The impact of rural-to-urban migration upon diabetes in Bolivia

Douglas Villarroel

The United Nations reported that half of the world populations live in cities and expected that this will rise to 60% by 2030. In Bolivia, in 1992, 58% of the national population lived in urban areas. Today, that figure is 75%.

The mathematical projection with adjustments, indicates that in 2032, 90% of the Bolivian 15 million, will live in cities. This is principally due to rural to urban migration.

The consequences of this migration in developing countries where urban planning and development is prioritized result in the rural underprivileged and the urban gifted access to better facilities and economic opportunities in urban centers than rural areas.

From the 339 Bolivian municipalities, 256 have a population of less than 20,000 inhabitants and in none of them is there
a second level hospital, nor will there be any for reasons of economy of scale.

A peasant who moves to live in a city ceases to be a peasant because his productive, social and cultural relationship is with the land factor. An indigenous native who moves to live in a city, does not cease to be one, but does not take with him his mode of production; in the city there is no hunting, fishing or gathering, and both must compete at a disadvantage because they do not possess the instruments required by urban life.

Migrants in general tend to suffer from worse health and display disadvantaged risk factor profiles. While the trends of increased risk of diabetes among migrants are well documented, much less is known about the effects of rural-to-urban migration in Bolivia.

There is an important impact of the rural-to-urban transition upon diabetes in Bolivia. Being exposed to unhealthy lifestyles in an urban environment will increase the risk for developing diabetes. Migrants acquire the high risk of the urban population because their traditional ways of living are lost. They adopt modes of life that put them at similar risk to the urban population.

In Bolivia, a high percentage of the population declares themselves as indigenous (62%), presenting large disparities in health indicators that could be attributed to living in rural areas with a lack of healthcare. Despite there being minimal data on the prevalence of diabetes in the indigenous population of Bolivia, there are barriers to healthcare such as cost, education and also mistrust in healthcare services.

The migration from rural to urban areas is due largely for economic reasons. But, there is another reason that may not be so obvious: climate change.

Santa Cruz de la Sierra, situated in eastern Bolivia, is one of the fastest-growing cities in the world: in the year 1900 the city had 18,335 inhabitants, by 1960 the population rose to 70,000. In 1976, the population skyrocketed to 254,682 inhabitants and in 2012, the population of Santa Cruz de la Sierra was nearly two million. It is expected that by 2020 there will be four million.

Santa Cruz will be, by far, the most populated city in Bolivia not only because of the historical tendency of growth, but also due to other events in the rest of the country related to climate change, such as desertification (process of ecological degradation of fertile land) of the Altiplano (Andean Plateau) and the Chaco zone (southwestern semi-arid lowland); the salinization (accumulation of salts) in other rural areas or the floods in Pando (northwestern jungle) and Beni (northeastern lowlands). People are moving, because of climate change, from one part of the country with less prevalence in diabetes to another with a higher prevalence.

Therefore regardless of the location, action needs to be taken to improve the health status of the population. Potentially, as the country’s economy grows, the disparity between rural and urban centres will be reduced. Therefore interventions specifically promoting healthy lifestyles will need to be undertaken to reduce the effect of the westernised lifestyles that have been imposed as desirable in Bolivia.

Douglas Villarroel is an endocrinologist, educator and Bolivian author. Currently, Dr. Villarroel is Editor-in-Chief of Diabetes Voice.
It is estimated that the overall prevalence of diabetes in India is about 7.3% if both the urban and rural population is taken into consideration. In addition, according to the newly released IDF Diabetes Atlas, 8th edition (2017), the national prevalence for diabetes (20-79 years) in India is estimated to be 8.8%. One consideration is certain: the prevalence of diabetes in urban India seems to be higher among those states which are economically stronger. An important observation seems to be the fact that in some of the economically well-to-do states, the prevalence of diabetes among the urban poor appears to be going up. This fact probably reflects the higher genetic susceptibility of Asian Indians to diabetes. Since the urban poor also have this higher genetic susceptibility, they seem to develop diabetes when the environmental factors become favourable. These factors include weight gain with increased food intake and reduced physical activity when those who are economically below the margins get a two wheeler like a motorcycle or scooter to ride to work.

However, the fact remains that the urban poor have a meagre income to take care of their daily needs and have difficulty to pay for diabetes care. Though the government hospitals do provide minimal care for diabetes, it becomes difficult for some people to access free or subsidised diabetes care. Another important factor that needs to be investigated is whether the urban poor have a higher prevalence of diabetes due to air pollution. There have been studies which have shown an association between air pollution and type 2 diabetes.

The risk factors for diabetes among the urban poor seem to be significant in studies from India. The prevalence of obesity was 57.3% in a study conducted from South India and the reason seems to be related to unhealthy diet and physical inactivity. The diet pattern among the urban poor also seems to be quite contrary to the healthy diet advised for all. The high carbohydrate intake, with less fruits and vegetables which are expensive, seem to contribute to the higher obesity rates among them.

It is also important to note that the cost of diabetes care in India has been reported to be high. A Study from South India looking at the socioeconomic of diabetes showed that most of the patients (60%) spent money from personal savings account for their diabetes care. None of the patients from the low- and middle-income group had insurance while only 2% of the high income group were dependent on insurance. Most of the low-income group borrowed money or mortgaged their properties to meet their expenses, which again is a reminder to the policy makers to look into this issue in a more substantial manner.
Efforts could be taken with the help of public–private partnership opportunities to provide greener spaces for people to take a walk as part of their physical exercise—such spaces are lacking in most of the urban areas in India. The air pollution which is quite high in urban cities has to be reduced in developing countries by appropriate legislation, in order to reduce the burden of respiratory disorders and also noncommunicable diseases. A multi-pronged approach is required for improving the dietary habits and physical activity of the urban poor and by reducing the air pollution in our cities. Efforts for improving the environment and access to healthy food will go a long way in reducing the burden of diabetes among this population in urgent need of help.

**THE GLOBAL CAMPAIGN**

**Vijay Viswanathan**  
iMD., Ph.D, FRCP (London), FRCP (Glasgow) is Head & Chief Diabetologist, M.V. Hospital for Diabetes & Prof. M. Viswanathan Diabetes Research Centre, (WHO Collaborating Centre for Research, Education and Training in Diabetes) in Royapuram, Chennai, India.


