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Mental illness and injuries: emerging health challenges of urbanisation in South Asia

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Rapid unplanned urbanisation in South Asia has overlooked the health needs of poor and marginalised people. **Devaki Nambiar and colleagues** examine the problems of mental illness and injuries, and call for renewed political and financial commitment to urban health

The urban population of South Asia increased by over 130 million between 2000 and 2011, second in absolute terms only to the East Asia and Pacific region.[1] In 2014, five of the world's largest 15 urban agglomerations (or megacities) were in South Asia (fig 1).[3] A characteristic feature of urbanisation is that cities have expanded spatially, merging with adjacent rural and urban settlements. For example, while the population increase in Dhaka's core municipality was 45%, the growth in the conurbations of greater Dhaka was nearly twice as great.[4] Expanding agglomerations around cities create increasing demands on infrastructure and services, which affects the quality of and access to healthcare, especially for poor people.[5]

In this article, we explore the determinants of health in the context of the uneven patterns of urbanisation in South Asia, with a focus on the emerging challenges and policy responses to mental health and injuries. We draw from examples of the megacities of Dhaka, Delhi, and Karachi to show the dynamic urban scenario of South Asia.

Urban context in South Asia

The urban context—and the living, working, and social conditions in towns and cities—is itself a determinant of health.[6 7] Urbanisation reinforces growth and prosperity, and planned urbanisation has a positive effect on
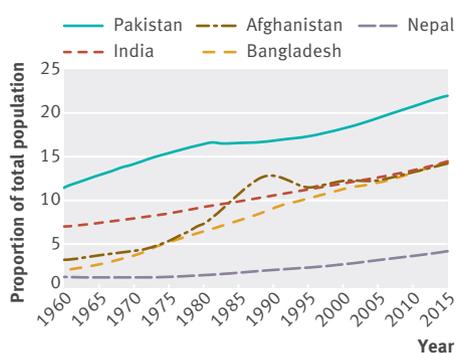

Fig 1 | Percentage of total population in urban agglomerations of more than 1 million in selected South Asian countries (1960-2015).[2]

health, as seen in developed countries.[8] However, urbanisation in South Asia is largely unplanned. Its messy and hidden[1] character has led to a range of challenges that disproportionately affect poor people (box 1). Rural to urban migration is mostly fuelled by chronic agricultural distress and lack of employment. Yet once in the city, many migrants experience precarious conditions of work and living.[10 11]

The health status of urban poor people often compares unfavourably with that of rural populations.[12 13] In cities, the upper and middle classes that depend on the labour of poor migrants live close to the informal settlements where many poor people reside. Yet, their health risks and outcomes are profoundly different.[7 12 14] Another unique feature of South Asian cities is the frequent ghettoisation of vulnerable populations such as homeless people and migrant labourers (box 2) and the substantial barriers to health attainment they experience.

Mental health

Urban growth has meant expansion of slums or informal, low income settlements characterised by insecure tenure, overcrowding, insufficient access to services, inadequate housing and sanitation, and exposure to hazardous conditions resulting from location near industry, heavy traffic, and water bodies prone to flooding.[7] A 2009 study found that a third of Dhaka residents live in inadequate housing that is likely to be prone to flooding, poorly drained, or have limited formal garbage disposal and safe water supply.[33] A subsequent study in Dhaka slums in 2012 found these features were associated with poorer self reported mental health.[34] Intermittent disasters and crises (both natural, such as cyclones, and manmade, such as civil unrest) result in the loss of the basic security of shelter and work and can profoundly affect psychological wellbeing.[35-38]

The recent national mental health survey in India found a higher prevalence of various mental disorders in megacities with populations over 10 million compared with smaller cities and rural areas: schizophrenia and related psychoses, mood disorders, and stress related disorders were two to three times more common.[39] Population based studies show that urban residence is associated with depression among adolescents and early onset of alcohol consumption.[40] In Nepal, a nationally representative survey found that the adjusted odds of comorbid anxiety and depression were over twofold higher among those living in urban areas compared with rural areas.[41]

The cycle of vulnerability is perpetuated through exploitative and casual labour arrangements for urban poor people, which

KEY MESSAGES

Unplanned expansion of cities in South Asia has contributed to inequities in living and working conditions and access to health services, disproportionately affecting groups like homeless people and migrants, but also elderly people, women, and children

Mental illnesses, substance misuse, and injuries are more prevalent among urban dwellers, although high quality data from epidemiological studies are scarce

Mental health and injury care must be integrated in the public health system and urban planning and design must have health as a central component

Box 1: Vulnerabilities of urban poor people[9]

Residential vulnerability—Absence or poor quality of shelter including key elements such as housing, water, and sanitation but also family and social networks in areas where poor people live

Occupational vulnerability—Precariousness of labour access and conditions— both the informal and potentially hazardous nature of work (rag picking, rickshaw pulling, construction work, domestic work, etc) as well as the stresses introduced by an itinerant life

Social vulnerability—Biological, epidemiological, or social markers of identity such as sex/gender, caste, tribal status, disability, or existing morbidity that can introduce structural and symbolic discrimination in the daily lives of people

Homelessness is an important cause of urban vulnerability and has a strong and recursive relation with mental illness.[15 16] Homeless people eke out their existence on the edge of society[17], which exacerbates their vulnerability to mental illness[10 18] and road traffic injuries.[19] It also compounds their risk of substance use, other risky behaviours, and the threat of violence at the hands of law enforcement, the public, and even their peers.[2 20-22] The toll on health can be so great that it hinders people's ability to work, causing economic crisis and prolonging homelessness.[23] Wealthier residents, the political class, and the bureaucracy view homeless people with disgust rather than compassion.[24-26]

There is a strong likelihood that the nature of migrant labour exacts a psychological toll.[27] While migration may offer respite from caste hierarchies common in rural areas, labour contracting arrangements in cities may be even more exploitative.[28 29] In the construction industry, in particular, a five city study found a common theme: "gated" transient labour camps fully controlled by contractors, developers, and large scale construction firms that were invisible to the outside and internally fragmented such that forming social networks and support was near impossible.[30] To deal with loneliness, many workers take to substance use, which over time places psychological and financial burdens on them.[10 17 31]

A small but essential non-governmental sector deals with the health needs of slum dwellers and marginalised communities, including homeless people. For example, in Delhi, a Supreme Court directive held that "dignified shelters" were a component of the right to life under Article 21 of the Indian constitution. After this, recovery shelters were established, funded by non-governmental organisations and the Urban Development Ministry, where homeless men with injuries or other health problems can recuperate and be accompanied when they seek medical care.[18] In Chennai, the Adaikalam Transit Care Centre, run by the non-governmental organisation Banyan, provides support to homeless women with mental illness.[18] The women are linked to public welfare services, taught skills, and, where possible, re-integrated with their families with the help of a multidisciplinary team of clinicians and social workers. Such interventions were recommended for adaptation and expansion in the government sector,[10] but chronic underfunding,[32] compounded by a legacy of neglect and corruption in many municipal corporations, has hindered progress

can expose them to occupational injuries, psychosocial stress, and other work related illnesses.[18 42] A study in Karachi found that long hours of travel in uncomfortable and unreliable transport were sources of panic and depression, especially among women, which narrowed their employment

prospects.[43] Substance use among urban manual labourers has been found to be double that of other low income groups,[44] and is also high among young people and children.[45-47]

A major challenge in South Asian cities will be meeting the mental health needs of an ageing population that faces progressive neurodegenerative diseases like dementia.[39 40 48] The situation is worsened by growing break-up of the joint family system and unavailability of either home based or institutionalised care.[49] Soaring health costs have also meant an ad hoc reliance, especially by urban poor people, on local traditions and practices for mental health disorders, which are themselves fragmented and have a vexed legal position in the health system.[50]

Injuries

Although urban-rural figures are not available, data indicate a substantial injury burden in South Asia[51-53] from falls, drownings, burns, and interpersonal violence. It is difficult to make a clear distinction between urban and rural data, especially as rural residents may report and seek care for injuries in urban areas. The eight countries of South Asia contribute to an estimated 22% of the total global mortality from road traffic injury,[54] (box 3) even though fatality data from the region are likely an underestimate.[58] Road widening and increased motorisation have

- The Million Death Study in India found that men residing in urban areas had higher age-standardised mortality rates and risk of death from road traffic injury than those in rural areas[55]
- Non-fatal injuries from road traffic incidents in Bangladesh, India, and Pakistan are more frequent in urban than rural areas (rural-urban odds ratio 0.58, 95% confidence interval 0.39 to 0.85)[56]
- In Karachi slums, verbal autopsies revealed that 15% of deaths were caused by injury, with 30 out of 100 000 deaths related to road traffic injuries and 23 out of 100 000 to burns[57]
- In Dhaka, between 2007 and 2011, police records showed 300 to 450 road traffic deaths each year, with the burden being over seven times greater for pedestrians than drivers[24]
- Among those aged 0-9 living in urban South Asia, the incidence of road traffic injuries was 880 per 100 000 persons[52]

resulted in speeding,[59-61] and often there are no pavements or lanes for pedestrians and bicycles.[58]

Occupational and residential vulnerabilities leave many poor people in cities at much greater risk of injury from hazardous working conditions, the threat of violence from the police during eviction, as well as exposure to public and interpersonal violence.[62 63] Among the most vulnerable are children. Non-fatal injuries in children aged 0 to 4 years in Delhi have been reported as high as 90.7 per 1000 (95% confidence interval 80.4 to 102.2).[26] Street children (numbering over 11 million in Indian cities) commonly turn to crime and receive physical injuries because of gang membership and life on the street.[62]

Linked burdens of mental health and injuries

The link between injuries and mental health is most often seen in groups who are already vulnerable— children, youth, and women. For instance, among adolescents living on the street in Delhi, the prevalence of substance misuse was as high as 59%, while violence within families was 62%.[64] Another ethnographic study in Delhi described street children using inhalants as a respite from the violence they faced.[65]

In urban India, the odds of poor mental health were increased 3.5-fold among women facing domestic violence.[59] Alcohol use and violence by partners were associated with twofold to threefold greater odds of having a common mental disorder among women aged 18 to 49.[66] Attempted suicide has also been found to be associated with exposure to violence.[67] A study in Karachi found that suicidal thoughts were over four times higher among women reporting physical violence and sexual abuse, and over five times higher for women facing psychological abuse.[68] In Bangladesh, suicidal ideation was three times more likely among urban women reporting emotional violence by their husband in the past year than in their rural counterparts.[69]

Weak and fragmented urban health services

Throughout the region, public urban health systems are underfinanced, disjointed, and lack capacity.[70] In Dhaka, for example, the responsibilities for urban health are divided between the Ministry of Health and Family Welfare (in charge of tertiary services and vertical programmes such as childhood immunisation) and city corporations under the Ministry of Local Government, which are responsible for primary healthcare.[71] City corporations lack technical or financial capacity and have contracted out primary care services to non-governmental organisations on a

project basis, which has limitations of both scale and sustainability. Most urban poor people in Dhaka rely on untrained or un/underqualified providers as their first point of care.[72] In India services have been designed largely with a rural focus and the urban health scheme has inadequate funding.[73] Public health service delivery in Karachi is centralised in a few locations and inaccessible to most people.[74]

The concentration of trained healthcare workers and health facilities in urban areas has not translated into greater access or better health outcomes for marginalised groups.[75] Worse, providers serving the poorest in cities like Delhi [76] and Dhaka [72] have been found to be less qualified than those serving wealthier citizens.

Low investment in and inadequate quality of public healthcare have led to a massive and growing private sector in urban areas. This has proved difficult to coordinate or regulate and is characterised by out-of-pocket payments that often cause further impoverishment.[77]

Way forward

Urban settlements in South Asia will continue to struggle with the health challenges resulting from rapid growth and weak urban governance. Critically, legislation and enforcement of healthcare, housing, safety, and transport regulations are challenged by a lack of capacity and willingness to adhere to or adopt internationally recognised protocols and policies—for instance, in implementing the use of motorcycle helmets and seat belts,[78] dealing with substance misuse,[79] or tackling intimate partner violence.[80]

The formulation of urban health policies is a first step to confront these challenges. Some governments have started to act. For example, the Karachi Strategy Development Plan 2020 is a major step towards ensuring that agglomerated cities are taken into account in planning healthcare delivery.[74] Pilot urban health projects (for example, the recent initiative of the New Delhi government to introduce *mohalla* or community clinics) need to be rigorously evaluated, their processes understood, and successful interventions adapted and scaled up.

A political and financial commitment to improving urban health and, in particular, to tackling the neglected challenges of mental health and injuries is essential. The evidence clearly supports the integration of mental health services within comprehensive primary care.[81] This entails task sharing, with allocation of psychosocial interventions to frontline health workers and coordination with specialist care for acute and complex needs. In addition, partnerships with non-governmental organisations must be fostered to deliver services to marginalised groups, including women, children, homeless people, and labourers.[10 82] For injuries, systems for modern trauma care must be enhanced to provide emergency transport to appropriately equipped and staffed hospitals and develop trauma care expertise.[83] The use of cost effective treatments for bleeding trauma patients, such as tranexamic acid to reduce death from extracranial bleeding,[84] should be explored in the region. Injury surveillance systems have been set up in Karachi with some success and offer promise for scaling up and improving linkages to government interventions.[85]

Investments to tackle the social determinants of mental health problems and injuries are crucial as well. This requires advocacy, stewardship, and coordination of innovative interventions across sectors. Specifically, affordable public transport and safe housing with basic amenities must be ensured as a right of all city dwellers.[3 12 13] Policies to curb substance misuse and provide harm reduction and treatment[86] must be implemented. Evidence based policies such as speed control by traffic calming techniques [87] and speed cameras,[88] enforcement of the use of motorcycle helmets and seat belts,[89 90] alcohol taxes with public education,[91] restriction of the availability of harmful substances, and commitment to established recommendations for the occupational safety and social security of urban migrants[20] would go a long way to prevent these emerging burdens.

Urban design, in particular urban form and street design, is another forward looking strategy that could affect injury rates and safety, especially of women.[21 22] Longer term, this would require a revision of the curriculums of civil engineering departments and schools of urban planning and design as well as public health training to incorporate these emerging urban problems and foster joint learning opportunities where possible. The overarching goal is to embed consideration of the mental and physical health of urban populations in the planning, design, and governance of urban spaces.

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