. Highway conduits become sources for disease transmission (e.g. dengue from increased human mobility, and HIV by long-haul drivers due to availability of commercial sex workers along the route).
- e. Development of highways leading to an increased incidence of high impact accidents from speeding vehicles, which requires management by emergency teams and dedicated trauma units

This close link between health and urbanization has three potential linkage or influences on the health sector. Firstly, to identify solutions at the planning stage that mitigates or minimises adverse health impacts. This requires collaboration, research and policymaking by multi-disciplinary teams. Secondly, a response by the health sector to meet changing needs and increased demand (e.g. trauma centres, new clinics and other services by the Ministry of Health and private providers). Finally, urbanization offers investment opportunities in the medical industry (e.g. bio-technology) and in health services (e.g. medical tourism). The latter includes the growth of an affluent urban population that would include foreigners.

The presentation focuses on the potential effects of urbanization on non-communicable diseases and their prevention through appropriate planning measures. This is increasingly of relevance because Sri Lanka is undergoing rapid urbanization as well as facing an epidemic of NCDs. Obesity, one of the important risk factors for NCDs, is also on the increase. Data from a nationally representative sample of 18 years and above found overweight and obesity to be as high as 25.2% and 9.2% respectively. Similar figures are now seen even in rural areas of Moneragala and spells and impending crisis for Sri Lanka. Therefore, interventions at the planning stages of urbanization are crucial if we are to mitigate a future health crisis.

The built environment comprises of urban design, land use and transportation access. It is one of the many factors in the urban environment that can influence individual behavior and lifestyle associated with obesity and NCDs (e.g. low physical activity due to motorized transport and lack of urban open spaces). Availability and accessibility to facilities in the built-environment for recreation and healthy eating influences weight gain among its residents. Other factors in the built environment that encourage unhealthy life styles include easy availability of calorie dense food and lack of dedicated road networks for walking or cycling. Stress from overcrowding, ill-planned urban areas and noise pollution will all contribute to further NCDs. Recent data suggests that vehicle induced air pollutants too have an important influence in promoting NCDs from their action on the immune system. Thus, a range of factors in urbanization have the ability to interact

with each other in a dynamic manner, to generate, promote or inhibit the epidemic of NCDs.

Urban planners, architects, engineers and policymakers need to be responsive to these health impacts of urbanization. It is necessary to take a more holistic view and attempt to predict likely health impacts of these at the urban planning stages. This would require conceptualizing urban areas to consist of interacting dynamic systems, and novel analytical techniques such as mathematical modelling and computer simulation. A large body of science exists in these areas, which needs to be tapped by Sri Lanka. The strides made by the University of Moratuwa (e.g. in modelling transport and impacts on health) in this regards is commendable. It is also encouraging to note that organizations such as the National Science Foundation, Universities of Moratuwa, and Colombo, and Urban Development Authority are showing a keen interest in these areas of multi-disciplinary research.